

## Perceptions of Rural Livestock Insurance among Livestock Producers and Insurance Specialists in Isfahan Province, Iran

Mohammad Chizari and Ahmad Yaghoubi  
Tarbiat Modarres University

James R. Lindner  
Texas A&M University

### Abstract

*The purpose of this descriptive and correlational study was to describe the perceptions of livestock producers and insurance specialists regarding livestock insurance in Isfahan Province, Iran. Using cluster sampling techniques, 236 livestock producers and 22 insurance specialists were chosen to participate in the study. Results show that livestock producers perceived that agriculture and livestock producers are continuously faced with risks and dangers and that livestock insurance is beneficial to farmers. Livestock producers indicated that over the past five years, diseases, wild animal attacks, drought, and theft were primarily responsible for damage and loss in their operations. Of livestock producers adopting insurance, most indicated the attitude that insurance specialists and insurance costs were good. Major obstacles hampering the development of rural livestock insurance as perceived by insurance specialists includes lack of equipment and facilities for personnel at the agriculture bank branches and lack of knowledge by livestock producers of the benefits of livestock insurance.*

### Introduction

Agriculture is a vital sector of the economy of Iran. Currently, about one-fourth of the nation's Gross National Product, one-third of the work force, more than four-fifths of the nation's food needs, one-third of non-oil exports, and nine-tenths of industry is dependent on agriculture (Naeemi Nezam Abadi, 1999). Among the activities of the agriculture sector, livestock husbandry has an important and special role. It not only provides the protein needs of the people, but eighty-five percent of the work force in the agriculture sector is involved, full or part-time, in livestock production. A greater understanding of this sector is needed as Iran addresses its goal of self-sufficiency in the production of food and fiber products (Chizari, Bahmani, & Lindner, 2001; Chizari, Lindner, & Lashkarara, 2001).

In addition to its significance in the country's economy, activities in the agriculture sector compared with other sectors are unique (Sajadi, 1998). Because of its dependence on the environment, agriculture is an inherently risky business (Anderson & Dillon 1992; Binswanger, 1980). Agricultural producers, therefore, are continuously faced with natural disasters and quite often cannot cover their farming and living expenses (Rahimi, 2000).

Because of sudden changes in weather and natural disasters, crop and livestock

producers face drought, sudden rains and hail, flooding, changes in the ecosystem, plant and animal diseases, and attacks by insects and wild animals over which they have no control. Consequently, farmers can incur huge losses if they are not covered and/or supported, and such losses can spell disaster for the agriculture sector and the economy of the country (Jafarzadeh, 1999). Among various systems proposed by agricultural economists to cover such economic risks, crop and livestock insurance is one of the most appropriate safeguards in both developing and developed countries (Turkamani, 1998).

Like many other countries, the policy of crop and livestock insurance to reduce production risk has gained importance in Iran in recent years. Since 1994, The Central Agriculture Bank of Iran, through branches across the country, has offered insurance to crop, livestock, fishery, and poultry producers against production losses due to natural disasters, as well as plant and animal diseases (Mazaheri & Rahmani, 1999). However, because insurance is a fairly new phenomenon for producers, its adoption, like any innovation, will encounter resistance. Identifying reasons for resistance and/or non-adoption, as well as reasons for adoption of livestock insurance is needed to develop a strategy for encouraging producers to invest in livestock insurance.

### **Purpose and Objectives**

The purpose of this study was to describe the perceptions of livestock producers and insurance specialists regarding livestock insurance in Isfahan Province, Iran. Three objectives guided the study: (1) Compare livestock insurance adopters and non-adopters on demographics, attitudes toward livestock insurance, and damage sustained, (2) Describe perceived satisfaction of adopters with livestock insurance; and (3) Assess obstacles to rural livestock insurance as perceived by insurance specialists.

### **Methods**

The population of farmers in the study included traditional goat and sheep producers who in the last three years had or had not adopted livestock insurance. There were 450 adopters and 498 non-adopters. These producer lists were obtained from the central administration of the agriculture bank in Isfahan Province. Cluster sampling techniques were used to select the sample population. The province was divided into four regions. From each region, one township was chosen, and in each township those villages that had the most number of insured and non-insured livestock producers were selected to provide same-size samples of 118 producers in each group.

The population of insurance specialists included all 22 personnel working in branches of the agriculture bank in Isfahan Province who had been trained and were specifically responsible to service livestock producers on writing policies, appraising losses, and awarding damages.

From a review of the literature, two instruments were developed to collect data from adopters and nonadopters and insurance specialists. Content and face validity of the instruments were established by a panel of experts consisting of faculty and graduate students in the Department of Agricultural Extension and Education at Tarbiat Modarres University and insurance specialists of the agriculture bank. Instrument reliability was

estimated by calculating Cronbach's alpha coefficient. Reliabilities of the instruments were .86 for adopters, .87 for non-adopters, and .89 for insurance specialists.

Data were collected through a mailed questionnaire to the insurance specialists and personal interviews with livestock producers. A 100% response rate was achieved; therefore, the results of this study are generalizable to the population from which it was drawn.

### **Findings**

#### Objective One

*Demographic characteristics of producers.* The age of producers ranged from 23 to 72 years. Adopters were, on average, 41 years old and non-adopters, 43 years old. Thirty-nine percent were illiterate, 33% had an elementary education, 18% guidance education, and 11% more than a high school education. There was very little difference in the education level of the two groups. Adopters averaged 225 livestock, and non-adopters 189. In the last five years, adopters had received credit from the agriculture bank an average of four times, while non-adopters had done so an average of two times. Adopters reported a higher income than non-adopters.

*Attitudes toward livestock insurance.* The frequency distribution in Table 1 shows that both adopters and non-adopters strongly agreed that agriculture and livestock production is risky and that government should cover any losses sustained. At the same time, both groups realized the value of insurance by disagreeing with the statements that insurance is not needed or that it had no benefit for small producers. However, they did not favor mandatory livestock insurance nor did they feel that accidents and dangers in the livestock business were an act of God.

When the two groups were compared on mean attitude scores on the several statements based on a 5-point Likert-type scale, adopters were in greater agreement than non-adopters that livestock insurance should be mandatory. This difference was statistically significant.

Table 1

*Attitudes toward Livestock Insurance*

Statements	Adopters		Non-adopters		Overall		t	p
	M <sup>a</sup>	SD	M <sup>a</sup>	SD	M <sup>a</sup>	SD		
Agriculture & livestocking continuously are faced with risks and dangers	4.43	0.53	4.41	0.74	4.42	0.64	0.30	0.76
Livestock insurance is beneficial	4.06	0.81	4.03	0.67	4.05	0.74	0.00	1.00
Having livestock insurance reduces worries and stress	3.36	1.11	3.33	0.95	3.34	1.03	0.25	0.80
Recovering livestock's loss is government's liability	3.22	0.91	3.34	0.90	3.30	0.91	1.22	0.22
Livestock insurance should be mandatory	3.18	0.76	2.97	0.84	3.07	0.80	2.04	0.04*
Accidents/dangers in livestock business are acts of God	2.64	0.99	2.8	1.06	2.71	1.03	1.21	0.23
Livestock Insurance has no benefit for small producers	2.26	0.62	2.23	0.71	2.24	0.66	0.39	0.70
Insurance is not needed to sustain loss or damage	1.98	0.28	2.02	0.49	1.99	0.40	0.82	0.41

Note. <sup>a</sup>1=highly disagree; 2=disagree; 3=neutral; 4=agree; 5=highly agree.

*Causes of damage to livestock.*

Livestock producers were asked to rate possible causes of damage/loss in their operations in the five years preceding the study. Each cause was rated on a 6-point Likert-type scale. As shown in Table 2, the top three causes of damage to livestock for both adopters and non-adopters of

livestock insurance were diseases (Overall mean=3.95), wild animal attacks (Overall mean=3.75), and drought (Overall mean=3.67). Ratings by adopters for three causes of damage were significantly higher than the ratings by non-adopters.

Table 2

*Causes of Livestock Damage*

Causes	Adopters (n=118)		Non-adopters (n=118)		Overall (n=236)		t	p
	M <sup>a</sup>	SD	M <sup>a</sup>	SD	M <sup>a</sup>	SD		
Diseases	4.00	0.69	3.90	1.03	3.95	0.89	3.05	0.00*
Wild animal attacks	3.79	1.09	3.70	1.10	3.75	1.10	0.48	0.64
Drought	3.95	0.96	3.59	1.24	3.67	1.12	2.64	0.02*
Theft	2.48	1.18	2.23	1.30	2.35	1.24	1.57	0.12
Cold	1.06	1.10	1.00	1.18	1.03	1.14	0.40	0.69
Flood	1.02	0.90	0.96	0.86	0.99	0.88	1.42	0.16
Poison fodder	1.00	0.87	0.87	1.06	0.94	0.97	2.09	0.04*
Hail	0.90	0.83	0.75	0.83	0.81	0.83	1.49	0.14
Falling from mountains	0.77	0.80	0.57	0.83	0.67	0.82	1.92	0.06
Car accidents	0.71	0.80	0.62	0.87	0.66	0.83	0.86	0.39
Heat	0.60	0.83	0.58	0.90	0.59	0.87	0.68	0.50

Note. <sup>a</sup>0=none; 1=very little; 2=little; 3=some; 4=much; 5=very much.

*Objective Two*

Producers who had livestock insurance indicated their level of satisfaction or how good they felt about various aspects of their insurance policy using a 3-point scale. As shown in Table 3, participants felt that the general attitude of and guidance provided to them by insurance

specialists was good, and that the cost of insurance was reasonable. However, they were less satisfied with terms and conditions of the insurance policy, as well as the manner in which claims were investigated and settled by insurance specialists.

Table 3

*Perceptions of Adopters Regarding Their Satisfaction with Their Insurance Policy (n=118)*

Statement	Percentages			Overall	
	Very Good	Good	Not Good	$M^a$	$SD$
Attitude of insurance specialists	11.9	70.3	11.9	1.94	.54
Insurance cost	5.3	69.0	25.7	1.80	.54
Guidance, availability and helpfulness of insurance specialists	11.9	49.1	39.0	1.73	.66
Terms, conditions, rules and regulations of insurance policy	0.0	31.6	68.4	1.31	.46
Quickness and manner of payment	1.9	16.8	81.3	1.21	.45
On time visit made by insurance specialists at accident scene	0.9	16.0	83.1	1.18	.41

Note. <sup>a</sup>1=Not Good; 2=Good; 3=Very Good.

*Objective Three*

Insurance specialists (n=22) were asked to indicate on a 5-point Likert-type scale the extent to which rural livestock insurance in the province was hampered by different obstacles. Table 4 shows the means and standard deviations for the several obstacles, as well as an

interpretation of the means based on an interpretative scale of the extent to which these obstacles were a hindrance (<1.50: Very little hindrance; 1.51-2.50: Little hindrance; 2.51-3.50: Moderate hindrance; 3.51-4.50: Much hindrance; > 4.50 Very much hindrance).

Table 4

*Obstacles Hampering Development of Livestock Insurance as Perceived by Insurance Specialists (n=22)*

Statement	$M^a$	$SD$
Lack of equipment and facilities for personnel at the agriculture bank branches	4.42	0.9
Lack of knowledge by livestock producers of the benefits of livestock insurance	4.37	0.68
Lack of cooperation between related divisions of the agriculture bank	4.26	0.87
Lack of priority given to extension education	4.26	1.42
Lack of full coverage	4.21	0.85
Weak publicity by the agriculture bank	4.21	0.85
Lack of encouraging policy	4.00	0.88
Lack of information by livestock producers about availability of livestock insurance	3.94	0.62
Insurance not a priority for livestock producers compared to other needs	3.90	1.15
Lack of attention given to research regarding rural livestock insurance	3.89	1.05
Lack of money at the agriculture bank	3.88	1.27
Lack of fit between insurance coverage and accidental loss	3.79	0.98
Beliefs of livestock producers in predestination and destiny	3.42	1.26
Difficulty in implementing insurance policy	3.37	1.38
Resistance of rural people to adoption of new innovations	3.32	1.00
Lack of livestock insurance specialists	3.32	1.20
Lack of proportionality in programs of bank and the needs of livestock producers	3.21	0.98
Low income of livestock producers	3.16	1.21
Not being financially able to purchase insurance	3.10	1.10
Few numbers of agriculture Bank branches	2.95	1.13
Little training for insurance personnel	2.84	1.42
Lack of timely payment for compensations	2.84	1.46
Compensation paid does not cover losses	2.74	0.65
Too much bureaucracy in making an insurance contract	2.10	1.20

Note. <sup>a</sup>1=very little; 2=little; 3=moderate; 4=much; 5=very much.

Of the 23 obstacles to which producers responded, 11 posed very much hindrance, 11 were considered as much hindrance, and 1 was of moderate hindrance. Inadequacies in bank infrastructure, cooperation, coverage, policy, funding, and publicity were considered to be serious barriers to progress. Obstacles posed by producers included their lack of knowledge of insurance benefits, low priority accorded to insurance, and a sense of fatalism.

### Conclusions and Recommendations

Based on the findings of this study, the following conclusions were drawn and recommendations given. Regarding the age of respondents an extent range was found, a significant number of them were young and a good number of them were older. Average difference in age of adopters and non-adopters were less than 2 years. Thirty nine percent of the livestock producers were illiterate. The average level of education was at elementary education. The average of livestocking experience was 24 years. Because a significant number of livestock producers were illiterate or had only an elementary education, Extension methods such as personal contacts, posters and mass media, which do not require reading ability, should be used to promote livestock insurance.

Both adopters and non-adopters of livestock insurance indicated that crop and livestock production are continuously faced with risks and dangers. They felt that recovering livestock losses should be the government's responsibility. They agreed that having livestock insurance is beneficial, and that it should be mandatory. Instead of the government giving subsidies to city population for red meat, we recommend that the government make livestock insurance more affordable by reducing costs for the rural livestock producers. Since rural livestock producers identified various causes of losses as important, and the insurance policy offered by the agriculture bank does not cover flood, storm, hail, and diseases, it is recommended that full coverage against these contingencies should be offered. Insurance specialists who indicated that the lack of a full-coverage policy is an obstacle to the adoption of livestock insurance substantiate this. If this is done, many of the non-adopters may begin to buy livestock insurance.

Livestock producers ranked diseases as the number one cause of damages. Wild animals attacks were ranked second, drought third, theft fourth and cold weather fifth. The heat and earthquakes were ranked lowest of all the causes of damage. Terms and conditions of insurance coverage are typically written into insurance policies that are more beneficial to the agriculture bank and provide less protection to livestock producers. These should be made more attractive to producers. Furthermore, claims should be investigated and settled in the shortest possible time. To be able to do this, insurance specialists should have the necessary means and resources.

In assessing perceptions of adopters regarding their satisfaction with their insurance policy, (70%) respondents rated the attitude of insurance specialists, good. Also (49%) of respondents rated the guidance, availability, and helpfulness of insurance specialists good, meaning they are satisfied. However, (12%) of them rated this item as very good. The livestock producers were not satisfied with the terms, conditions, rules and regulations of insurance policies. Because livestock producers lack knowledge of insurance benefits, as indicated by them and also stated by insurance specialists, various extension methods should be used to increase awareness and knowledge. Obviously this move will change the behavior of livestock producers to give a high priority accorded to insurance. Home visits, on-farm visits, telephone calls, and other appropriate contact methods can be used to market livestock insurance to producers.

Inadequacies in bank infrastructure, cooperation, coverage, policy, funding, and publicity were considered to be serious barriers to progress. Obstacles posed by producers included their lack of knowledge of insurance benefits, low priority accorded to insurance, and a sense of fatalism. Insurance personnel at the agriculture bank branches should have needed facilities and equipments to give better service to insurance policy holders.

**References**

- Anderson, J. R., & Dillon, J. L. (1992). *Risk analysis in dryland farming systems*. Rome: Food and Agriculture Organization of the United Nations.
- Binswanger, H. P. (1980). Attitudes toward risk: Experimental measurement in rural India. *American Journal of Agricultural Economics*, 62(3), 395-407.
- Chizari, M., Bahmani, S., & Lindner, J. R. (2001). Educational needs of semi-migrant nomads of Charmahal va Bakhtiari Province, Iran regarding sheep and goat management and production. *Journal of International Agricultural and Extension Education*, 8(2), 25-29.
- Chizari, M., Lindner, J. R., & Lashkarara, F. (2001). Perceptions of Luristan province, Iran wheat farmers with respect to sustainable agricultural practices. *Journal of International Agricultural and Extension Education*, 8(3), 65-72.
- Jafarzadeh, E. (1999). The importance of crop insurance in recovering losses. *Quarterly Publications of Insurance Industry*, 55, 142-160.
- Mazaheri, G., & Rahmani, M. (1999). *Green supporters: Familiarization with the crop insurance industry*. Tehran, Iran: Publications of Agriculture Bank.
- Naeemi Nezam Abadi, M. (1999). *An investigation of effective factors in expansion and development of agriculture insurance*. Un-published master's thesis, Tehran University, Tehran, Iran.
- Rahimi, E. (2000). *Policies for supporting farmers: A case study for livestock and fisheries division*. Tehran, Iran: Publications of Research Center for Rural Study. Ministry of Agriculture.
- Sajadi, F. (1998). Practical strategies for disseminating the culture of agriculture insurance. *Proceedings of the 2<sup>nd</sup> Annual National Agriculture Bank Insurance Specialists Meeting*. Tehran, Iran: Publications of Agriculture Bank.
- Turkamani, J. (1998). *Effect of insurance in reducing risk for wheat farmers*. Tehran, Iran: Publications of Research Institutions for Planning Agricultural Economics.