J. Agr. Sci. Tech. (2023) Vol. 25(3): 551-564

Farmers' Trust in Extension Staff and Productivity: An Economic Experiment in Rural Areas of Iran

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ABSTRACT

Farmers' trust in extension staff may improve the performance of agricultural extension services and productivity through transferred knowledge and new farming practices. Using the trust game and trust questionnaire, this study measured farmers' trust in extension staff. Measures obtained from the two methods were statistically different. We examined the relationship between the measured trust and agricultural productivity to control socio-economic factors. The findings revealed an insignificant relationship between trust and productivity that might be due to inappropriate attributes of extension programs. This emphasizes the need for more participation of farmers in researching and structuring training programs. While age had a negative impact on trust, traditional farmers with high experience showed a high level of trust. This indicates that young farmers who mostly inherited their lands from their parents and have occupations other than farming or practice modern farming, do not trust the extension staff. Farm size positively influences productivity by reducing the number of laborers per hectare. This emphasizes that the traditional way of farming is the cause of low productivity in Iranian agriculture.

Keywords: Agricultural productivity, Experimental Economics, Extension Programs, Trust Game; Trust questionnaire.

INTRODUCTION

In developing countries where agriculture is a key sector in the economy, improving its productivity is an important policy goal (Avazdahandeh *et al*., 2020). This is because agricultural productivity growth not only increases households' incomes and government revenues but also causes improvements in economic growth and reductions in trade deficit (Gero and Egbendewe, 2020). In this regard, in most countries, extension services are commonly used in order to improve farms' productivity. Extension agents, by spreading modern science and technology in farming communities, attempt to accelerate the production process and, as a result, food security (Emmanuel *et al*., 2016). Numerous studies (Emmanuel *et al*., 2016; Zobeidi *et al*., 2020; Wossen *et al*., 2017) show that the agricultural extension service, through transferring knowledge and innovative technologies, has the potential to increase agricultural productivity.

In the transfer process of innovations, the

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most accelerating step is farmers' acceptance of information provided by extension staff. To date, numerous studies have been conducted to find out what factors influence farmers' adoption. Social factors (Diedrich *et al*., 2019), economic factors (Blythe *et al*., 2017; Diedrich *et al*., 2019), and farm characteristics (Bodnar and De Graaff, 2003) affecting farmers' adoption have been well studied.

The research literature on farmers' trust has been mainly focused on the interactive relationship between farmers' cooperation, trust, and adoption of collectively-applied techniques. One group of studies (Azadi *et al*., 2019) addresses trust as a determining factor in adopting agricultural programs requiring cooperation and collective action. Joffre *et al*. (2020) illustrated that high trust among farmers increases farmers' adoption of sustainable technologies management practices in the Ethiopian aquaculture sector. Breetz *et al*. (2005) clarified how trusted social relations affect the adoption of programs that involve cooperation. The second group addresses farmers' cooperation as a means to build up trust. The study of Joffre *et al*. (2020) addressed that trust is higher in farmer clusters in which farmers have high interactions. Social mechanisms such as formal and informal networks, friendships, and voluntarism (Kiptot and Franzel, 2014) are defined to create trust among farmers.

Gaps in the current literature can be summarized as follows. First, while studies had more focus on farmer-farmer trust, farmer-extension trust has been neglected. In the training process, learners are likely to accept readily teachings when they have trust in the training services or trainers, because they feel more connected to trainers and have more satisfaction with their advice (Boubaker and Pekarskaia Dauxert, 2020). Second, while few researchers have addressed the role of trust in adopting individually-applied programs (Breetz *et al*., 2005; Joffre *et al*., 2020), the studies mostly considered sustainable or environmental protection programs (Ansink *et al*., 2017) and were less focused on productivity. Third, although farmers' trust in extension staff and their community may considerably affect their adoption of new knowledge and technologies, and as a result, agricultural productivity, few studies have investigated the relationship between farmers' trust and productivity in practice.

In the present study, we attempted to measure the level of trust between farmers and extension staff by the trust game and questionnaire. While most studies on farmers' trust used self-stated techniques such as questionnaires and rating scales to measure trust, this study applied both to compare the results obtained from them. We examined the relationship between the measured trust and agricultural productivity in a small village of Noqondar in Mashhad, Iran. Along with the main finding, the influence of socio-economic factors on productivity and trust is controlled. Our main research questions were:

- Is there any relation between measures from the trust game and the trust questionnaire?
- Is there any relation between farmers' trust in their community and productivity?

In the following sections, we first explain the concept of trust and its measurement tools. Then, we discuss the trust game as the tool we used to measure farmers' trust in technician staff, measuring agricultural productivity and the hypothetical relationship between trust and productivity. Finally, the results and discussion part are presented in the last section.

METHODOLOGY

Concept of Trust and Its Measurement Tools

Trust is a term with various definitions. The most common definition, also the one used in this study, is "the willingness of a party to be vulnerable to the actions of another party based on the expectation that

the party will perform a particular action important to the trustor, irrespective of the ability to monitor or control the other party" (Mayer *et al*., 1995).

A review of the literature shows that there are different methods to measure the level of trust in society. Generally, these techniques are based on the two approaches of "expressed statements" such as trust questionnaire or "revealed behaviours" such as trust game, dictator game, and envelope game, which often originate from the game theory. Since in this study the trust game is used to measure the trust level, this method is described in the next section.

The Trust Game

The trust game that is used to measure trust and trustworthiness is an experimental setup based on the "revealed behaviour" of subjects. In the trust game, subjects receive payoffs per decision. The received payoffs depend on the subject's accurate expectation of the actual behaviour of the opposite side.

In the overall design (Berg *et al*., 1995), first, a certain amount of money is given to the first person, and he/she is asked to divide it at the desired proportion between herself/himself and the opposite side. According to the game's rule, an amount as much as three times the amount that the first subject has given to the second would be multiplied by three by the experimenter and then would be given to him/her. The second subject is then asked, if desired, to send back some of the money as a trust reward to the first subject. If we display all the money belonging to the first person by Z, the amount of money sent by the first person to the second person by X, and the amount of money returned from the second to the first person by Y, then, payoff functions of the first subjects (A) and the second subject (B) are represented as follows:

$$\pi_A=Z-X+Y \; ; \; 0 \leq X \leq Z \quad (1)$$

$$\pi_B=3X-Y \; ; \; 0 \leq Y \leq 3X \quad (2)$$

In the case of trust, depending on the amount of money sent by the first subject and the amount of money sent back by the second, there will be different outcome rates for each player. Since the subject, only in the case of having a real trust in the other person, sends any money to the second subject, the money can be considered as an indicator of the first subject's level of trust in the second subject. In the second stage, the second subject is asked to decide on the amount of money that he/she intends to send back to the first person.

On the other aspect, the trust game can be played in the two forms of static (only one occasion) and dynamic (on several occasions). The trust game with limited iterations is a game in which players know frequencies of iterations, while players are unaware of frequencies of iterations in the game with unlimited iterations. Since the conditions of these two games are completely different, it is expected that these two games produce two different results. In a repetitive game with a limited number of iterations, according to Nash equilibrium, the amount of money sent from the first person to the second person is gradually decreased and reaches zero (Johnson and Mislin, 2011).

Trust Questionnaire

G in the list of reOpen and structured questionnaires were commonly used for measuring trust (Lyon *et al*., 2015). Questions may ask about the real behaviours of respondents. For instance, they may ask for the frequency of face-to-face meetings between two people. The question is constructed based on the assumption that frequent meetings indicate a high level of trust in social relationships (Burns and Conchie, 2015). Self-report statement, in which respondents are asked about their feelings, attitudes, perceptions, or beliefs regarding a certain statement, is the other commonly used tool in trust investigations. Respondents may be asked to rate the statement from "never agree" to "strongly agree". Structured questionnaires have an

advantage over open questions in that they can be used for all elements of trust (Lyon *et al*., 2015). However, they may face social biases such as social desirability and self-presentation.

Iranian Farmers' Trust

Farmers' trust in regulation enforcement institutions is low (Nooripoor and Noori, 2012); however, it plays a significant role in farmers' social behaviours and their farming practices. Among elements of social capital, trust in enforcement organizations was found the most significant regarding farmers' participation in production cooperatives and farmers' risk aversion (Alibigi *et al*., 2013). It was also considered an important motivation factor for farmers to adapt to and mitigate environmental issues such as environmental ethics, water scarcity (Yaghobi and Molan- Nejad, 2017), rural development programs, and climate change by strengthening their belief in climate change (Azadi *et al*., 2019; Yaghobi and Molan- Nejad, 2017; Zobeidi, 2017).

Compared to enforcement institutes, farmers trust more in technical extension staff who provide them with technical and engineering service information (Abbasi *et al*., 2015). Nevertheless, a high level of farmers' trust in extension staff and experts did not necessarily appear to develop the adoption of extension advice or more cooperation between farmers and extension staff (Abbasi *et al*., 2015). Accordingly, the relation between farmers' trust in extension staff, acceptance of their technical advice, and the resulting productivity has not been clearly specified.

Other studies addressed factors influencing farmers' trust, including access to communication technologies, size of cultivated area, and the number of products contributed to farmers' trust (Abdollahi-Ezatabadi, 2012; Saadi, 2006). Old farmers, however, represented a low level of trust in technical extension services. Among all factors influencing farmers' trust, communication means such as cooperatives (Koorkinejad *et al*., 2018) were realized as the most important factor.

Measuring Agricultural Productivity

Agricultural productivity is generally considered as an indicator to evaluate the economic performance of agricultural activities. This indicator can be measured in different ways, for instance, as the output per one unit of worker or land. Productivity should be defined in a way that different crops can be compared with each other. Cai and Pandey (2015) measured productivity by the value added per unit of labour.

Hypothetical Relationship between Farmers' Trust in Technicians and Productivity

Extension staff are intermediaries who connect farmers with research institutions in order to identify farmers' problems and find solutions for them. Indeed, extension staff are the most important link in the communication chain between researchers and farmers. In this regard, the key function of them is to enable farmers to increase their farm productivity, taking into account environmental concerns and applying modern technologies and research suggestions. Accordingly, in developing regions where extension agents are in charge of promoting agricultural technologies, farm productivity can be considered as an appropriate tool to assess the performance of extension services and programs.

Trust is a necessary condition for effective communications (Cheng and Macaulay, 2014). In general, trust refers to the perceived expectation of the actor and the belief in the creditworthiness and benevolence of the trustee and their behavior. (Liu *et al*., 2009). Distrust between farmers and agricultural technicians causes farmers not to focus on farming activities, but to feel threatened by the

introduced technology (Małyska *et al*., 2014). In the learning environments, the influence of trust is comprised of several factors including dependency, sharing, acceptance, and support.

When trust between farmers and technicians is developed, learners have the confidence to do what the technician advises. If a learner trusts the technician, he/she believes that the technician acts with integrity, and as a result, he/she can depend, at some points, on the technician as his/her advisor (Gerdes, 2010). On the other hand, under a weak trust relationship, farmers spend a lot of time and energy checking and monitoring technicians, their knowledge, and their behaviour (Fransen *et al*., 2011). Furthermore, farmers do not intend to share the knowledge obtained from extension programs with other farmers, which is required for the progressive diffusion of knowledge and programs' performance.

Data Collection and Analysis

Study Area

Noqondar Village, which was selected for this study, is one of the suburbs of Mashhad County located in Khorasan Razavi Province of Iran. The village is on the northern front of the Binalood Mountains. This village consists of 178 households, among which 129 people do gardening activities and 101 cultivate crops in their fields.

To find people interested in participating in the project, an announcement about a study in which participants could earn up to 150,000 Rial [4.25 USD (It is more than three times of minimum wage per hour.)] was posted in different places of the village. Thirty-three farmers positively replied to the announcement**.**

All participants were men and most of them (88%) were gardeners. Their mainly produced fruits were plum, cherry, sour cherry, and berry. A few participants were farmers producing crops such as wheat and barley. The participants were, on average, 53 years old and most of them (60%) had elementary education.

The Experimental Design (Details of the experimental protocol are available upon request.**)**

The experiment was conducted on two separate days of summer in 2015. During two days, we collected data using a structured questionnaire on the demographical characteristics of participants and economic experiments.

Thus, subjects were asked to respond to three questions about trust in the extension staff's profession and knowledge. The following multi-choice questions were set:

Question 1. How would you trust the extension advice?

1.1. I would accept whatever they say without any verification.

1.2. I would accept if the benefits are observable.

1.3. I would rarely accept it even if I see the benefits.

1.4. I would never accept their advice.

Question 2. How much land would you dedicate to cultivation in cooperation with the extension staff?

2.1. 1/4 of the land

2.2. 2/4 of the land

2.3. ¾ of the land

2.4. None

Question 3. How would you evaluate the advice from the extension service that you have applied so far?

3.1. All the advice I applied was beneficial to me.

3.2. Most of their advice was beneficial to me.

3.3. Only some advice was beneficial to me.

3.4. None was beneficial to me.

RESULTS AND DISCUSSION

In this study, investors, on average, sent 1.63, 1.78, 2.07, 1.82, and 1.85 dollars of their initial endowment to their extension staff's counterpart in five sessions, respectively. Over the five sessions, farmers

roughly sent 51% of their initial endowments to the extension staff. Most farmers intended to send between 30 and 60% of their endowment to the extension staff and none of them sent anything or their entire endowment to the extension staff (Figure 1). This indicates that farmers' trust in the extension staff was fair enough.

Our results are similar to those of a study by Buck and Alwang (2011) in which investors sent about 46% of their endowment to other farmers and also the results of a study by Schechter (2007) according to which they sent 45% of their endowment to other farmers and 46% to agricultural technicians.

In five sessions of the game, 55% of the investors subsequently raised the proportion of the endowment sent to the extension staff, while 33% decreased the amount, and the rest did not follow a specific strategy. Furthermore, we found a positive relationship between differences in the money sent in the first and last sessions and differences in the returned money in these two sessions (Figures 2 and 3). The influence of giving additional information, such as outcomes of other games, to investors on the amount of money sent (Charness *et al*., 2011) and the study's purpose (Ansink *et al*., 2017) had been captured by some previous studies.

Trust Measurement by Questionnaire

Figure 4 presents the frequencies of each item for the three questions selected by the respondents. Out of 20 respondents, 15 selected either the second or the third option for the first question indicating that their trust in knowledge from extension services was low. For the second question, 13 of the respondents selected the fourth item presenting that they did not prefer to cooperate with extension agents to cultivate their farms. Either the third or the fourth option was selected by 14 respondents, reflecting that farmers were not satisfied with technical advice from extension services. Putting all the three pieces together, farmers' trust in technical advice from extension services was low.

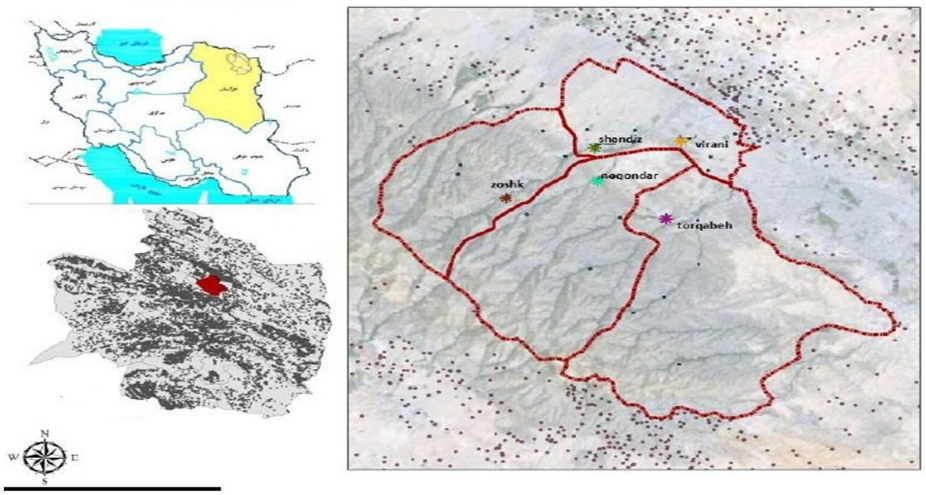

Figure 1. Map of Noqondar (Source: Jahani-Sani and Homaee-Far, 2015).

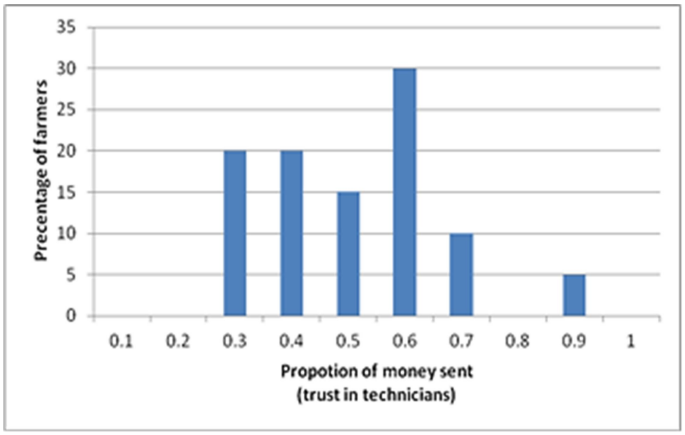

Figure 2. Trust measures estimated by proportion of money sent back.

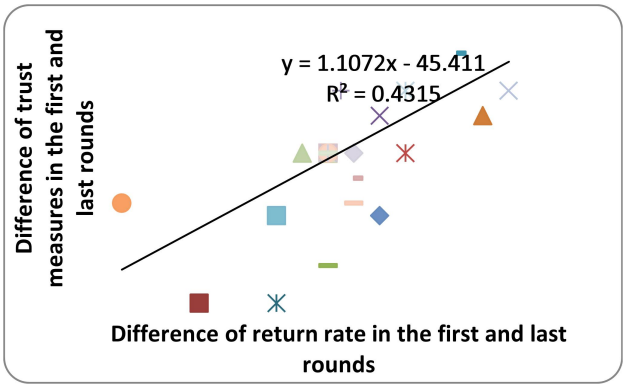

Figure 3. The relationship between trust measures and rate of return.

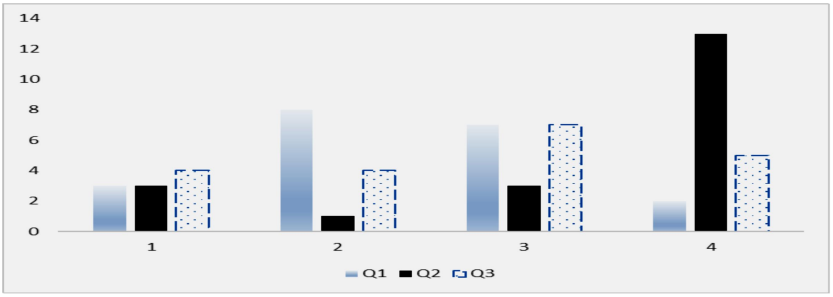

Figure 4. Frequencies of each item based on three questions selected by the respondents.

In order to statistically compare the two measures of trust, values from the trust game (money sent to extension staff) were scaled based on the Likert scale with four rates including very low (0-250), low (250-500), high (500-750), and very high (750-1,000). The average of responses to the three questions was considered as the level of farmers' trust in technical advice from the extension service. Both the t-test statistics with a value of -18.56 and Kendall's non-parametric test with a correlation value of -0.007 rejected the hypothesis of equality for the measures, indicating statistically significant differences between measures of trust game and trust questionnaire. The

result was in line with the findings from other studies that indicated no statistical relationships between the results from implicit and explicit questionnaires (Burns *et al*., 2006) and between the measures from the questionnaire and trust game (Glaeser *et al*., 2000). The statistical comparison of variances (Fisher test) with the value of -11.09 indicated the heterogeneity of variances between trust values from the questionnaire and trust game.

Farm Productivity

In order to assess the economic performance of the study farms, productivity indicators are measured in different ways. Considering that different types of products are produced in the study region, productivity is measured using net benefits as well as the yield of the main product. Table 1 presents the average of farm productivities measured in different ways.

To analyze the sensitivity of our results, we ran several robustness checks. It is observed that although farms achieved different ranks using different measures of productivity, the first top ten and the ten poorest farms remained similar using various indicators. Since adjusting productivity measures from net benefit to yield does not significantly change farm ranking, it is concluded that, in our study sample of farms, farm productivity is influenced by yield more than the price of products.

The Relationship between Farm Productivity and Farmers' Trust in Extension Staff

For the initial data analysis, spearman's rank correlation was used to examine the relationship between agricultural productivity and farmers' trust in extension staff. The results showed insignificant correlations between the two variables of trust and productivity. The coefficient between the average of trust measures and farm productivity was 0.01, which was insignificant at 90% of the confidence interval.

To ensure the accuracy of the results, we examined the relationship between trust in technicians and farm productivity using the nonparametric Mann-Whitney test in two groups of farmers with high trust and low trust. In order to define the two groups, we normalized the average of trust measures that each farmer earned over the five sessions. We specified farmers with positive normalized scores as farmers with high trust, and those with negative normalized scores as farmers with low trust. Before running the test, we confirmed the normality of the productivity dataset. The result of the Mann-Whitney test was not significant with U= 107 and a p-value of 0.43 and, therefore, the null hypothesis of equal productivity for the two groups cannot be rejected. The results of the two tests indicate that farmers' trust in extension staff has not influenced farm productivity.

Sligo and Massey (2007) showed that the potential role of trust becomes active when the knowledge recommended to farmers is relevant to the community interest. In another study, Turyahikayo and Kamagara (2016) showed that farmers' trust and perception of extension services are low, and these have affected the effectiveness of the extension approaches. Therefore, to increase agricultural output, a holistic approach that builds trust among farmers is essential. This can be done through paying attention to farmers on a more frequent basis, encouraging and maintaining reliable relationships with them, and timely delivery of extension services. In addition, Koledoye *et al*. (2013) showed that farmers do not

Table 1. Different measures of farm productivity.

	Farm productivity (Yield of the main product)	Farm productivity (Net benefit from all products)
Labor	0.03 (t person^{-1})	1426.7 (10000 Rial person^{-1})
Land	17.2 (t ha^{-1})	449717.7 (10000 Rial ha^{-1})
Cost	5.62 (kg 10000 Rial^{-1})	21.6 (kg 10000 Rial^{-1})

trust agents who offer poor advice, and the extension agents themselves get readily discouraged if they are not accepted. Thus, farmers' high levels of trust promote extension service acceptance, which leads to increased output. On the importance of the relevance attribute, Hemsley-Brown (2004) stated that the degree of relevance should be clarified at the stage of research design. Additionally, if the transferred knowledge is clear and easy to understand, applicable for farmers (Sligo and Massey, 2007), and supported by individual or collective experiences (Anis *et al*., 2004), it is more likely to be effectively transferred and adopted. On the other hand, farmers' trust in extension staff can also affect the relationship between attributes of the transferred knowledge and its implementation. If valuable information is provided by agents or persons in whom the potential adopters have low trust, it is highly likely that efforts to diffuse the information are ineffective and misleading (Gundersen, 2011). Some studies (Akbari *et al*., 2015; Maghsoudloo *et al*., 2017) pointed out that extension services did not respond to requests from farmers and agribusiness managers properly. The challenges have led to poor participation of farmers in extension training programs, and as a result, a low adoption rate of transferred knowledge among farmers (Abdollahi-Ezatabadi, 2012). Identifying attributes of transferred knowledge and extension and advisor programs in the study region is recommended for further studies and research.

To investigate the potential impact of socio-economic variables such as age and education as well as that of certain farm characteristics such as farm size on both dependent variables of agricultural productivity and trust, the SURE (Seemingly Uncorrelated Regression Equations) model was applied. Empirically, the SURE model is used under conditions where individual equations seem to be un-correlated, while they are, in reality, related to one another. (Theoretically, the existence of invisible factors influencing both equations causes non-zero simultaneous covariance among error terms of the two separate equations. The rationale behind the model is that, when two equations are correlated, the jointness of the two equations provides additional information that is more accurate than the information obtained from individual

Table 2. Results obtained from the SUR model.

	Coef	Std err	Z	P> |Z|
Trust tec				
Age	-0.02	0.009	-2.16	0.03**
Experience	0.019	0.008	2.34	0.02**
Rate of money	0.0002	0.0002	1.13	0.26
Constant	0.785	0.373	2.11	0.03**
Productivity				
Age	0.199	0.244	0.83	0.43
Education	2.255	2.103	1.07	0.28
Experience	-0.361	0.281	-1.52	0.13
Agricultural land	0.001	0.0004	2.57	0.006***
Labor	-0.063	0.025	-2.48	0.01**
Constant	4.818	10.711	0.45	0.65
Equations	R^2	Chi^2	P	
Trust tec	0.22	11.43	0.04	
Productivity	0.18	10.96	0.05	
Breusch-pagan test of independence	Chi^2 (3)= 7.32	P= 0.006**		

(***: Significant at 99% level, **: Significant at 95% level, *: Significant at 90% level).

equations, separately.)

Results of the Model Specification

The results of the Brush-Pegan test indicate that correlations between the error terms of the two equations are statistically significant in any of the estimated equations (P-value< 0.01), addressing that the two models share some unobserved variables as predictors. Considering that the SUR model takes these shared variables into account, the parametric estimates obtained from the SUR model are expected to be more efficient than those from the OLS models.

Table 2 presents the results obtained from the SURE model. The results of statistical tests show that the model is well fitted in terms of the usual diagnostic statistics. The F-stochastic with values higher than their critical points suggests a good overall significance of the estimated equations and validates conclusions drawn from the two equations about how changes in the predictor values are associated with changes in the response values.

The results of the trust equation show that age has a negative impact on farmers' trust in extension staff, while there is a positive impact of experience on the trust level. The model's results and descriptive analysis show that old farmers can be grouped into two categories based on their experiences. The first group consists of inexperienced and young farmers who inherited their property from their parents. The main occupation of this group is not farming, or they practice modern farming. The second category consists of old farmers with high experience whose farm is the main source of their income, and they often do farming in traditional ways. One of the information sources for farmers that are as important as modern information is the traditional sources. As mentioned by Adamides and Stylianou (2018), farmers rely heavily on traditional knowledge and informal meetings among themselves for farming. Questions as to what to plant, when is the best time for sowing seeds and transplanting seedlings, and how often to rotate crops are answered by colleagues. This suggests that one of the sources of information for farmers is the traditional source, which is transmitted through oral channels by colleagues. Therefore, crop producers among farmers use traditional information sources more than modern sources. Although farmers' preferences of information sources may differ from region to region, socioeconomic characteristics and information-seeking behaviour of farmers show variation. The results from the model show that the second group has a high level of trust in the extension staff, while the first does not. As the two variables of age and education were measured on the same unit (year), higher estimates of coefficient for experience than age illustrate that experience compared to age has a higher impact on the trust.

The result of the productivity equation indicates that a one-hectare increase in the size of agricultural land improves agricultural productivity by 0.001 or 0.1%. This result supports the evidence that the small size of agricultural lands is a general barrier to agricultural productivity in most developing countries such as Iran (Nekooi, 2015). The results further imply that a reduction in the number of labourers per hectare raises agricultural productivity. The coefficient estimate shows that employment of one labour decreases the productivity by 0.063 or 6.3%.

Study Limitations

Some methodological limitations should be considered when interpreting the present findings. Similar to behavioural experiments, farmers' participation in the trust game was based on self-selection, which limits the external validity of our findings. Our study sample included farmers from a small village, thereby preventing us from generalizing strong conclusions at the country level. Since our focus was on the relationship between farmers' trust and

productivity, we cannot explain the sources of the approved disconnection.

CONCLUSIONS

This study empirically examines the relationship between farmers' trust in extension staff and agricultural productivity. First, the levels of farmers' trust in extension staff and technical knowledge from the extension services are significantly different. Second, using different indicators of farm productivity, it is found that trust in extension staff does not necessarily lead to an increase in productivity. However, to effectively facilitate communications between farmers and extension staff, trust-building should be considered at the centre, and pre-conditions associated with the attributes of introduced technology should be met.

Our findings have two policy implications to make the public agricultural extension programs more effective. First, initial efforts can be made to identify levels of trust (in extension staff) in various groups of farmers. Second, designers of extension programs should get farmers involved in research and technology development. Farmers' involvement in knowledge building, transferring, and sharing helps not only to develop technologies and innovations but also to foster trust.

Extensive farming that employs a few workers is more productive than intensive farming that employs a large number of workers. One of the less-explored areas in trust measurement is the method used to measure it. While most studies used expressed statements such as questionnaires, methods based on revealed behaviours may be more reliable. Hence, comparative studies on the results obtained from the two methods as well as the pros and cons of each technique are recommended. Communication and collective activities are the most effective tools to build up trust. Hence, further studies on different types of communication methods and their effectiveness are suggested.

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سطح اعتماد کشاورزان به مروجان کشاورزی و بهره وری محصولات کشاورزی: آزمایش تجربی در حوزه ی اقتصاد در مناطق روستایی ایران

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چکیده

سطح اعتماد کشاورزان به مروجان کشاورزی از طریق انتقال دانش و فعالیت های نوین کشاورزی به کشاورزان می تواند عملکرد خدمات ترویجی و بهره وری محصولات کشاورزی را ارتقا دهد. در این مطالعه با استفاده از آزمایش تجربی و تکمیل پرسشنامه سطح اعتماد کشاورزان به مروجان کشاورزی اندازه گیری شد. نتایج بدست آمده (در ارتباط با اندازه گیری سطح اعتماد) از این دو روش اختلاف معنی داری با یکدیگر داشتند. برای بررسی تاثیر عوامل اقتصادی - اجتماعی (بر بهره وری محصولات کشاورزی) ارتباط میان سطح اعتماد کشاورزان به مروجان کشاورزی و عملکرد محصولات کشاورزی را مورد بررسی قرار دادیم. نتایج نشان داد که ارتباط معنی داری میان سطح اعتماد و بهره وری محصولات کشاورزی وجود ندارد که دلیل اصلی آن می تواند ویژگی های نامناسب برنامه های ترویجی باشد. نتیجه ی فوق تاکیدی برای مشارکت دادن کشاورزان در امر تحقیق و برنامه ریزی برنامه های ترویجی می باشد.نتایج بدست آمده نشان می دهد که سن تاثیر منفی بر سطح اعتماد دارد، اما کشاورزانی که تجربه ی بالایی در زمینه ی فعالیت های کشاورزی دارند، سطح بالایی از اعتماد را نشان دادند. نتیجه ی فوق نشان می دهد که کشاورزان قدیمی که اراضی خود را از اجدادشان به ارث بردند و هم اکنون به شغل های دیگری به جز کشاورزی مشغول هستند، اعتماد پایینی به مروجان کشاورزی دارند. نتایج نشان می دهد که افزایش سطح اراضی کشاورزی از طریق کاهش نیروی کار در واحد سطح بهره وری محصولات کشاورزی را افزایش می دهد. نتیجه ی فوق تاکیدی بر آن است که کشاورزی سنتی یکی از دلایل بهره وری پایین محصولات کشاورزی می باشد.