

# The Impact of Tea Crop Insurance in the Development of Tea Industry (Case study: Otagvar, Langrood)<sup>1</sup>

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## Abstract

The Agricultural Insurance Fund has covered tea crop since (2003). Due to undisputable effect of tea industry in the livelihood and the economy of Northern cities and people of the region, the Fund's performance gains its importance. So in this paper, we investigate the impact of tea crop insurance in development of tea industry and factors effective on this impact. Our main question to be answered is that whether, in the present situation, tea crop insurance has been able to wield its role in the development of tea industry. To provide an answer to the question above, we employed variety of qualitative and quantitative methods of research. Quantitative method has been done as survey and our instrument was a questionnaire the questions of which were answered by 200 farmers in Otagvar, Langrood. To achieve a better sample population, we have used the random and cluster methods of sampling. Qualitative method has used the discussion groups with insurance agents in Amlash and Kumleh and interview with experts of Organization for Rural Cooperation and Agricultural Insurance Fund. Our findings show that, most of the farmers in the region are not satisfied with the performance of insurance Tea industry has faced several problems, *inter alia*, imports of large amounts of foreign tea, the lack or non-existence of statistics and data, unsuitable conditions of harvest and, in spite of the insurance of tea crop by the Fund, many other problems remain and the current procedure of insuring, tea crop has raised issues like improper mechanisms of loss

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1. Paper has summarized from thesis by Hojat Sharifi for his MA in Social Welfare Planning. Study was sponsored by the Agricultural Insurance Fund and supervised over by Dr. Maysam Musai

evaluation and pay, disproportionate ratio of damage to crop and payments to farmers and delays in payments. Overall result of research shows this fact that insurance of tea product hasn't been able influential for decreasing of risk, increasing of confidence and compensation of loss emerging from drought. Also it couldn't have suitable performance for development of this industry.

**Keywords:** Insurance, Tea Crop Insurance, Agricultural Insurance Fund, Tea Industry in Iran

## **Introduction**

Tea is among the strategic crops dependent on agricultural industry, notable for its role as a relaxing drink in the family and its nutritional value in the society, has been indispensable for living of the families. The production, distribution, imports and export of tea contributes much to the economy of the countries producing larger amounts of the tea crop. The history of tea plantations in Iran goes back to almost a century ago. The per capita consumption of tea in Iran is five times more than its global average (Office of Research, Parliament (Majlis), (2005), 4).

Tea is an evergreen shrub, which reserves its leaves and generally native to hot and humid regions of the world. In Iran, Guilan and Mazandaran Provinces of the northern part, thanks to the climate of the region, 6 months of the year ( early May to late October), tea leaf collecting is carried out. The dominant mode of plantation is dry; therefore, its crop is heavily dependent on the whims of the climate. Most of the tea plantations ( better known as tea gardens in the region) have located in the hill sides and not-very-high mounts, which exacerbates and in some cases, impossible the irrigation in modern methods. Many of the farmers growing tea crop are highly dependent on the income of the tea industry for their livelihood and, in other words, they are single-crop famers. Among the existing factors threatening the tea industry are climactic issues of draught, frost, landslides etc., having negative impact on the industry and living conditions of the people of the region.

Mishar(1996) has argued that the risk in agriculture is relatively high, compared to that in other industries. This is as the result of the effect of natural factors such as climate in the output. Other effective factors are notably the production cycles, which are rather long. There is a long span of time between the time to decide on production and to decide on the marketing of the products.

Some studies indicate that production in agriculture is innately risk-prone and that farmers have to face many risks including climate, pests and diseases, raw material and market risks. With unsecure annual income, farmer have to concern with the repaying of the loans from bank, additional expenses(taxes and land lease), and in the majority of cases, the ability to afford living expenses and family. The same risks is also true for money lending institutions, as they would make themselves ready for the low possibility of returns in years of inclement climactic conditions, even though this means lending modest amounts of money to farmers ( Skees et al., 1999, 2).

Among the obstacles on the way of attracting the investments from private sector to agriculture certainly is the incidence of natural disasters detrimental to the products as an ever-present danger for agricultural products in the country. These natural risks burden farmers with numerous problems, contributing to the reluctance of the investors to invest in agriculture. Uncertainty is always present in rural areas, as on the one hand, natural factors pose the most serious dangers to the production and, on the other; they face market fluctuations in the price of the products (Aqayi and Bahmani, 2008, 2).

To compensate for the effect of inclement climate, proper and effective mechanisms should be taken into consideration. In Iran the solution by the government is the offering of low interest loans, transfer loans, subsidies etc., to vulnerable farmers. This was very expensive to the government and made farmers consumers of public resources. With the elimination of subsidies, the insurance becomes a viable solution in order to reduce the expenses and to increase the farmers' participation.

In Iran, the Agricultural Insurance Fund covered the tea crop in 2003, covering risks such as draught, floods and landslides, frost and icing, but the mechanisms for insuring and payments for the damages faces many problems.

Two decades ago, the Agricultural Crop Insurance Act passed. Since that time, a functional and optimal mechanism for the Insurance Fund to act upon has not yet been realized. This is, among others, the result of complex nature of agricultural insurance, the scope and intensity of natural disasters in agricultural activity. The optimal practice of the projected functions of the Agricultural Insurance Fund is not an exception to this rule, strictly adhered to the general rules and research mechanisms in defining of the critical issues and in developing proper operational policies (Rasoolof, 2004, 3).

Despite the huge expenses in the form of subsidies paid annually by the government to cover the tea crop ( as 80 per cent of the premiums), the tea crop insurance has not yet achieved its real place and importance, what makes it unable to play its role as risk reduction and certainty to the farmers. What is under study in this paper as a core issue is whether insurance in its present form has been able to function as it may in the development of the tea industry.

The research is justified in the grounds as follows:

- 1) The complete dependence of around 70,000 tea growing families to the income from this industry;
- 2) Single-crop economy dominant in most of the cities of the region ( accounting for more than 60 per cent of the economy in Lahijan, Langrud, Rudsar, Tonekabon and Some'e Sara and 80 per cent in Siahkal, Amlash, Rahimabad and Vajargah);
- 3) The role this industry plays in the employment ( direct and indirect) in the region;
- 4) The impact tea crop insurance receives from the problems and issues this industry faces;
- 5) Examination and understanding of the conditions and environment in which insurance acts;

6) Providing the procedures to help enhance the function of Agricultural Insurance Fund.

According to statements above on the necessity of the research, the purpose of this paper is providing answers to the question that to what extent the tea crop insurance is effective in developing of the tea industry in Iran.

The main assumption is that insurance in its present form wields little weight in the development of the tea industry. The secondary assumptions are the alleged relationship between insurance and decrease in the uncertainty and risk, improvements in tea production management, stability in tea plantation policies, and attraction of investments and losses compensation.

### **Research Method and Collection of Data**

In the present paper, both quantitative and qualitative methods of study have been utilized. The quantitative method is based on the survey in which the method of collection of data is via filling in the questionnaire during the live interview (farmers of the Otagvar County, Langrud). In the qualitative section, the group discussion and interview and participant observation (interviews with insurance officials, experts of Agricultural Insurance Fund and other authorities in tea industry) has been the research tools.

#### **Sample Population, Sample Reference and Sampling Method and analysis**

The sample reference in the present paper in survey is the tea-growing farmers covered or not covered by the tea crop insurance scheme in the Otagvar County of the Langrud. The sample population was selected as 200 people using the Cochran general rule and through the random and simple sampling method, the results of which is of generalizability level of 94 per cent. The sample population in qualitative section was experts in the Organization for Rural Cooperation, experts and officials in the Agricultural Insurance Fund who totalled 35 people. Statistical package for the social sciences (spss11.5) has been used in order to analyze findings in quantitative section. We investigate hypothesis related to test insurance role in one major hypothesis including insurance role in development of tea industry and minor hypothesis including insurance role in lack of trust, risk, also its role in stability of cultivation and farming system, and improvement of performance and management of tea garden, moreover, in attraction of capital and compensation of loss played key role with using of nonparametric test (independence Chi-square). Furthermore, Mann-Whitney U Test has been used in order to make a comparison difference between ideas of two farmer groups including insured and non-insured people in field of insurance role in development of tea industry, furthermore, insurance effect on domains related to development of tea industry in other words, having priority about amount of insurance effect was also done with helping of freidman test. In qualitative section, both open and axis encoding and categorizing have been used So that wisdom and logic, thought, reason were used.

### **Literature Review**

On the relationship between insurance and economic development, studies have been carried out by Rule (2001). He has focused on the relation of insurance sector and other financial

sectors and has emphasized on the possible role of the insurance companies on the economic growth. Favaru(2003) has shown that little research has been carried out about the mutual link between insurance and economic growth.

Based on the research by Krishna (2008), it has been suggested that insurance helps improve risk acceptance and it facilitates investments in infrastructures to boost sustainability of growth in economy. The results of this research also have shown that contribution of insurance to economic development is positive and there is a long-term balanced relationship between these two factors.

Manuj Kumar et al. ( 2003) has indicated that crop insurance is the best and foremost tool in sustaining stability in income of the farmers through technological advances, encouraging investments and increasing credits in agricultural sector. This has led to the improved sense of self-esteem and self-sufficiency among farmers, since they would claim payments in the face of the damage to their crops as a right. Skees et al. ( 1999) has emphasized that the non-insurance helps to farmers leads to the depletion of public funds and that these plans has carried out in a way that their expenses far exceeds their profits. For most of these countries, such government helps may be very expensive, devouring larger parts of the GNP when the depth of the natural disasters is overwhelming. This research has also suggested that with more comprehensive insurance schemes, government, and private sector participation these problems may be tackled in much less expenses.

The crop insurance preference has been referred to by Glauber and Cooling (2002) because insurance expenses is low, the scheme may cover more individuals and the moral hazards reduces.

Samimi and Karegar (2006) in their research entitled 'Does Insurance Development Boost Economic Growth?' have analysed the Iranian economy from 1959-2003. They have suggested that three theories explain the nature of financial development and economic growth:

- 1) Theories which state that financial development can boost economic growth, which are referred to as the ' supply leading' theories;
- 2) Theories with claim that this is the economic growth that provides favourite conditions for financial development. This category of theories is referred to as demand following theories'
- 3) Theories lending no role to financial development in economic growth.

These researchers opted for the supply leading theories for their work and, for their proof; they used the model of causality. For specifying the model of causality (VectorAutoregressive), they have used different tests of stationarity and co-integration of the variables. The error-specifying model indicated that in a given period, fluctuations in insurance and life insurance have had significant effects on the fluctuations of the economic growth but the reverse relation did not hold true. Fluctuations in the development of non-life insurance and in economic growth have not mutual and significant impact on each other. Thus, a causal relationship between insurance and life insurance development and economic growth was confirmed but this relationship

between non-life insurance development and economic growth was not confirmed. According to the results of this study, it seems that insurance industry has failed to provide the financial stability to families and society in the non-life insurance sector, due to the improper performance in payments for the losses.

KavehFirooz(2003), Torkmani and Nikuyi(2007), and Milani and Jaberi(1994) have investigated the relationship between insurance and economic growth and development. They have suggested that insurance, through its effect on investment attraction and facilitating investments, value-added creation in service, industry, agriculture and mining, and through its effect on production via increasing production levels, reducing risks and providing certainty etc., contributes to the economic growth. Little research has been done on the tea crop insurance, making the present study first in the field.

### Theoretical framework

With the lack of a well-worked model on the development of insurance and economic growth, in the present paper, an improved version of the theoretical model of financial development and economic growth developed by Pagano (1993) and applied by Skipper (1998) to insurance sector will be our frame of analysis. According to the model, the total production is linearly related to the investment volume:

$$Y_t = AK_t \quad (2-1)$$

This equation can be considered as the sum of N equal firms each having its own specific production function of  $Y_t = BK_t^\alpha$  and B is determined according to the investment volume as  $B = AK_t^{1-\alpha}$ .

In the present model, as that of Locas (1988) it can be assumed that K is a combination of physical and human assets and a similar technology reproduces both items. For simplification, it is assumed that population is stationary and economy produces only one good to be consumed or invested. If it is invested then, the depreciation of ( $\sigma$ ) will affect the investment. As the result, the gross investment will be:

$$I_t = k_{t+1} - (1 - \sigma)K_t \quad (2-2)$$

In a closed economy without the presence of government, the balance of the market necessitates that the net saving ( $S_t$ ) is equal to the net investment of ( $I_t$ ). Now, with the assumption of reduction of the ( $1 - \phi$ ) from investment, we will have:

$$\phi S_t = I_t \quad (2-3)$$

Then  $\phi$  will be an index of performance of financial intermediation, which converts savings to the investment. The difference of savings and investment is also part of the investments going to banks, speculators and brokers as commissions. According to relation (1.2), the growth rate in the period (t+1) will be as the following:

$$g_{t+1} = \frac{Y_{t+1}}{Y_t} - 1 = \frac{K_{t+1}}{K_t} - 1 \quad (2 - 4)$$

Drawing upon the relation (2.2) and the dropping out of the time index, the growth rate in homogenous state becomes:

$$g = A \frac{I}{Y} - \sigma = A \cdot \phi \cdot S - \sigma \quad (2 - 5)$$

In which  $S = \frac{S}{Y}$  denotes savings rate. Relation (5.2) shows that financial development can influence the economic growth through the savings rate ( $S$ ), invested part of the savings (and through productivity of total production factors ( $A$ )). Consequently, financial firms help improve economic growth through 1) accumulation of investment  $K_t$  and 2) technological innovations ( $A$ ). According to model developed by Pagano, the results can be summarized in this way that financial development contributes to economic growth, but what are factors of financial development? To provide an answer to this question, here the Levine model, improved by Jafari and Karegar (2006), is used. The Levine model is given as below. As seen in the below table, data production on the investment and resource allocation, supervision on firms and institute policies, risk facilitation, boosting savings, and ease of exchange lead to financial development.

Graph 1. The relationship between financial growth and development

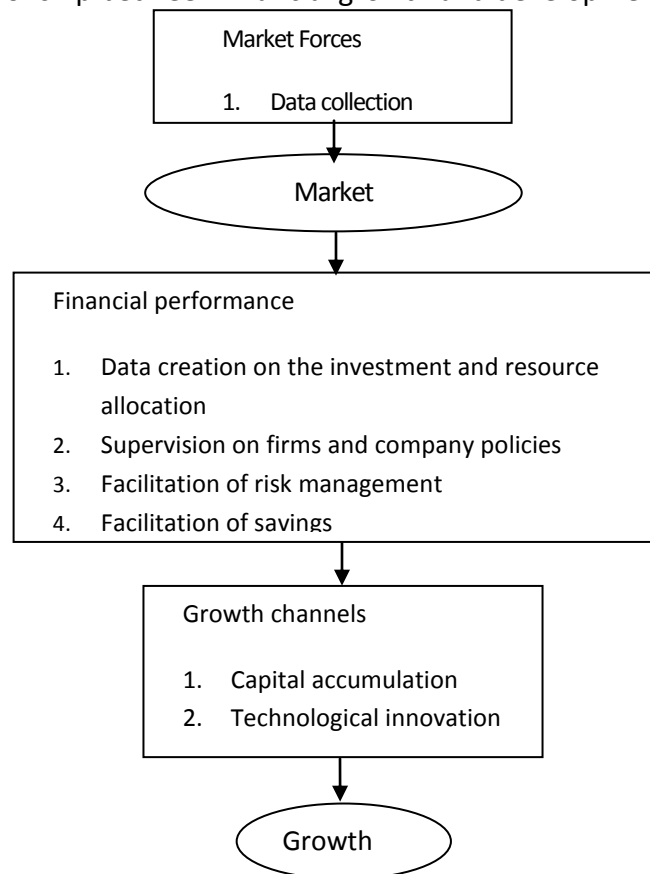


Table 1 illustrates effectively the impact of financial development on the economic growth according to Pagano model. However, where lays the role of insurance on boosting the financial development and hitherto economic growth. For the present focus of attention is on the insurance, the mechanisms of wielding impact by the insurance on financial development should be considered. Skeeper ( 1998), drawing on the endogenous model above, indicated that from a practical point of view, insurance companies, as non-bank credit institutes, can influence the economic growth through 1. Accumulation of assets; and 2. Technological innovations, functioning as the following:

1. Insurance brings stability to financial profile of the companies
2. Insurance is complementary to social security programmes provided by the government.
3. Insurance facilitates trade and business
4. Insurance helps build robust savings
5. Insurance helps manage risks
6. Insurance helps reduce the losses, and,
7. Insurance allocates the investments effectively

In the present study, as there is no need to estimate the Pagano model and developing it more, since it has been carried out by Samimi and Karegar ( 2006), based on the logically necessary results of their study according to above 7 functions, examined the hypotheses sociologically in the framework of their study.

## **Research Findings**

### **Descriptive Findings**

The statistical population comprises two groups: tea grower farmers who have insured their plantations and farmers who have not. More than 70 per cent of the sample population in groups are male. The average age of the groups was 43 years. In education, there was no significant difference among the members of the groups, being 27.6 per cent illiterate for the first group and 24.5 per cent for the second group. In both groups, the members with education higher than high school diploma are low (about 10.5 per cent). Plantations with the area between 0.5 hectare and 1 hectare are the largest in frequency with 39.5 per cent and those with areas about 4.5 hectare are lowest in frequency with only few per cent, the case illustrates the fact that the majority of the successful farmers work on lands with lower areas. About a third (28 per cent) of the respondent in both groups responded that tea is the sole source of the family income and others stated other jobs (such as bricklaying, carpentry etc.), and rice farming as their secondary source of income. In terms of family expenses, the second group were better off with average monthly income of about 2310,000 RIs. (roughly US \$231) than the farmers were in the first group. The total average of both groups was economically in hard times.



## **Inferential analysis of results of the study**

### **Results from the invariable $\chi^2$ test**

To test the hypothesis of the role of insurance (in development of tea industry) and other secondary hypotheses (the role of insurance on the reduction of uncertainty, risk, stabilizing the plantation procedures, improvement of the management and performance of the tea plantation and loss compensation), first two hypotheses (H1) and H0) is considered and examined using the invariable  $\chi^2$  test:

H1: insurance plays a role on the tea industry development, uncertainty and risk reduction, stabilizing the plantation and harvest procedures, in improving the management and performance of the tea plantation, investment attraction and loss compensation.

H0: the negation of the hypothesis H1.

Based on the results of  $\chi^2$  test, it can be said that test has not been significant with the certainty of 0.99 and error term of less than 0.01. Therefore, the hypothesis (H1) is rejected and hypothesis (H0) is accepted. Therefore, the role of insurance in the variables above is not significant.

Table 1. The results of uni-variable  $\chi^2$  test

Index	Groups	$\chi^2$	Degree Of Freedom	Significance Level
Uncertainty	Insured	11/408	2	0.003
	Uninsured	97/588	2	0.000
Risk	Insured	13/000	2	0.002
	Uninsured	93/588	2	0.000
Stabilizing The Plantation Procedures	Insured	23/102	2	0.000
	Uninsured	138/353	2	0.000
Improving The Management And Performance Of Tea Plantations	Insured	19/000	2	0.000
	Uninsured	143/471	2	0.000
Investment Attraction	Insured	25/490	2	0.000
	Uninsured	96/235	2	0.000
Loss Compensation	Insured	5/286	2	0/007
	Uninsured	5/286	2	0/007
Tea Industry Development	Insured	10/429	2	0/005
	Uninsured	31/824	2	0.000

### The Results of Yeoman Witney Test

This test was carried out to compare the opinions of the farmers in the first and the second groups on the role of insurance on the tea industry development.

Table 2 shows the results of the comparison of the opinions of the farmers on the variables of the study. To test the hypotheses, first two hypotheses are developed as follows:

H1: the ideas of the farmers in the first and second groups on the role of insurance on the tea industry development and risk and uncertainty reduction, stabilizing the plantation and harvest procedures, improving the management and performance of the tea plantations, investments attraction and loss compensation are different.

H0: the negation of the hypothesis above.

Drawing on the results for the Yeoman Witney and the values for) Z), presented in the table below for each hypotheses, it is concluded that statistically the hypothesis H1 is accepted with the certainty level of 0.99 per cent and the error term of less than 0.01. This indicates the difference on the opinions of the farmers on the variables of the study, and hypothesis is rejected. So, the difference of the ideas of the farmers on the variables of the study was confirmed. Based on the comparison of the mean of the difference in each group, the quality of the difference of ideas in both groups is determined. Based

on this, the difference of opinion among the first group in their response to the questions is more than that in the second group.

Table 2. The Results of the Yeoman Witney Test

Index	Groups	Average Value	Z	Significance Level
Uncertainty	Insured	124/08	6/07	0.00
	Uninsured	77/85		
Risk	Insured	115/17	3/791	0.00
	Uninsured	86/40		
Stabilizing The Plantation And Harvest Procedures	Insured	125/26	6/255	0.00
	Uninsured	76/71		
Improving The Management And The Performance Of The Plantations	Insured	94/31	1/678	0.093
	Uninsured	106/45		
Investment Attraction	Insured	80/61	5/066	0/00
	Uninsured	119/61		
Loss Compensation	Insured	107/18	1/646	0/100
	Uninsured	94/08		
Tea Industry Development	Insured	123/89	5/631	0/000
	Uninsured	78/02		

### The Results of Freedman test

Two hypotheses (H1) and (H0) are developed to test the difference in the effect of insurance on six components of tea industry development. They include the priorities set on the effect of the insurance on 6 component of the tea industry development (uncertainty and risk reduction, stabilizing the tea plantation and harvest procedures, improving the management and performance of the tea plantations, investment attraction and loss compensation in the face of unfavourable atmosphere):

H1: the effect of insurance on six components of the tea industry development including uncertainty and risk reduction, stabilizing the tea plantation and harvest procedures, improving the management and performance of the tea plantations, investment attraction and loss compensation in the face of unfavourable atmosphere is different.

H0: the negation of the hypothesis above.

The results of the test of above hypothesis indicated that, according to the statistic term  $X^2$  small value of (318.684), with the certainty level of 0.99 per cent and the error term of 0.01,

there was a significant difference in the effect of insurance on the 6 components of the tea industry development.

The comparison of the ordinal means of the effect of insurance on six components of tea industry indicated that reduction of uncertainty has affected most by the insurance (with the ordinal mean of 4.54). In the next order, risk reduction (with the ordinal mean of 4.36), loss compensation (with the ordinal mean of 4.18), investment attraction (with the ordinal mean of 3.12), improving the management and performance of tea plantation (with the ordinal means of 2.88), and stabilizing the plantation and harvest procedures (with the ordinal means of 1.92) are the other components affected by insurance the most.

Table 3.The results of Freedman test

Indexes	Ordinal means	$\chi^2$	Degree of freedom	Significance level
Reduction of uncertainty	4.54	318.684	5	0.010
Risk	4.34			
Loss compensation	4.18			
Investment attraction	3.12			
Improving the management and performance of the plantation	2.88			
Stabilizing the plantation and harvest procedures	1.92			

According to the analysis of the findings, it can be concluded that, although farmers in both groups are not satisfied with the present mechanisms of the function of the insurance and deem it ineffectual on the development of the tea industry, there is significant difference between farmers in first and second group.This indicates that, if insurance industry takes accurate mechanism to cover the tea crop and acknowledge its commitments to farmers, it will have a positive role in developing tea industry and getting participation by farmers to cover their tea crop plantations.

The next point of importance is the priority lent by the farmers on the effect of insurance on the uncertainty and risk reduction. While the tea industry is in its weakest and most critical situation, and where farmers active in this industry, have always had concerns about the uncertainty, job insecurity, and high risk in their jobs, insurance would play its pivotal role in uncertainty and risk reduction and contribute more to the development of tea industry.

## **Findings of the qualitative study**

In order to complement the results, the participant observation and interview has been carried out with the participation of officials of the Organization for Rural Cooperation and authorities in the Agricultural Insurance Fund and agents of the tea crop insurance to collect the relevant data, the results of which are as follow:

The experts in the Organization for Rural Cooperation cited the followings as the major problems with most impact on the function of insurance in the present situation:

1. Organization for Rural Cooperation as the main authority of tea industry in Northern regions of Iran, lacks the sufficient human force to supervise over the processes of production and especially tea crop processing.
2. The money allocated to purchase dried tea from the factories is not due in time and hence, the Organization is not up to its commitments.
3. Due to the lack of resources and low capabilities of Rural Cooperation in terms of purchase power, this Organization fails in its role as the sole authority supervising over the irregular activity or non-activity of the factories processing tea.
4. Due to the lack of expert and skilled labour force, they usually fail to prevent problems such as cheating in load sheets.
5. The work force active in the industry is aged and the youth are not motivated enough to enter the industry.

These problems on the one hand, leads to the inaccurate estimation of the input fresh tea leaves and output of dried tea from the factory and thus, statistics based on which the loss assessment in the case of any natural disaster is carried out by the Agricultural Insurance Fund are not creditable. On the other hand, this contributes to the poor performance and management in part of the farmers and lack of motivation to effectively pruning the tea shrubs, which in turn, leads to reduction in productivity of shrubs and their resistance to draughts. These shrubs in the face of any sudden change in precipitation and rise in temperature will dry and farmers will face loss of product and hence, income.

Experts in the Agricultural Insurance Fund invested importance to the following concerning the tea crop insurance:

1. The mechanism of loss evaluation suffers fundamental problems;
  2. There is a long time between the time of occurring loss and loss compensation;
  3. The statistics on tea crop is not accurate.
- The statements by the government authorities

Data collected from the insurance company officials were analysed, the results of which are as the following:

Farmers who have not insured their tea plantations cited the followings as their rationales:

1. Farmers usually go for insurance agents to insure their plantations on special days of the week ( for example, in Amlash County, Langrood, this day is Tuesday, as it is the day of the local weekly bazaar). Consequently, the office would be very crowded and the quality of the insurance agents' services is poor and leads to the dissatisfaction of the farmers.
2. On the process of loss assessment in the tea plantations, the following problems are in the place:
  - A. The official statistics on the output of the dried tea by the factories are not real and are more of imaginary values.
  - B. In the process of loss evaluation, the component measured to estimate loss and payment, is the quantity of tea crop. This component cannot be a good measure for most of the cases, since the loss occurred in different steps of tea crop collection are different. Thus, the present method of loss assessment is not accurate and real.
  - C. The tea plantations are not separately assessed and usually a total value is officially reported, while the loss occurred, is different due to different geographical and topographical and management and performance considerations of the tea farmers.
  - D. Some farmers are not very dependent on the income of tea crop;hence, the income from tea is not their sole source of income. This group are unwilling to insure their tea crop.
  - E. The real loss occurred is usually not paid, which reduces the public trust to the insurance Fund.
  - F. Negative preconceptions of the farmers towards the not-very-favourable record of the Agricultural Insurance Fund and irregular and uncontrolled payments of the loss contributes to the reluctance in partof the farmers to insure their tea crop. This group have stated that the loss payment has gained political significance and the economy has not played a role. The failure to loss payment in the hard times, like those from 2005 to 2008 and the process of payment of loss occurred in 2009, where the yield of tea is dramatically higher than that in past years, as presented in the Table, has contributed to this rumour.

Table 4.1. The amount of tea crop (green and dried) harvested based on the area of planted land.

Year	Land area in Hectares	Tea harvested(in tonnes)	Dried tea (in tonnes)
2001	34000	200367	50091
2002	34000	97811	24452
2003	34000	100000	25000
2004	34000	104000	26000
2005	34000	96000	24000
2006	34000	108000	27000
2007	34000	128000	32000
2008	34000	136000	32000
2009	34000	0	34000

Data from: the Tea Organization of Langrood, 2009.

A group of farmers have cited as their avoidance to insure their tea crop the lack of real relation between loss paid by the Fund and the real loss occurred to tea plantations.

### **Generalizing and Interpretation of the Results**

The results of the present study indicated that the followings are the main problems of tea industry in Iran: small areas of the tea planted lands, lower productivity, absence of economic justification of the tea crop planting, undeveloped technology in production of tea, aging of the work force, the lack of motivation in part of the youth to enter this sector, the large-scale immigration of population from rural areas to city suburbs, poor performance of factories processing green tea, the lack of stability in macro-level policy making in tea industry, poor control of production line, the lack or absence of marketing for tea, tea imported without competition, etc. Problems in tea industry has relegated the plantations less that the level suitable to be insured, i.e., high risk of insuring such plantations. The body of research in the field is paltry and data on the number and area of tea plantations are not accurate and creditable. Farmers due to their poor economic condition and lower incomes cannot afford to pay larger premiums. As the result, the insurance schemes are not economically justified and hardly ever viable.

The analysis of the findings of the qualitative study indicated that hypotheses tested for two groups of farmers with or without having insured their tea crop showed that those insuring their tea crop have always had a positive view of the insurance and its functions compared to the second group of farmers who did not insured their tea crop. This illustrates the fact that in the case of solving problems in the way of insurance companies, they would play their role in development and flourishing of this industry. The findings indicated that there is no evidence

showing that the presence of tea crop insurance leading to the payment of bank loans and other credits. Thus, insurance has failed to play a positive role in providing the necessary resources for farmers in the cycle of production. So, the hypothesis of the role of tea crop insurance in providing the resources needed to activate the production line at present is rejected.

Findings indicated that tea crop insurance has failed to wield a positive weight in the reduction of uncertainty and risk emanating from the natural disasters and farmers still feel disturbed by the uncertainty caused by these risks. As the result, the hypothesis of the role of tea crop insurance in the reduction of risk and uncertainty is also rejected. According to the theory of expected utility, since the risk-averse farmers is willing to insure their tea crop plantations to avoid risks and uncertainties, and since insurance cannot function properly in reducing these risks and uncertainties, farmers will not be motivated enough to insure their tea crop plantations.

On the role of tea crop insurance on the improving the management and performance of tea plantation, our findings suggest that at present condition, insurance has ceased to be an encouraging factor in using sufficient technology and better risk reduction and increasing productivity through utilizing the resources provided in this way. It has also failed to motivate farmers to work in tea crop agriculture. So this hypothesis is also rejected.

Tea crop insurance has not had significant impact on the components contributing to the stability of the tea plantation and harvest, such as improved upkeep of the tea plantations, hard work on the production and harvest, providing a better image of the industry and attraction of the young population. Respondents stated that in this case, also, the role of tea crop insurance is negligible and thus this hypothesis is rejected.

On the loss compensation and payment to save the purchase power of farmers in favourable levels, insurance has acted better than on other components of the study such as risk and uncertainty reduction etc., but still its role has limited to its poor supportive agency, which has been unable to command a role in developing the tea industry. Usually management and political issues influence the process of setting premiums and payments for the loss. Thus, the hypothesis of the role of insurance at present situation, in compensation for the loss in the condition of inclement weather is rejected.

The secondary hypotheses on the role of insurance are accepted, but main hypotheses explaining the role of tea crop insurance on the development of this industry are not confirmed. However, the important point here is that, like in other hypotheses, the level of satisfaction and agreement of the group insuring their tea crop has been higher than that in the second group with not having their tea crop insured. For example, on the role of tea crop insurance on the development of the industry at present situation, 37.8 per cent of the first group were in agreement with this role, while only this figure for the second group was 12.7 per cent. Disagreement with this role in the first group was 43.9 per cent and in the second



group, it was higher (57.8 per cent). Therefore, there was a significant difference between two groups in their evaluation of the success of insurance in developing of the tea industry.

Whatever that is expressed as an overall conclusion of the study is that Insurance Fund of Agricultural crops doesn't have correct understanding from existing problems in tea industry, also it can't have accurate evaluation for various amount of loss to tea gardens due to lack of data in numerous fields such as tea acreage amount of tea harvest by farmers, so on the basis of this issue, it can't have any guarantee for revenue tea farmers in case of drought occurrence, but we are hopeful regarding that insurance of tea product has had more positive effect among insured group in present condition of this industry and tea crop insurance, in the present situation of the industry, it has had better impact on the insured group. The difference in the views of two groups is indicative of the fact that in the case of solving the problems facing the tea insurance, it will definitely be able to play its positive role under unfavourable situations and contribute to the development of the industry.

### **Suggestions of the study**

With respect to the problems facing the tea industry at the present situation and insurance, in order to improve the present mechanism, the following is suggested:

1. Establishing a competent agency for collection of data and information and providing the official identification sheet for tea planted lands; and,
2. Establishing different branches in rural areas and native evaluators as insurance agencies;
3. Controlling and preventing from cheating in the load sheets of the tea production in the factories.

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