IJBPAS, September, 2015, 4(9), Special Issue: 130-141

ISSN: 2277–4998

International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS)

'A Bridge Between Laboratory and Reader'

www.ijbpas.com

TESTING THE HYPOTHESES AND ELEMENTAL ANALYSIS IN ORDER TO IDENTIFY THE ESSENTIAL REASONS FOR FARMERS' TRENDS TO INSURE THEIR AGRICULTURAL PRODUCTIONS CASE STUDY: AZADBAYEJAN SHARGHI PROVINCE

MIRDAMADI .M[1], EBNABBASI.A[2*], HEKMAT .M[3]

1- Associate professor of Agricultural Development, Islamic Azad University, Sciences and Research Branch, Tehran, Iran.

2- Department of Agricultural Development, Science and Research Branch, Islamic Azad University, Tehran, Iran (E Mail: avat.abbasi@gmail.com)

3-Young Researchers and Elites club, Science and Research Branch, Islamic Azad University, Tehran, Iran.

***Corresponding Author: E Mail: Masoud.hekmat1@gmail.com**

ABSTRACT

Population growth and increasing the consumption of agricultural production and cattle generation has made the location of agriculture and it subsets such as (farming and breeding) more significant than before. The present study introduces the role of agriculture assurance as well as effective elements on farmer trends on it in east Azadbayejan Province. This province is an important pole of agriculture, however there not enough studies in this field. The present study is a descriptive survey field study one and the population is the farmers with assurance and without assurance in East Azadbayejan Province at 2010 arable year. To analysis the data, SPSS ver18 software was used. Testing the hypotheses represented that there is significant relation among farmers' education, farmers' age, farmers' extension schooling, the amount of received insurance by the farmers, farmers' risk breakout, the amount of received atonement by the farmers, the size of farms, the ownership of farms, variety in agricultural production, the background of received atonement by farmers and the farmers' information about the aims and

benefits of assurance in different levels. The results of elemental analysis of this study show that there are four elemental differences between farmers who insure their productions and the ones who did not insure their productions. These four elemental differences include: the performance of insurer and policyholder, social situation of farmers, the informative – economical ability by farmers and extension of education among farmers.

Keywords: Agricultural Assurance, Trend, East Azadbayejan Province, Elemental Analysis

INTRODUCTION

Human attempt has increased in identifying the social and natural phenomenon and representing the scientific solutions as long as the development of human civilization and formation of complicated issues in human societies. Human being is threatened by risks and harmful adventures from the beginning of his life. The main aim of all human being is to increase his security against life pressures. Abraham Maslow put the security necessity in the second level of human demand hierarchy (Zeinali et al.2009). Population growth and increasing the consumption of agricultural production and cattle generation has made the location of agricultures and it subsets such as (farming and breeding) more significant than before (Rami & Najafabadi, 2009). On the other hand, agricultural activities are threatened by many risks because they depend on the environmental conditions. The farmers are always worried about their earnings but the insurance is the best guarantee for the agricultural risks. Agricultural Insurance decreases the farmers' concerns and increases the motivation of investment in agriculture. Agricultural insurance safeguards the production for a little money and it is a credit and certainty source for the farmers' investment and creativity (Esmaili & Zare Mehrjerdi, 2010).

Agricultural insurance is the most substantial and enduring system to protect injurers in agriculture field. The toll is compensated by direct association of government and producers. Agricultural insurance is a financial mechanism whose aim is to minimize the instability. Instability comes from natural, social and economical tolls. According to FAO estimations, insurance the agricultural production performs in 70 % countries with various forms and aims. Developed countries do not consider the agricultural insurance just a tool to decrease the risks, but they improve farmers' credit and encourage them to produce valuable

productions and to resist in agriculture and its related industries (Vandeveer, 2001). Agricultural investment is a safety process to provide food security in the society. Lack of certainty to investment return is the main issue for the farmers. Agricultural production insurance is the only solution for this problem. The present study introduces the role of agricultural production insurance in Azadbayejan Sharghi Province and mentions the effective elements of farmers' trend at insurance as well. Since Azadbayejan Sharghi Province is an agricultural pole, this study wants to identify which items affect farmer trends in agricultural production insurance according to estimated hypotheses (Ghalavand & Chizari, 2006).

Today, the international economy moves toward the increscent the government interfere in productive sections. It also wants to increase the association of private companies; therefore the politicians and programmers try to attract the private investments for agricultural productions. One of the main approaches to get this aim is to insure the agricultural productions as an efficient instrument (Mohammadrezaiee et al., 2010).

According to the last agricultural estimation of Agronomy Ministry, there are 110985 hectares of garden (fruitful and non-fruitful) in Azadbayejan Sharghi and 746359 hectares of farming lands as well. The evidences show agricultural insurance does not have enough dynamicity and speed in Azadbayejan Sharghi. The reason is the lack of information by the farmers and lack of earnings in inflation pressure (Agronomy Ministry of Azadbayejan Sharghi, 2012).

According to this study, Azadbayejan Sharghi has excellent weather and pleasant geographical conditions for farming, therefore many farmers like to farm in this situations. But there should be enough security and motivation for the farmers and investors. The most important factor to make security and motivation for both groups is to develop the agricultural insurance.

Empirical background of agricultural insurance in Iran and the world

Tabaieean et al. (2010), did this study in Semirom and Eghlid. The title of their article was: "the effective elements of apple production insurance in Semirom and Eghlid". According to the results of this study, the farmers who received the apple production insurance had better views to insurers. They were more informative and they had bigger gardens. The other results showed that multidimensional model is the most effective factor foe accepting or rejecting the agricultural insurance by

farmers. This study suggested the investors to pay so much attention to publication of economical and environmental factors more.

Rami et al. (2009) concluded some variables such as relationship between people and organizations, personality features, farmers' view to insurance, farmers' satisfaction about insurance organ and their conditions, number of baits have significant effect on accepting agricultural insurance a dependant variable. Their article called "effective elements in accepting the agricultural insurance at Markazi province".

Esmaili and Zare Mehrjerdi (2010) acted this experience in Kerman according to Kerman province. According to their findings, level of education, work background, number of baitshas positive effects on accepting the agricultural insurance. However, kinds of animal husbandry, age and the last year earnings have negative effects in it.

Irvani et al (2006) performed his experience for wheat in Tafresh, he proved level of education, received atonement, and received borrowing, information about insurance and the size of the wheat lands were effective in accepting the insurance by farmers.

PROCEDURE AND MATERIALS

The present study has studios applied aims. Data collection is according to a field study, and this study is a descriptive-surveyone. Since it studied a special population, it is a case study. To collect data, library method (referring to books, archives, articles and internet) and square method (questionnaire distribution) were utilized. Sample volume was identified according to Cochran. In this Sample volume q,p (amount of distributed and non-distributed quality) was 0.5. N as the amount of Sample volume was 244840 (information and estimation unit of agronomy ministry in Azadbayejan Sharghi). Also e was 0.07 among 192 people. For better evaluation, questionnaires were given to two experts and masters of insurance organ. After their final confirmation the questionnaires were distributed and our necessary data was collected. The final credit of questionnaire was identified by pilot test. 30 farmers were selected accidentally. The questions in the first part of questionnaire contained the age, sex, schooling and education of farmer and in the second part there were 40 descriptive questions. Final coefficient of questionnaire was measured by Corombach alpha based on $SPSS_{ver18}$ software and it was 0. 893.

Research hypotheses

According to the aim of this study, there are 11 hypotheses mentioned below:

1. There is relationship between farmers' education and their trend toward insurance.
2. There is relationship between farmers' age and their trend toward insurance.
3. There is relationship between farmers' schooling extension and their trend toward insurance.
4. There is relationship between received insurance payment among farmers and their trend toward insurance.
5. There is relationship between farmers' risk breakout and their trend toward insurance.
6. There is relationship between received atonement among farmers and their trend toward insurance.
7. There is relationship between land size and farmers' trend toward insurance.
8. There is relationship between lands ownership and farmers' trend toward insurance.
9. There is relationship between variety productions and farmers' trend toward insurance.
10. There is relationship between the background of insurance (receiving the atonement from insurance box) and farmers' trend toward insurance.
11. There is relationship between information about the insurance aims and farmers' trend toward insurance.

In order to prove the hypotheses, Spearman correlation was used. Spearman correlation which is presented by P, moves from +1 to -1 and they are arranged and symmetrical throw evaluation level. Therefore the dependent variables are not different from independent ones. $SPSS_{ver\ 18}$ soft ware was used in this article. In order to accentuate the farmer trends toward insurance, elemental analysis was applied. Elemental analysis is a general term for multivariable statistical approaches whose main aim is to summarize the information. This method considers the internal coefficient of many variables and finally categorizes them. To this aim, $SPSS_{ver\ 18}$ soft ware was used.

RESULTS

- **Results of hypotheses and suggestion testing**

First hypotheses:

There is significant relationship between farmers' education and their trend toward insurance.

To test this article Fee coefficient was utilized. The results show the calculated Fee is less than 0.01. Therefore, there is

significant relationship between farmers' education and their trend toward insurance 99 probabilities (table 1).

These results show that the more educated the farmers, the more they accept insurance.

Second hypotheses:

There is relationship between farmers' age and their trend toward insurance.

According to V Kramer, there is 0.05 significant relationship between farmers' age and their trend toward insurance (table 2).

According to the age variable coefficient (-1.902) and the significance level 5 %, there is converse relationship between this variable and insuring. The old people do not want to risk, therefore the older the farmers, the less trend they have toward insurance. The main reasons of this desertion can be mentioned as lack of information about the insurance, lack of satisfaction of insurance box especially in tolls and the limitation of covered risks. To attract old people to insurance, there should be enough attempts.

Third hypotheses:

There is relationship between farmers' schooling extension and their trend toward insurance.

The results obtained from V Kramer; there is 1% positive and significant level between farmers' schooling extension and their trend toward insurance (table 3).

Based on the significant relationship between farmers' schooling extension and their trend toward insurance, it is suggested to conduct free educative classes for farmers to explain them the services and facilities of insurance.

Forth hypotheses:

There is relationship between received insurance payment among farmers and their trend toward insurance.

According to the results of Kennedale test, there is relationship between received insurance payment among farmers and their trend toward insurance (tables 4and5).

The farmers should pay money to insurance box according to their earnings not the kind of production. Poor farmers should be able to receive the governmental supports.

Fifth hypotheses:

There is relationship between farmers' risk breakout and their trend toward insurance.

According to the results of V Kramer tests, there is 0.01 difference between the farmers' risk breakout and their trend toward insurance (table 6).

According to these suggestions, some psychological classes should be conducted by agronomy ministry of any city in order to increase the risk breakout by farmers.

Sixth hypotheses:

There is relationship between received atonement among farmers and their trend toward insurance. The results indicated x2 has been calculated in 0.01 significance level (table 7).

Table 1-Fee coefficient for the relationship between farmers' education and their trend toward insure their productions

Result	Significant level	Fee coefficient	Relationship between farmers' education and their trend toward insurance.
Accepting the hypotheses	0.001	-0.125	

Table 2- the relationship between farmers' age and their trend toward insurance.

Results	Significant level	V coefficient	The relationship between farmers' age and their trend toward insurance.
Accepting the hypotheses	0.001	0.234	

Table 3- the relationship between farmers' schooling extension and their trend toward insurance.

Results	Significant level	V coefficient	the relationship between farmers' schooling extension and their trend toward insurance
Accepting the hypotheses	0.009	13.45	

Table 4- Agreement table of insurance payment and insuring the agricultural production

insurance payment and insuring the agricultural production		Insurance payment					Total
Insuring the productions		So little	Little	average	much	So much	
	Yes	5	22	43	47	4	121
	No	3	20	17	14	17	71
Total		8	42	60	61	21	192

Table 5- The relation between insuring the agricultural productions and insurance payment rank to farmers

Results	Significance level	Kennedale coefficient	The relation between insuring the agricultural productions and insurance payment rank by farmers
Acceptable hypotheses	0.000	0.232	insurance payment rank by farmers

Table 6- Relationship between farmers' risk breakout and their trend toward insurance

Results	Significance Level	V Coefficient	Relationship Between Farmers' Risk Breakout and Their Trend Toward Insurance
Acceptable hypotheses	0.000	0.340	Risk Breakout

Table 7- Relationship between received atonement among farmers and their trend toward insurance

Results	Significance Level	Coefficien tx2	Relationship between received atonement among farmers and their trend toward insurance.
Accepting the hypotheses	0.000	52.52	received atonement

According to these results, the atonements should be paid to the injurer farmers as soon as possible with high accuracy and justice because it has positive effects on farmers mentally.

Seventh hypothesis:

There is relationship between land size and farmers' trend toward insurance.

According to the results of V Kramer test, there is relationship between land size and

farmers' trend toward insurance by 99 probabilities (table 8).

According to these results, some psychological classes should be conducted to improve cooperative mood among farmers. The farmers whose lands are connected to each other should have the concerted framings.

Eighth hypotheses:

There is relationship between lands ownership and farmers' trend toward insurance.

The results of Kennedale TAO test indicated that the Kennedale amount is -0.359 and the significance level is 0.10. It is concluded that there is relationship between lands ownership and farmers' trend toward insurance by 99 % probability (table 9).

It is suggested that land owners should pay some percents of total money to insurance box. The government can also pay some money to insurance box as assistance to farmers.

Ninth hypothesis:

There is relationship between variety productions and farmers' trend toward insurance.

According to the results, v has been calculated 0.410 in 0.01 significance level. Therefore, there is relationship between variety productions and farmers' trend toward insurance by 99 % probabilities (table 10).

According to these results, there should be constant various programs to motivate farmers to farm different productions.

Tenth hypothesis:

There is relationship between the background of insurance (receiving the atonement from insurance box) and farmers' trend toward insurance.

The result indicated that, the calculated Fee is less than 0.01 in significant level; therefore there is relationship between the background of insurance (receiving the atonement from insurance box) and farmers' trend toward insurance by 99% probabilities.

According to these results, the atonements should be paid to the injurer farmers as soon as possible with high accuracy and justice because it has positive effects on farmers mentally.

Eleventh hypotheses: There is relationship between information about the insurance aims and farmers' trend toward insurance. According to x2, =v399there is 0.01 significance level. Therefore, there is relationship between information about the insurance aims and farmers' trend toward insurance by 95 % probabilities (table 12).

The farmers should be aware of the insurance aims. By conducting special classes, the farmers get informative.

- **Elemental analysis**

Elemental analysis is a multivariable statistical approach. It connects different variables which are related to each other under an assumed model. The real aim of this analysis is to represent a group of variables according to little amount of assumed variables. On the other word, so many variables are explained according to a few components. These components are called factors or elements.

The data of Kinz Mayor Test shows the suitability of information to decrease into kingpin. The range of KMO test is different from 0 to 1. The amount of KMO was calculated 0.72 and the significance level was 0.10. To be more certain, another test called qui-square Bart let was applied either. In this test BT=55 and the significance level is 0.000 (table 13).

Table 8- the relationship between land size and farmers' trend toward insurance

Results	Significance level	V coefficient	There is relationship between land size and farmers' trend toward insurance.
Accepting Hypotheses	0.001	0.342	Land Size

Table 9- The relationship between lands ownership and farmers' trend toward insurance

Results	Significance Level	Kennedale coefficient	The relationship between lands ownership and farmers' trend toward insurance
Accepting the Hypotheses	0.000	-0.359	Lands Ownership

Table 10- Relationship between variety productions and farmers' trend toward insurance

Results	Significance level	V coefficient	relationship between variety productions and farmers' trend toward insurance
Acceptable Hypothesis	0.000	0.410	Variety Productions

Table 11- Relationship between the background of insurance and farmers' trend toward insurance

Results	Significance level	Fee coefficient	Relationship between the background of insurance (receiving the atonement from insurance box) and farmers' trend toward insurance
Acceptable Hypotheses	0.000	0.940	the background of insurance

Table 12- The results of V Kramer test on the results of 11 hypotheses

Results	Significance level	V coefficient	Relationship between information about the insurance aims and farmers' trend toward insurance
Acceptable hypothesis	0.02	11.66	between information about the insurance aims

Table 13- The results of Kinz Mayor Test and Bart let in elemental analysis

KMO	0.720
Bart let coefficient	401.568
Freedom degree	55
Significance level	0.000

Table 14- The results of element amount and exploratory variance after rotation

Element	Especial amount	Rational percent of variance	Total percent of variance
1	2.4	21.81	21.81
2	1.56	14.16	35.97
3	1.55	14.04	50.01
4	1.16	10.55	60.56

The most amounts are for the first element 2.4. The total amount is 60.56.

Table 15- the share of any element and the related items

variable	Elements			
	F1	F2	F3	F4
Variety in production	0.72			
Farms	0.67			
The background of receiving atonement from insurance organ (box)	0.59			
Age		0.86		
Education		0.60		
Amount of paid money to insurance			0.73	
Land ownership			0.66	
Farmers' awareness of insurance aims			0.513	
Farmers 'risk breakout			0.36	
Extension of schooling about insurance				0.93

The first element or F1 contains Amount of received atonement from insurance box, Variety in production, farms and the background of receiving atonement from insurance organ (box). They had the most shares (21.81%) in explanation the variance. It is named as "interaction of insurer and policy holder". Age and education are F2 and they have 14.16% variance explanation. It is named as "social situation of the farmers". Amount of paid money to insurance, Land ownership, Farmers' awareness of insurance aims and Farmers 'risk breakout are considered as F3 and they have 14.04% variance explanation. This is named as "economical, informative ability".

Extension of schooling about insurance is for F4.it has 10.55 variance explanations. Therefore it is concluded that explanatory elements for accepting the insurance are four: insurer and policy holder, social situation of the farmers, economical, informative ability and Extension of schooling about insurance. These four elements explain 60% of effective elements for insurance.

SUGGESTIONS ACCORDING ELEMENTAL RESULTS

To improve the farmers' association in insurance, the farmers should pay insurance payment according to their economical situations. The farmers should be motivated by receiving assistance from governments especially when they face toll. Some psychological and consultative classes should be conducted to inform the older farmers. Mass media such as radio, televisions or magazines have effect on farmers schooling. Since private section is not so active in

agricultural insurance, there should be more competition among them. These programs should be developed all over the country; not only in public sections but also in private ones.

REFERENCES

[1]. Esmaili Imam. Mehrjardi Zare, M. (2010). Determine the factors influencing the adoption of livestock insurance in Kerman city using parametric or nonparametric methods. Journal of Agricultural Economics, (c) (3) 2, pp.16-30

[2]. Iravanian, E., A single, M., Police station, Str., Unitary Mohammadi, S.h. (2006). Factors affecting crop insurance acceptance Tafresh in the city. Journal of Agricultural Sciences Iran, (37) 2, pp. 144-137.

[3]. Agriculture East Azerbaijan province. (2013). the data center.

[4]. Chizari, d. Ghalavand, K. (2006). Factors affecting the adoption of agricultural products between farmers in the provinces of Tehran & mazandran.slslh insurance papers Scientific Conference agricultural insurance, development and investment security.

[5]. Tbayyan, N. Nuts, A., S. Rezaei Moghaddam, K. (2010) factors affecting apple crop insurance acceptance among apple growers city Semirom: compare models. Iranian Journal of Agricultural Economics and Development, (3).pp. 391-379.

[6]. Zeinali Ghasemi, Z., hra.trkmany, J. Mousavi, the blessings of God. (2009). Factors affecting the demand for insurance of agricultural products in the Sistan region. Journal of Agricultural Insurance, 23 and 24, pp.120-103

[7]. Rami, d. Hope Najaf Abadi, M. (2009). Factors affecting the adoption of insurance ranges from the perspective of the central province of pastures. Journal of Agricultural Insurance, 23 and 24, pp.142-121

[8]. Mohammad Motlagh, K. Kavoosi Klashmy, D. Atai Slvt, K. (2011). Citrus growers. factors affecting the demand for insurance in the city of Babylon. Journal of Agricultural Economics, Issue 3, pp.81-67

[9]. George o T-M ,.Kwadz, John K. M. Kuwornu, Issaka S. B. Amadu.(2013).Food Crop Farmers' Willingness to Participate in Market-Based Crop Insurance Scheme: Evidence from Ghana .*Research in*

Applied Economics, Vol 5(1), Pp21-30.

[10]. Vandeveer, M. L. (2001). Demand for area crop insurance among litchi producers in northern Vietnam economic research service, us department of agriculture. Vol 26, Pp 173-184.