Indian Journal of Sustainable Development
5 (1 & 2) 2019, 38-42
http://publishingindia.com/ijsd/

The Effective Factors on Agricultural Insurance in Iran

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Abstract

This paper investigates the factors that affect by farmer's purchase or not payment of premium agricultural insurance. So that the provider of insurance, state-owned agricultural insurance companies, or commercial ones can regulate their strategies to suit the request of farmers based on our results and Iran special characteristics in a rural area, such as rural population and private and public land system. In this paper, we also provide some suggestion on how to develop the agricultural insurance in Iran for policymakers.

Keywords: Insurance, Agricultural Insurance, Effective Factors, Farmers

Introduction

Agriculture is a profoundly dangerous business. The farmers, who are occupied with agribusiness need to confront an assortment of dangers like catastrophic events, advertise related hazard, specialized hazard, systematically chance and budgetary hazard. Rural protection gives the likelihood of moving characteristic hazard, expanding yield, and enhancing rustic family's welfare and level of utility. It is likewise generally trusted that agrarian protection has noteworthy on keeping the national monetary stable, and furthermore expanding country poor family units' eagerness to embrace new innovations that raise both mean levels and hazard of salary. Farmers will probably take after the standard of most extreme advantage and receive high innovations which may be unverifiable on the off chance that they know for beyond any doubt that the agricultural insurance will cover the conceivable loss of pay.

Agricultural production in all sectors is inherently a risky business; farmers face a great variety of weather, pest, disease, input supply, and market-related risks resulting in the instability of their income. The prevalence of risk in agriculture is not new and farmers have, over generations, developed ways of reducing and coping with risk. Crop insurance is a coping mechanism and ex-ante adaptation measure by which protection from potential risk is transferred from the insurance organization to the insurer. Crop insurance compensates the farmer if there is ultimately crop failure in spite of all the precautionary measures taken by him. In this mechanism, a payment of a certain small amount of premium ensures usually the receipt of a larger amount of compensation, depending upon the occurrence of an unpredictable adverse event. The acceptance of insurance services in the agricultural sector is low as compared with other sectors of the economy. Farmers often view insurance as an unnecessary expense instead of an investment to curtail future risk, especially given the small size of their holdings.

Agriculture is an uncertain business, and improvements in risk mitigation transfer or coping can bring about large benefits to vulnerable rural households, can reduce farmer and herder risk and increase average productivity, however, agricultural insurance is only effective when combined with other agricultural risk management measures.

Background

Hazell (1986) ensured through the information gathered in Mexican that the harvest protection alternatives

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effectively decrease the probability of low livelihoods and move the proficient mean pay standard-deviation outskirts upward. Using nationwide, cross section data at the farm level, Just, Calvin and Quiggin (1999) identified the differences between insured and non-insured farmers, which insured farmers tend to receive sufficient expected benefits compared to the non-insured farmers when their income is catastrophically low caused by uncontrolled reasons.

Kramer (1986) figured the market for crop insurance would come up short as a result of the absence of government appropriations. The awry data, then again, particularly the unfavorable determination and good danger are the primary driver of business sectors disappointment. (Goodwin & Smith 1996, Chamber 1989, Nelson & Loehman 1987). Nonetheless, Miranda and Glauber (1997) took an alternate view on agricultural insurance advertise disappointment. They thought, contrasted with the unbalanced data issues, the fundamental hazard could make a more genuine snag the private crop insurance industry. Certain studies have been carried out on factors affecting various types of the insurance adoption throughout the world, such as livestock insurance adoption by commercial dairy farmers in Eritrea (Mohammad & Ortman, 2005) or crop insurance purchase in France (Enjolras & Sentis, 2011), hail insurance decisions in Switzerland (Finger & Lehmann, 2012), the demand for agricultural insurance in Spain (Garrido & Zilberman, 2008), crop insurance decisions in the US (Sherrick et al., 2004) and in China (Yang et al., 2015) as well as crop insurance adoption in Iran (Qorbani et al., 2000; Dadras Moghaddam & Zamanipour, 2010; Karami, 2011). These analyses showed that the adoption of various agricultural insurance programs is determined by a variety of factors. In spite of the vital importance of insurance for the farmers and its role in the sense of security of production.

The conclusions on agricultural insurance above, for the most part, concentrate on the issues from the "supply" perspective, for example, how agricultural insurance markets run and the related outcomes caused by the disappointment of the business sectors, and how agricultural insurance help agriculturists to move a wide range of hazard. In any case, the issues from the "request" side, for example, what are the primary factors that will impact the farmers to buy or not purchasing agricultural insurance were once in a while examined. Just by knowing this well, would we be able to set up a flawless farming protection framework?

In this paper, we endeavour to reveal some insight into the related issues by giving a pilot consider in three zones utilizing a family overview information gathered in 2016 - 2017 from provincial of Iran. First, by depicting the degree by which country ranchers in our example have agrarian protection, we expect to expand our comprehension about the relative significance of farming protection in provincial economy. Second, by investigating village's family characteristics and the status of agricultural insurance, we are interested in assessing the potential underlying factors behind families' decision on purchase or not buying agricultural insurance. And finally, by looking at the State-possess agricultural insurance program to other agricultural insurance, we can recognize the degree to which protection has accomplished their potential and the method for creating In Iran agricultural insurance. Basically, our research dedicates to giving the answer on this issue and taking the WTO (World Trade Organization) related regulations to support the development of Iran rural economy.

Agricultural Insurance in Iran

Agricultural insurance in Iran is playing more and more important role on increasing prevention the drought recovery, ensuring social stability in rural areas, servicing to a new socialist countryside construction, and building a harmonious society. In Iran Agricultural insurance is under fire insurance. According to the data from Central Insurance of Iran (CII), agricultural insurance premium income achieved 10137 million Rial by the year of 2015. Around 30 companies are engaging in agricultural insurance business they paid 4352/8 million rial of loss payment farmers to help them recover from the drought and other reasons beyond their control. Nevertheless, compared to the rural population and agricultural production area, the agricultural insurance apparently cannot meet the drought-compensated. To some extent, Iran has not yet set up an efficient agricultural insurance system to help rural households to smooth the risk. The capacity of risk-bearing of Iran famers is really low, "the development of agricultural insurance is still facing the lack of catastrophic risk dispersion mechanisms," which has influenced the development of rural economy.

Table 1: Premium Income of Agricultural Insurance 2012 Till 2019

Year	*General Premium Income of Insurance (Million Rial)*	*Premium Income of Fire Insurance (Million Rial)*	*Premium Income of Agricultural Insurance (Million Rial)*	*Percentage Premium Agricultural Insurance*
2012-13	59161/05	3085/8	3	0.0009
2013-14	86092/04	3917/5	3	0.0007
2014-15	131567/14	4393/3	4	0.0009
2015-16	162055/79	5878/8	5	0.0008
2016-17	124006/6	8769	8	0.00091
2017-18	228438/92	10137/2	10	0.00098
2018-19	280175/58	11768/0	11	0.00093

Source of Central Insurance of Iran (CII)

Table 1 is represents Premium income of agricultural insurance with been 2012 till 2019 in Iran.

The main reasons for the failure of the market of Iran agricultural insurance as follows:

- The main obstacle is the lack of support from the government. Since agriculture is high-risk industry, the insurance company has little interest in engaging in its base on the principle of profit maximum. For the policy maker, they should emphasize more about the function of insurance as a tool of subsidizing. Private multiple peril crop insurance still requires a government subsidy.
- Iran, with its vast agricultural land and abundant fruit gardens, but has near two-thirds of lands is dry and desert then because of the high frequency of natural disasters, drought, and flood the range of compensation will be very wide and huge once the risk happens.
- The pay per family in rustic Iran is much lower than it is in urban areas. Farmers usually are not willing to buy insurance by the limited income. Most of the farmers also don't know how to buy and what agri-cultural insurance useful for them. One of the main purposes of this paper is to explore the factors that affect the farmers not buy the agricultural insurance and provide suggestion to policymakers.

Data

The present research relies on data collected by interview in March 2018 through March 2019 in Golestan Province which is located in east north of Iran. Agriculture in this province is important not only to the province itself but to the whole country. The total arable land in Golestan province is 722000 hectares. The overall wheat production capacity has stabilized at above 700 thousand tons every year in this province. Half of the commercial oilseeds in Iran is provided by Golestan Province which is the largest productions base in the country.

The main agricultural products are rice, wheat, oily seeds and citrus fruits. All the productions are planted one season per year due to the cold climate. The data collected in this province has significance reference.

In this section, we briefly describe the information analysing the data with by use SPSS programme and get to know the economic context of Iranian agricultural insurance. It is necessary to make some clarify on some variables. 500 data which were gotten at random from 50 villages will be used in the sample. Totally, 20 variables are included in the regression. It shows that the average age of observed Families measure is 46 years old. Since we interviewed the head of Families measure, so the gender of male accounts for 70%. Male, especially in rural area has higher status in Iran. The average Families measure size is 32.45%. Among all 500 samples, only 40 households are insured, the percentage is only 8%, which is really low. And 15 farmers buy health care insurance, the rest of 10 farmers buy the insurance which is related to agriculture. From the data, we can get the conclusion that the farmers in Iran have no strong intendancy to buy agricultural insurance.

Methodology

The switching regression model with an endogenous criterion function postulates for any observations i

$$Y_{1i} = \beta_{1i} X_{1i} + \mu_{1i} \quad \text{if} \quad {}^{\gamma}Z_i + \mu_i \leq 0 \qquad (1)$$

$$Y_{2i} = \beta_{2i} X_{2i} + \mu_{2i} \text{ if } {}^{\gamma}Z_i + \mu_i > 0 \qquad (2)$$

Where X_{1i} & X_{2i} are vectors of exogenous or pre determined variables; β_1, β_2 and ${}^{\gamma}$ are the corresponding vectors of parameters; μ_{1i}, μ_{2i} and μ_i are random disturbances; Y_{1i}, Y_{2i} are two possible dependent variable. ${}^{\gamma}Z$ i+ μi is criterion function. The dependent variable is a dummy variable (= 1 if famers reported to have agricultural insurance, = 0 otherwise).

The results of the probity estimates on purchase or not buying agricultural insurance are presented in Table 2.

Table 2: Probity Estimates on Purchase or Not Buying Agricultural Insurance

Variables	*Estimated Coefficient*	*P-Value*
Age	-0.136 0.323	0.565*
Gender (Male)	-0.352 0.135	0.726
Families measure	-1.256 2.167	0.898
Family units instruction	0.158 1.531	0.000***
Number of tutoring kids	-0.258 0.506	0.031**
Business area	0.005 2.672	0.601
Arrive resources	0.201 -365	0.033***
Agriculture Insurance Company	-0.358 1.549	0.532*
Pioneer	0.212 0.340	0.991
Rate of agrarian Insurance	-0.212 2.505	0.002***

(*** significant at 1% level, ** significant at 5% level, * significant at 10% level)
Source: Field of Survey

The accompanying factors are incorporated to distinguish the normal impact on farming protection (the headings as in brackets). Age (-), Gender (male) (-), families measure (-), family units instruction (+), number of tutoring kids (-), business area, which is off-cultivate industry (+), arrive resources (+), agricultural insurance company (-), pioneer (+), rate of agrarian Insurance (-).

The engaging and econometrics investigations yielded various exceptionally predictable outcomes crosswise over various estimation strategies. To start with, of course, the agricultural insurance request is altogether influenced by family's generation limit as upheld by the way that family measure, agricultural land, and head's instruction, all essentially increment family's likelihood to purchase agricultural insurance.

Conclusion

Perceiving the restricted learning about the working of agricultural insurance advertises in Iran, particularly on the request side of the business sectors, this paper means to fill this hole in view of a current family study. A couple of intriguing discoveries rose up out of our examination. In the first place, family units' choices on whether to purchase agricultural insurance and from which organization state-possessed or private to acquire are principally controlled by family units' generation limit and the exchange costs. Expanding the availability of agricultural insurance by diminishing the exchange costs is a basic advance to enhance agricultural insurance. Second, there is proof that the agricultural insurance markets are working underneath their potential. What's more, the individuals who are probably going to require the agricultural insurance the most (with more land) are well on the way to be obliged. Discoveries in this examination have noteworthy arrangement suggestions for tending to the agricultural insurance request and supply in provincial Iran.

So as to make the agricultural insurance markets productive to enable ranchers to smooth a wide range of conceivable to hazard, the legislature ought to accomplish more in the accompanying perspectives:

Initially, the lawful framework for the agricultural insurance ought to be fulfilled; the status of state-claimed and private farming organization ought to be illuminated.

The government should assume the part as a sponsor supplier.

Second, to set up the approach arranged agricultural insurance framework, increment the help from monetary and money related offices and actualize the arrangement and give budgetary help to agricultural insurance are imperative strides to create agrarian protection in Iran.

Too known, to execute strategy situated agricultural insurance is vital direction permitted by WTO rules.

Iran should make full utilization of this run the show. Accelerating the foundation of the strategy instrument, giving premium appropriations and special approach, for example, duty, benefit and so on and empowering business insurance agencies working farming protection are three primary assignments of the administration.

Third, building the re-insurance subsidies and risk reserve fund as well is necessary for establishing perfect agricultural insurance system.

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