

# Implementation of Catastrophe Insurance in Sichuan Province

Lin He

Division of Science and Technology of Sichuan University of Arts and Sciences, Dazhou  
Sichuan 635000, China

helin1982@163.com

## Abstract

**The catastrophe insurance practice in Sichuan province mainly consists of three parts: policy-based farmhouse insurance pilot of some catastrophe risks, earthquake insurance pilot for urban and rural residents and that after the unification. The findings of the catastrophe insurance practice show that the residential houses are the main targets, the financial supports from government and voluntary participation are the two ways and the focus is on the special entitled groups, but due to the insufficient understanding and the insufficient publicity and organization in some regions, the low insurance amount and weak insurance degree and the single responsibility and high starting point of compensation, the insurance rate is not satisfactory. This needs to take targeted measures to improve its implementation.**

## Keywords

**Sichuan, catastrophe insurance, policy-based farmhouse insurance, unification.**

## 1. Trials of Policy-based Farmhouse Insurance of Some Catastrophe Risks

In 2011, Sichuan province launched a trial program of policy-based farmhouse insurance in all regions, that is, government funds subsidized part of the premiums and gave full subsidies to special entitled groups. Xuyong District and other places in Luzhou took the leading action in launching the trial work of farmhouse insurance in August 2011. The maximum insurance amount of each house was ¥40,000, and the maximum compensation amount of each house was ¥8,000, and the premium of each house was ¥25, of which ¥15 was the fiscal subsidy and ¥10 was borne by the farmers. [1] Other regions besides Luzhou have launched the program successively, but the premium standard and subsidy standards have an obvious difference. Taking Xuanhan county as an example, the insurance amount of brick and concrete structure in Nanba town is ¥40,000, the insurance amount of brick and wood structure is ¥20,000, and the insurance amount of civil structure is ¥15,000. The farmer pays ¥15 and the financial subsidy is ¥10. The insurance amount in Miaoan town is equivalent, but the farmers pay ¥20 and the financial subsidy is ¥5. The policy-based farmhouse insurance covers a variety of disasters except the earthquake risks. The insurance amount is appropriate and insured by the government. Some areas with good publicity and efficient organization have relatively high insurance rate, which is basically close to the designed coverage rate of 50%.

After the Lushan Earthquake in 2013, Sichuan began to explore the earthquake involved farmhouse insurance. Chengdu is the only pilot site at present. The house insurance in Chengdu covers the earthquake risk and the other 15 kinds of general risk including storm, flood and fire and the rate ranges from 0.03% to 0.25%, and the corresponding insurance amount is minimum ¥70 per square meter, up to ¥600, and the average insurance amount of each family is worth of ¥30000-50000, 70% of the premium shall be borne by the municipal finance, 10% by county-level finances, 20% by farmers. Besides, the insurance adopts the model of "government

+ market” multi-level risk-sharing. [2]At the beginning of the pilot, the insurance rate of quake-related rural housing insurance was not ideal, and the highest rate in each pilot area and county was only 30%. After the disaster, farmers were successfully compensated, the insurance rate rose significantly and some districts and counties was as high as 95%.

Overall, compared to other provinces, the maximum insured amount is ¥ 3,000 in Hubei Province and ¥ 5,000 in Yunnan Province. The farmhouse insurance is more easily to be accepted by farmers because of its comparably higher insurance amount which is supported by government and finance. This shows that farmhouse insurance is comprehensive, all-round and basic, which has become the indispensable important component in the provincial rural disaster risk management system. However, earthquake risk is excluded in most areas. The only agricultural farmhouse insurance related to earthquake in Chengdu is difficult to be popularized in the whole province due to the excessive requirements on financial support.

## 2. Trial of Sichuan urban and Rural Residents Housing Earthquake Insurance

In 2013, China Insurance Regulatory Commission (abbr. CIRC) actively supported the qualified regions to carry out catastrophe insurance trials. Sichuan Province began to explore a catastrophe insurance trial program. “A Report of Suggestions on Establishing Trails of Compulsory Earthquake Insurance System in Sichuan Province” was written by Sichuan Insurance Regulatory Commission in July, 2017 and then was submitted to Sichuan Provincial Party Committee and Provincial Government. A trial work plan was drafted in the second half of 2014. “The Trial Program of Earthquake Insurance for Urban and Rural Houses in Sichuan Province” was deliberated and adopted by the 76th Standing Committee of Sichuan Government in February 2015 and was officially issued in May. In August 2015, Leshan, Yibin, Mianyan and Ganzi were officially identified as the first pilot areas by Sichuan Provincial Government.

On November 23, 2015, Leshan launched the trial project of farmhouse earthquake insurance for the urban and rural residents. After Shenzhen’ catastrophe insurance trial, Ningbo’ catastrophe insurance trial, Weifang’ people’s livelihood comprehensive insurance trial and Yunnan’s rural housing earthquake insurance trial, Leshan’s insurance was the fifth of a trial program in China and it is also the first catastrophe insurance trial project under the multi-layer risk sharing mechanism in China. Mianyang, Yibin and Ganzi have successively launched the earthquake insurance trial work.

488,000 urban and rural residents had taken out the trial of housing earthquake insurance program in Sichuan province, ¥12.5 billion risk protection had been provided with premium income of ¥ 29.577 by June 21, 2016. Among it, ¥8.6 billion risk insurance with premiums of ¥19.14 million was paid in full to 332,000 families, including rural “Five Guarantees Family”, urban and rural subsistence allowance recipients and impoverished disabled people by the financial support from Sichuan province, cities and counties. [3]

The trial of housing earthquake insurance program for urban and rural residents in Sichuan is based on the basic principles of “government guidance, market operation, voluntary participation, financial support and legislative guarantee” and the operation mode is “government promotion and market operation”, which means to mainly covers the risks of earthquake and secondary disasters, to insure the houses of urban and rural residents in the trial four regions by a differential rate and to raise premium through “individual voluntary + government subsidy” mode, among with policy-holder pays 40% from oneself and finance provides the subsidy of 60%.<sup>4</sup> In terms of insurance amount, Sichuan province take the highest compensation amount between ¥ 300 million and five times the premium income and sets

three levels of insurance amount for urban residents and rural residents respectively, namely rural insurance is ¥ 20,000, ¥ 40,000 and ¥ 60,000 and urban insurance is ¥ 50,000, ¥ 100,000 and ¥ 150,000. The trial selected the minimum amount insured, that is, the rural is ¥ 20,000 and the urban is ¥ 50,000. In terms of risk dispersion, the trial project in Sichuan has formed a good pattern of “policy-holders + insurance companies + reinsurance institutions + financial subsidies + civil aid”, which means to participate in the dispersion of earthquake catastrophe risks and to construct a multi-layer risk sharing mechanism of “direct insurance - reinsurance - earthquake insurance fund - insurance amount callback proportion compensation - government emergency plan”.

The trial program of housing earthquake insurance for urban and rural residents in Sichuan is a relatively complete catastrophe insurance program in China. On this basis, CIRC will form a final nationwide implementation of urban and rural residential earthquake catastrophe insurance program after they learn the experiences of other trial regions.

### **3. Earthquake Catastrophe Insurance for Urban and Rural Residents in Sichuan after the Unification**

On May 11, 2016, the CIRC the Ministry of Finance issued “The Implementation Plan for Establishing the Earthquake Catastrophe Insurance System for Urban and Rural Residential Houses (No. 39 of CIRC issued [2016]). On July 1, 2016, China’s urban and rural residential earthquake catastrophe insurance products were sold in whose, marking the official implementation of China’s urban and rural residential earthquake catastrophe insurance system. [4] Sichuan province has taken the lead in integrating with the national model in line with the provincial situation. In May 2017, the general office of Sichuan Provincial People’s Government issued the work plan of earthquake catastrophe insurance for urban and rural residents and the program is fully launched. [5] By the end of 2018, apart from Chengdu and Ziyang, 19 cities and prefectures in the province had applied for earthquake catastrophe insurance, 16 of which had issued insurance. In November 2018, “In total, 1.634 million urban and rural residents had been insured, ¥ 41.7 billion of risk protection was provided, and the premium income was ¥ 69.95 million”. [6]

In terms of the objects of protection, scope of liability and amount of insurance, the unification program in Sichuan shall follow the unified provisions of the national earthquake catastrophe insurance for urban and rural residents and the program also learned from the experience of Sichuan earthquake catastrophe insurance trial program, which retained the features of “premium subsidies, disaster prevention and loss prevention, dispute mediation”.

#### **3.1. Basic Principles**

In order to highlight the principle of “priority to people’s livelihood”, the unification plan replaces the principle of “legislative guarantee” in the trial program with “ensuring people’s livelihood” because the national earthquake catastrophe insurance regulations have not yet been issued.

#### **3.2. Insurance Amount**

The trial scheme in Sichuan sets the total compensation at ¥ 300 million or five times of the premium income (whichever is higher) and three levels of insurance amount for urban residents and rural residents respectively, namely rural insurance is ¥ 20,000, ¥ 40,000 and ¥ 60,000 and urban insurance is ¥ 50,000, ¥ 100,000 and ¥ 150,000. The trial selected the minimum amount insured, that is, the rural is ¥ 20,000 and the urban is ¥ 50,000.

The province's total annual compensation of the unification scheme is ¥800 million or 8 times of the paid-in premium (whichever is higher). The urban residential basic amount is ¥50,000 each family and the rural residential basic amount is ¥20,000 each family. Besides, according to the national mode, the setting limit to the steel structure and mixed structure is ¥1 million, brick structure ¥100,000, and other structures (e.g., adobe) ¥60,000.

### 3.3. Premium Rate

On the basis of different rates adopted in the trial program, the 21 cities and prefectures in the province are divided into 4 levels according to the possibility of earthquake occurrence and the degree of damage, namely, extremely high risk area, higher-risk area, high risk area and low risk area, and the premium rates are determined accordingly. The first grade, the highest, is such areas as Aba, Ganzi and Liangshan, the rural housing rate was, at 0.55%, while the fourth grade, the lowest, is such areas as Suining and Nanchong, at only 0.02%.

### 3.4. Risk Sharing

The trial scheme adopts a risk dispersion system of "policy-holder + insurance company + reinsurance institution + financial subsidy + civil assistance". The unification plan is carried out according to the unified national model, and its subject is composed of the insurance applicant, direct insurance institution, reinsurance institution, earthquake insurance fund and government emergency plan.

### 3.5. Premium Subsidies

At present, the national earthquake catastrophe insurance system for urban and rural residents has not made clear provisions on premium subsidies and but it only encourages local governments to subsidize the premiums of earthquake catastrophe insurance. From the perspective of catastrophe insurance trials, premium subsidy is not only the feature of each trial, but also it is the key to smoothly implementation. The unification program follows the trial program in Sichuan, retaining the feature of premium subsidy. Ordinary residential houses were insured according to the basic insurance amount, with the insurant bearing 40% of the premium and the fiscal subsidy 60%. The basic insurance amount of special entitled groups was covered by the finance.

In November 2018, the Guangyuan Branch of PICC Property Insurance paid an indemnity of ¥25,000 to four households whose houses were badly damaged by the "9 · 12" Earthquake in Ningqiang, which is the first earthquake insurance indemnity in Sichuan. [7]

A magnitude 6.0 earthquake struck Changning county, Yibin in Sichuan province at 22:55 on June 17, 2019. Since then, there have been several aftershocks of magnitude 4.0 or above. According to the local data of earthquake catastrophe insurance for urban and rural residents, "a total of 115,684 households in Yibin were insured with an amount of ¥2.94 billion, among which 13,600 households in Changning county were insured (urban 2881 families, rural 10719 families), and the insured amount is ¥360 million. [8]

## 4. Analysis of Catastrophe Insurance Implementation in Sichuan Province

### 4.1. Experience

#### 4.1.1. Residential Houses as Main Target

Sichuan is mostly mountainous. Sichuan provincial policy-based rural housing insurance, Sichuan's catastrophe insurance trial and even the unification program are all residential housing as the main target and rural housing is the focus. Its main reason is that many rural residents' houses are built in mountains or by rivers, the old houses are civil structure, wood structure, bamboo structure, brick structure and the newer houses are brick, masonry and

hybrid structure such as a small amount of the reinforced concrete structure. They can hardly resist natural calamities and accidents, especially the ability of the catastrophe. Besides, Sichuan is an area of frequent natural disasters and the vast majority of areas are in the area of natural disasters. The result is a large area of farmhouse damaged or collapsed.

#### **4.1.2. Government Financial Support and Voluntary Participation of Individuals**

Viewed from policy-based farmhouse insurance, Fujian Model (So do Anhui, Hubei, Hunan, Gansu, Yunnan, Jiangsu, etc.) is that government blankets all premium, Guangxi Model (Qianjiang of Chongqing in trial) is “financial support + participation encouraged”, which means the coverage rate of policy-based farmhouse insurance was guaranteed through the financial blanket insurance, and the public awareness of participation was stimulated by encouraging voluntary participation in the insurance; Most areas in Sichuan have adopted the Zhejiang Model of “financial subsidies + voluntary insurance participation + market operation”; Tibetan model is adopted for the agricultural housing insurance in Chengdu: Farmers voluntarily participate in the insurance and pay very little premium and the “government + market” model is adopted for the “co-office & co-insurance.” [9]

From the point of view of catastrophe insurance trial scheme, the trial projects are all government insurance with full subsidy premiums in Shenzhen, Ningbo, Dali and Guangdong, Heilongjiang, Xiamen, Zhangjiakou, Hunan, Chongqing and other places before Sichuan. Sichuan catastrophe insurance trial adopts the mode of “individual voluntary +government subsidy”: The public volunteered to take part in the insurance and bear part of the premium, which was subsidized by the government at 60% and the people at their own expense of 40%.

From the point of view of integration, Sichuan is a relatively mature and successful parallel province, and the basic insurance premium subsidy mechanism is retained to ensure the sustainable development of earthquake catastrophe insurance for urban and rural residents in Sichuan, which provides valuable experience for other provinces.

#### **4.1.3. Focus on Supporting Special Preferential Groups**

The practice of catastrophe insurance in Sichuan is consistent with that in other parts of the country, with the primary goal of ensuring people’s livelihood. Under the condition that the voluntary participation of the public may lead to the low insurance rate, the successful experience of Sichuan catastrophe insurance trial and parallel scheme follows the policy-oriented farmhouse insurance: The limited financial funds are tilted to the preferential target, and on the basis of providing premium subsidies to all the people, the premium for the preferential clients in the trial areas will be borne in full by the financial stratification at all levels, which not only improves the insurance rate, realizes the effective dispersion of risks, but also effectively guarantees the housing of this part of the population who most needs catastrophe insurance but cannot afford it. It effectively defuses the risk of “poverty caused by disaster” and “returning to poverty because of disaster” in this part of the population, and provides a strong support for the accurate eradication of poverty in deep poverty areas.

## **4.2. Prominent Deficiencies**

The biggest deficiency of Sichuan catastrophe insurance is that the insurance rate is on the low side. From the policy-oriented farmhouse insurance covering some catastrophe risks to the Sichuan catastrophe insurance trial and then to the earthquake catastrophe insurance for urban and rural residents in Sichuan after the unification, the insurance rate has not reached the design standard of the scheme. First take a look at the catastrophe insurance trial. By June 30, 2016, the number of insured households in Mianyang City was 92,596, insurance coverage was 6.5 percent, and 100 percent of preferential treatment people were insured. Except for preferential treatment people, the proportion of other people who volunteered to take part in insurance should not exceed 2.3 percent of the total number of households. By the end of 2016,



the trial four cities and prefectures had accumulated 758,500 households, with an underwriting coverage of 14.4 percent. Among them, more than 460,000 households in need of insurance premiums are fully subsidized by financial funds, voluntary contributions to participate in the insurance of less than 300,000 households. After the unification, by November 2018, a total of 1.634 million urban and rural residents were insured in 15 cities and prefectures in the province, an increase of only 850,000 compared with the trial four cities and prefectures, of which about 1.1 million were special preferential care objects, and the insurance rate was seriously lower than the design standard. According to the investigation of the research group, the insurance rate of catastrophe insurance in Sichuan province is mainly restricted by many factors and targeted measures need to be taken to improve it.

#### **4.2.1. Lower Awareness of Some Areas and no Enough Propaganda**

Some cities and prefectures do not fully understand the important role of farmhouse insurance and catastrophe insurance in resolving catastrophe risk. In addition, policy-oriented farmhouse insurance and catastrophe insurance all need financial support. To a certain extent, this has affected the enthusiasm of government departments in some areas, and its publicity and organizational strength are not satisfactory, especially in the third stage and the fourth stage, that is, the higher risk and lower risk areas, is more obvious. In the investigation, the research group found that 21 cities and prefectures in the province, Chengdu and Ziyang have not yet submitted catastrophe insurance implementation plans, and among the 19 cities and prefectures that have formally implemented earthquake catastrophe insurance for urban and rural residents, except for several cities and prefectures with high earthquake risk, the other municipal governments and insurance companies have not publicized catastrophe insurance to the outside world, and their implementation is limited to the scope of characteristic preferential care objects. The relevant government departments connect directly with the insurance companies, and the financial funds are fully subsidized. From the feedback information of the insurance companies, it has not carried out relevant publicity activities, mainly based on: first, the premium is low, the fourth rural is ¥20,000 insurance amount and the residents pay ¥8.8, the city ¥50,000 insurance amount, the residents pay ¥3.6, and the premium directly into the community account; Second, the public insurance consciousness is weak, the insurance enthusiasm is not high, and so the government and insurance companies do not have much will to promote. Besides, there is no related publicity and promotion work, so that the vast majority of the people have not yet known that there is catastrophe insurance, insurance companies do not accept individual insurance behavior of the public.

#### **4.2.2. Lower Insurance Amount and Weaker Protection**

The insurance coverage of policy-oriented farmhouse is on the lower side. The insurance amount per household of brick-concrete structure is ¥40,000, brick and wood structure is ¥20,000, and civil structure is ¥15,000. Although the maximum amount of earthquake catastrophe insurance for urban and rural residents is steel structure, mixed structure ¥1 million, brick and wood structure ¥100,000, other structures (such as billet) ¥60,000, but in practice, due to risk considerations and easy to operate and other factors, the final choice to subsidize the basic insurance premium, that is, ¥20,000 for rural housing insurance, ¥50,000 for urban housing insurance. As far as Sichuan is concerned, the construction cost of rural housing is ¥100,000-200,000, and the purchase cost of urban housing is more than ¥300,000. Therefore, no matter ¥20,000 in rural housing or ¥50,000 in urban housing, it is much lower than its construction cost, and the level of security is low, and the attraction of catastrophe insurance is not high, so it is difficult to stimulate people enthusiasm for buying.

### 4.2.3. Single Responsibility and Higher Starting Point of Compensation

The liability of Sichuan catastrophe insurance is single, which is limited to the compensation of earthquake and its secondary disaster loss. For the majority of the population, earthquakes are difficult to meet after all, once in a decade or even once in decades. What's more, the starting point of compensation is higher: Only if it reaches level III (medium damage), can the compensation be started and if it is below this level, the damage is taken by the insured. Therefore, the enthusiasm of the public is not high. According to the classification of rate grade, there are 9 and prefectures in the area with highest risk and higher risk, 4 prefectures in high risk area and the other 7 prefectures in low risk area. From the point of view of catastrophe probability, torrential rain and flood disasters are more frequent in most areas of Sichuan. At present, the policy insurance related to floods is only farmhouse insurance and it is limited to only the rural residents' houses which do not cover urban houses.

### Acknowledgements

Supported by Sichuan Science and Technology Program (2019JDR0192).

### References

- [1] Information on: [http://www.luzhou.gov.cn/publicity/subject 02/subject110/108241](http://www.luzhou.gov.cn/publicity/subject%20/subject110/108241).
- [2] Li Downing, Lin Yuan and Hu Xu: Chengdu Trial of Rural Financial Reform and Farmhouse.
- [3] Insurance and Other Agricultural Insurance Innovation. Economic Reference, 2015-08-28 (002).
- [4] Liu Xiaowei: Catastrophe Insurance: An Important Step from Theory to Practice". Financial Times, 2016-07-05 (003).
- [5] Chen Xingxin: Trial of Earthquake Insurance for Urban and Rural Residents Housing in Sichuan". Leshan Daily, 2015-10-13 (006).
- [6] Information on: <http://www.sc.gov.cn/10462/10883/11066/2015/5/4/10334616.shtml>.
- [7] Chen Wei, Zeng Di: Present Situation and Future Direction of Earthquake Catastrophe Insurance for Urban and Rural Residents' Houses, Chinese Insurance, Vol.43(2018)No.11,p: 48-51.
- [8] First Earthquake Catastrophe Insurance Indemnity in Sichuan by Guangyuan City Branch of PICC Property Insurance . Guangyuan Daily, 2018-11-13 (B04).
- [9] Information on: <http://news.sina.com.cn/o/2019-06-18/doc-ihytcerk7699194.shtml>.
- [10] He Lin: A Study on the Legal System of Catastrophe Insurance in China (China Social Science Publishing House, China 2017).