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Original Research Article

FARMERS' ATTITUDES TOWARD AGRICULTURAL COOPERATIVES: THE CASE OF IGDIR PROVINCE OF TURKEY

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ABSTRACT

The study was conducted to determine the satisfaction of agricultural cooperative members, the relationship between the demographic characteristics of the members and their viewpoints on being important members of agricultural cooperatives in Igdir province. The survey data were obtained from 133 members selected randomly from 3726 cooperative members on the basis of Simple Coincidental Exemplification method and exposed to binary logistic regression analysis. In the study designed as two models, only a binary dependent variable is "organization protects the benefits of the producer"(coded as yes and no). Independent variables in Models 1 and 2 are demographic variables and items of the ideas about the organization, respectively. In the study, the benefits of the members, the concept of the organization's being reliable, conducting trainings for its members, and the idea of the cooperative members was estimated. The members of the cooperatives must be encouraged by training, advising, and collaborating researches to visit the cooperatives more often and to be interested in the activities. The young population should be motivated to play an active role in the organization so that a sustainable cooperative system could be maintained in the region.

Key Words: Agriculture, Cooperative, Organization, Development.

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INTRODUCTION

Cooperatives are autonomous, members owned and controlled organizations. They are based on principles of non-discrimination and provide a range of services for their members, including market opportunities, and empower all their members. Cooperatives play a crucial role in reducing poverty, improving food security and generating employment opportunities [1, 2,3]. A cooperative is one of the most effective vehicles for efficient mobilization of production resources and it accelerates rural development [4]. Establishing cooperatives is one of the most common approaches used to improve livelihoods across the globe [5]. United Nation had chosen 2012 as international cooperatives year with a slogan "Cooperative enterprises build a better world" to underline the importance of this movement.

Agricultural and food cooperatives represent a significant portion of the global cooperative sector in developed and developing countries; 30 percent of the 300 largest cooperatives are found in the agriculture sector. These can assume a variety of forms, from small, grassroots associations to unions, federations and chambers of agriculture. Worldwide, cooperatives have more than 1 billion members, a large proportion of which are in the agriculture sector [6].

It is a possible to give precise figures about the cooperative in Turkey because of the different data sources and being active or not both for cooperatives and theirs members. According to the official data of 2015, there are 78 397 cooperatives with 7 010 837 members in Turkey [7]. The number of the agricultural cooperatives is 12 406 with 4 176 238 members.

Beginning of the cooperative movement in agriculture can be considered as the establishment of "Country Funds" in 1864 during the Ottoman Empire. There was a kind of country specific credit cooperatives. However, the first significant development has been realized in the Republican Era.

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The year of 1935 is very important date for the agricultural sector that two main laws became effective those regarding agricultural sales and credit cooperatives (Laws No. 2834 and 2836). Many cooperatives organized at the province and regional level. They could not be organized at the national level until the Law on Cooperatives (No. 1163) in 1969 that was a legislation related to all sector's cooperatives. Agricultural Sales Cooperatives have been organized at the national level as a federation named in short TARKO. But after 1980 it was banned. According to the recent data, 515 700 farmers are the member of 338 cooperatives that are organized under 17 regional unions. These are under the control of Ministry of Custom and Trade.

In 1972, The Law of Agricultural Credit Cooperatives has been amended that made possible to organize at the regional and national level. But from the beginning those cooperatives have been operating under the general auspices and funding provisions of the Agriculture Bank of Turkey. Recently, there are 16 regional credit cooperative unions under a national federation which has 1625 local cooperatives with 1026179 members.

One of the important cooperative organizations is Sugar Beat Producers Cooperatives that has a national union having 31 regional cooperatives with 1 477 967 members.

The other important cooperative movement was Village Development Cooperatives firstly established in 1965 on the basisof the Trade Law because, there was not available a general cooperative law in that date. After the enactment of the special Cooperative Law in 1969, they were reorganized according to this law and the number of the cooperatives reached to six thousands with 1,5 million members while they was only 58 cooperatives in 1965. They were so successful from the cooperative point of view. But after the military intervention 1980 they were closed. Afterward these and some similar organizations were reorganized under a new name as Agricultural Development Cooperatives. They have presently there are 1438 Cooperative organized under 14 regional union with 171022 members that are subject of this paper.

From the beginning, government involvement is the main feature of the cooperative movement in Turkey. 11 978 cooperatives out of 12 406 that have 3 628 305 members are under the assigned duties and the responsibility of the Ministry of Food, Agriculture and Livestock while remainders are under the responsibility of the Ministry of Custom and Trade. Despite some efforts to make these cooperatives more member-owned and controlled organizations, this problems still continues to some extent. Some of the previous studies found some important problems such as; poor relationship between members and management of cooperatives, state intervention and lack of member participation [8, 9]. This structure affected relationship between members and cooperatives and also members' attitudes towards cooperatives.

The study aimed to determine the satisfaction of agricultural cooperative members, the relationship between the demographic characteristics of the members and their viewpoints on being significant members of agricultural cooperatives in Igdir province that has fruitful land in the Eastern Anatolia Region of Turkey. Total amount of Agricultural Development Cooperatives and their total members were covered in the study. Thereareeightagriculturaldevelopmentcooperativeswith 396 membersand 4 agriculturalcreditcooperativeswith 3330 members in Igdirprovince. However,asurvey has not yet found on whetherorganizingcontributestoagriculturalproduction in Iğdırprovince and on theopinions of producersaboutorganizinganditssignificance.

METHODOLOGY

The primary data of the study were obtained from face-to-face questionnaires conducted with farm owners representing the agricultural enterprises in Igdir province from 50 farm organizations in the center of Igdir, 29 farms in Aralik District, 20 farms in Karakoyunlu District, and 34 farms in Tuzluca District. The registers of Ministry of Food, Agriculture and Livestock, Igdir Provincial Management, Farmers Registry System were taken as a basis in the determination of these farms. Although the total number of the farms in Igdir represented by N was known, the standard deviation and variance

values were not known since no studies were conducted in the area before. Therefore, in determining the number of participating enterprises, the following exemplification formula from Simple Coincidental Exemplification was used [10, 11].

$$n = \frac{N.t^2.pq}{(N-1)D^2 + t^2pq}$$

n = Number of samples
N = Population size
D = Accepted or desired exemplification error
t = tvalue
p = The rate to be calculated
q = 1-p

$$n = \frac{3726.1{,}96^2.0{,}1.0{,}9}{(3726-1)0{,}05^2 + 1{,}96^20{,}1.0{,}9} = 133$$

The determined number of the questionnaires was distributed among the districtsaccording to the number of the members in the districts. The breakdown of the number of the farmers interviewed among the districts has been presented in Table 1. 146 questionnaires wereprepared which is 10% higher from the sample size. The statistical assessment wasmade on133 questionnaires withSPSS software program.

Table 1.Number of the Questionnaires in terms of Districts

Name of the District	Number of the members	%	Number of the Questionnaires
Central	1396	37.5	50
Aralık	819	22.0	29
Karakoyunlu	567	15.2	20
Tuzluca	944	25.3	34
Total	**3726**	**100**	**133**

In the survey, 19 questions were exposedto each participant (Table 2). Likert scale was used given answers which rated as: 0-1: strongly disagree, 1-2: disagree, 2-3: neutral, 3-4: agree, 4-5: agree strongly [12]. This method examines whether the "k" question in the scale expresses a whole structure which shows a homogenous characteristics.It is an average value showing the weighted standard change and is called as Cronbach alpha coefficient. If the Alpha (α) coefficient is $0.80 \leq \alpha < 1$, the scale is highly reliable [13]. By so-doing, the extent to which the participants agreedwith the statements in the study was determined [14].

The following binary logistic regression model was applied to determinethe attitudes of the farmers toward cooperatives in twomodels.First one concerns with the relationship between the farmers satisfaction (0-1) and significant answers concerning cooperative activities while second one is between the farmers' satisfaction (0-1) and some of theirs socio-economic characteristics[15,13].

$$L = ln\frac{P}{1-P} = \beta 0 + \beta 1X1 + \beta 2x2 + \beta 3X3 + \cdots \ldots \ldots \beta nXn + \varepsilon$$

L : Dependent Variable
$X_1 \ldots\ldots X_n$: Independent Variables
β_0 : Constant Term
$\beta_1 \ldots \beta_n$: Unknown parameters

The R^2 and Wald testwere used in the binary logistic regression analysis of the data.Hosmer and Lemeshow'sChi-Square Test wasemployed as a goodness of fit criterion.

RESULTS AND DISCUSSION

Cronbach's alpha coefficient found as 0.922 (if the value is $0.80 \leq \alpha < 1$ the scale is highly reliable) means that the survey in assessing the answers to the questions on being organized is highly reliable. The averages and standard deviations of the satisfaction levels of the members of the cooperatives are given in Table 2.

Evaluation of the interviewed farmers' responses to the questionson cooperative activities indicates that "the reliability of the organization"takes the first rank followed by "unity brings power" principle, and the increase in income and life standards of the agricultural producers, respectively (Table 2).

Table 2.Questions that reflect the benefits of being a member of cooperatives

Questions	Average
1. The organization must be reliable	4.22
2. It provides that the principle "unity brings power" is realized in real life	3.91
3. It increases the income and life standards of the agricultural producers	3.72
4. It provides input with lower prices	3.68
5. It increases the incomes of its members	3.63
6. It increases the efficiency of the rural areas in economy	3.63
7. It makes the follow-up of innovations and developments easier	3.50
8. Everybody is equal in the cooperative	3.50
9. We have to be members of the cooperative because it is the best solution for improving the conditions of producers	3.44
10. It serves to any sort of information exchange	3.41
11. It provides the necessary inputs and technology necessary for increasing the efficiency and quality	3.40
12. It provides the marketing of the products for its members	3.31
13. It provides trainings for its members	3.31
14. But for the cooperative. the producers would be face-to-face with intermediaries and pawnbrokers	3.30
15. Cooperative is the place where agricultural products find their best values in terms of price	3.29
16. Even if the cooperative does not make profit.it is important in that. it is the only organization for producers to rely on	3. 28
17. It accelerates the democratic decision making process	3.11
18. It enables the formation of a political pressure group	2.93
19. The benefits of the cooperative are so few that it is not important to become a member	2.44

Rating Scale: 0-1:I strongly disagree, 1-2: I disagree, 2-3: Neutral,3-4: I agree, 4-5: I agree strongly.

Answers reflected members' satisfaction

The binary logistic regression model was fitted to determine whether the organization members acknowledge the significance of being organized and what they would think on this issue. The chi-square value (3.18) found bythe result of Hosmer and Lemeshow Testshowed that the logistic regression model was correctly identified (p=0.92).

Significant independent variables obtained byusing the logistic regression model are given in Table 3. According to Nagelkerke's R Square value, the independent variables explained the idea of "being organized protects the benefits of the producers", which is a dependent variable in a percentage of 73.7%.According to Wald test, the model was found highly significant ($p<0,001$).

Table 3. Binary Logistic Regression Parameter Estimates (Model 1)

		β	SE	W
	(Constant)	-12.599	5.083	6.
X_1	It accelerates the democratic decision making process	1.789	0.801	4.
X_2	It increases the income and life standards of the agricultural producers	2.322	1.049	4.
X_3	It provides trainings for its members	2.032	0.731	7.
X_4	The organization must be reliable	1.738	0.646	7.
X_5	The benefits of the cooperative are so few that it is not important to become a member	-2.832	0.913	9.

Dependent variable: Organization protects the benefits of the producer R²=0.737, Wald=40,2; P<0.001, N=133

According to this, a significant and positive relationship was observed between the belief that being organized protects the benefits of the producers (dependent variable) and the items of "it accelerates the democratic decision making process" ($p<0.05$), "it increases the income and life standards of the agricultural producers" ($p<0,05$), "it provides trainings for its members" ($p<0,01$), and"the organization must be reliable" while there was a negative and significantrelationship in terms of the idea that "the benefits of the cooperative are so few that being a member is not important"($p<0,01$).

The logistic regression model in Table 3 can be formulated as follows.

$$L= -12.599+1.789X_1+2.322X_2+2.032X_3+1.738X_4-2.832X_5$$

A logistic regression modeling was conducted to determine the effects of demographical variables on the quality of producers' responses.

According to this, Table 4 illustrates the results of the regression analysis in order to determine the relationship between the demographic characteristics (age, marital status, education level, income of the family per month,and visits to the cooperative per month) and the producers' belief that the cooperative protects their benefits.

Table 4.Parameter Estimates of Demographic Variables in Binary Logistic Regression (Model 2)

		B	SE	Wald	P
	(Constant)	-1.659	1.824	0.827	0.363
X_1	Age	-0.055	0.027	1.244	0.039
X_2	Marital status	0.496	0.848	0.342	0.559
X_3	Education Level	0.828	0.275	9.087	0.003
X_4	Monthly income of family	0.585	0.381	2.352	0.125
X_5	Visiting number of the cooperative in a month?	1.126	0.378	8.857	0.003

Dependent variable: Organization protects the benefits of its members. R²=0.434; Wald=40.2; P<0.001; N=133.

According to the logistic regression model, a negative and significant relationship was found between the producers' belief that organization protects their benefits (dependent variable) and age ($p<0.05$).Besides, a positive and significant relationship was recorded between education level ($p<0.01$) and the frequency of monthly visits to the cooperatives ($p<0.01$).

The binary logistic regression model revealing the relationship between the dependent and

independent variables is given below.

$L= -1.659 – 0.055X_1+0.496X_2+0.828X_3+0.585X_4+1.1260X_5$

In the agreement with the current study, Koroglu [16] noted that it is necessary to encourage young farmers, develop their current opportunities and to build trust among the members, and Inan [17] emphasized the importance of informing the young people on cooperatives. However, similar further studies on cooperatives are still needed.

CONCLUSION

The study was conducted to determine the producers' opinions about organizing and the necessity of being organized by gathering and analyzing data via a questionnaire from sample active enterprises in Igdir province of the Eastern Anatolia Region of Turkey. The current results illustrated that the producers believe that they can overcome the inherent challenges of agriculture and minimize the risks within a reliable corporate structure.It is necessary to actualize these three propositions to improve member profiles in cooperatives and build a sustainable structure. It is suggestible for the cooperatives to operate more efficiently and to build infrastructures that promote the construction of pressure groups in national politics so that such considerations of the producers could evolve in a positive way. The cooperatives should build a confidential relationship with the producers and provide them with the innovations in the outer world in order that cooperatives are maintained commonly and successfully. Taking into account a negative relationship between general satisfaction and age of farmers in the second model of the study, it was determined that it is a necessity to include younger people into organizations to achieve sustainable cooperation.

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