Agricultural Development Cooperatives in Turkey the Example Sanliurfa Province

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Abstract: In this research, a face to face survey was conducted with the agricultural development cooperatives members in Sanliurfa. The members relationship with the cooperatives, the training activities provided by cooperatives, the problem faced by members and some demographic information were analyzed. The analysis were completed by using frequency tables, deterministic statistics, correlation coefficients and t and F tests. According to results, the members were happy to be member of agricultural development cooperatives and attended all activities provided by them. The majority of members were holding membership to some other agricultural based cooperatives and unions. The coopertives' effort to help the members in input gathering, production, processing marketing, etc., was realized. As a result of that, comparing prior to the membership it has been seen that most of the members have experienced higher income.

Key words: Cooperatives, agricultural development cooperatives, development, cooperatives, demographic information, Turkey

INTRODUCTION

Cooperative concept shortly means working together. It is a known fact that the cooperatives are the useful institutions for using country resources reasonably and for general economy (Hakan, 2001). Cooperatives are especially important institutions for the villagers who live in rural areas and try to keeep up with the market conditions. It is believed that they are means for social and economical development, determining that they comply with the traditonal helping each other and colloboration (Sayar, 1996). Cooperatives are the voluenteer institutions that without sexual, social, racial, political and religious discrimination, open to the every one to able to make use of them and to be ready to accept their membership's responsibilities. Cooperatives are the institutions that is free, self sufficient and ruled ny their members. Cooperatives in the case of making an agreement with other establishments including the governments or increasing their capital by the way of foreign sources, they realize that in the way of keeping cooperatives freedom and protect their members democratic ruling.

Imece and Ahi unions provided the suitable infrastructure with cooperative system. It is accpted that the contemporary cooperative initiation was began by the country boxes. Country boxes established by Mithat Pasha in 1863 were transformed first into Menafi boxes in 1883 and then Ziraat Bank in 1888 (Gumus et al., 2004). Agricultural development cooperatives were established in acordance with the Cooperatives Law introduced in 1969. In 1972, several agricultural development cooperatives were established in order to send workers to abroad with giving priorities for cooperative members and appropriating quotas on them for this aim. More than 200,000 workers were sent to abroad between 1961-1966. The village development cooperatives in Thrace region called now as agricultural development cooperatives, keep their importance in milk marketing and milk pricing in the region.

There are 10.936 agricultural cooperatives in Turkey (GDOS, 2010). Thr distribution of these cooperatives according to their specialty area is shown in Table 1.

Agricultural development cooperatives are the first by 72.08% in numbers in the agricultural cooperatives, beet producers cooperatives the second by 59.75% (Table 1). Agricultural Development Cooperatives are distributed all over Turkey. Beet producers cooperatives act only in the regions which beet is produced so the latter has less branches but their producer numbers are high. Moreover, since they act especially in one special subject, the members participation in cooperative activities and the ratio of adoption for cooperation are high.

Table 1: The distribution of agricultural coopeatives in Turkey

Cooperatives	Numbers	Numbers (%)	Member numbers	Member numbers (%)
Agricultural development	7.883	72.08	797.218000	28.84
Irrigation	2.480	22.68	286.989000	10.38
Aquaculture	542.000	4.96	28.670000	1.04
Beet producers	31.000	0.28	1.651.783	59.75
Total	10.936	100.00	2.764.660	100.00

GDOS (2010)

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Table 2: The number of agricultural cooperative central unions

Names	C Sayisentral unions number	Member cooperative number	Member numbers
Koy-Koop. (Old multipurpose)	1	1.933	239.5560000
Hay-Koop central union	1	1.623	175.9960000
Forestry central union	1	930.000	117.9600000
Tea Coop.central union	1	50.000	71.6170000
Irrigation Coop.union	1	686.000	105.0050000
Su urunleri Koop birligi	1	174.000	10.7200000
T.kredi Koop.Merk.Birligi	1	1.800	1.113.827
Toplam	7	7.196	1.834.681

GDOS (2010)

Agricultural cooperatives, coming together form cooperatives regional unions on their subjects. Cooperative regional unions form cooperative central unions on the subjects of animal breeding, forestry, village development, irrigation, agricultural credit and tea (Table 2). There are 7 central unions all over Turkey.

MATERIALS AND METHODS

The model used in the study is the screenining model. The data is obtained from surveys. they are obtained from Ministry of Agriculture and Rural Affairs (MAFRA), General Directorate of Organization and Support (GDOS) records and by interview method. Population is consists of the Sanlourfa province Agricultural development cooperatives members. Sample volume which represent the population is chosen by random sampling method. Finite population correction formula is used in choosing the sample (Miran, 2007). This formula is as follows:

$$n = \frac{N(1-p)}{(N-1)\sigma_{p_x}^{2} + p(1-p)}$$

Where:

n = Sample volume

p = The ratio of the character that is worked on with population

σ_{px}^2 = Ratio variance

N = Population number

95% confidence interval for 0.10 error margin

$1.96\ \sigma_p = 0.10$

$\sigma_p = 0.05102$

$$n = \frac{45000\ (1-0.5)}{(4500-1)0.05102^{2} + 0.5\ (1-0.5)}$$

$n \cong 94$

Sample number is determined as 94. Although, 94 members can represent the population to reach the real data of population the data is collected by conducting a survey with 127 members.

In this study after becoming a member of Agricultural Development Cooperative (TDC) whether or not an increase incur in member incomes is investigated. If an increase incurs this inrease is tested comparatively for which cooperative membership cause this increase. In analysing the research findings, frequency tables are prepared and then to search if the same important variables are correlated with each other, Pearson correlation coefficients are used and the significance level of each coefficient is determined.

RESULTS AND DISCUSSION

When asked to the members how many year they are a member of the coopearative the 55% of them stated that they had been members for 3-5 years. The 2.4% of them for 6 years. As it is considered the coopertives in the region are the 3-5 years of age, it can be said the big part of members are founders. When asked to the members if they think to continue their memberships, the 89.9 of them stated that they thought to continue their memberships.

It is observed that only 33 member out of 127 are the member of another cooperative. The 10 members of said 33 members are the member of an irrigation cooperative, 16 of them agricultural credit cooperative, 5 of them a milk collecting cooperative and 2 of them an aquaculture cooperative. It is investigated if the individuals are a member of a union in surveys. It is observed that the 84 memebers out of 127 individuals are a member of a cooperative. The 10 out of 84 indivuduals are a member of irrigation union, the 35 of them agricultural Chambers Union, the 45 of them breeding cattle union. In an interwiev with Turkish Animal Breeding Cooperatives (Hay-Koop-TABC) Sanliurfa regional union, all the members conducted surveys are TABC members but when it is asked which union they are the members of, the 45 members out of 127 stated that they are the members of Breeding cattle union.

The participation rate to the various activities conducted by the cooperative is 75%. The top activities participated most are providing the state subsidies with the cooperative members, enabling about credit providing and training activities for their members.

After becoming a member of a cooperative, compared to the previous years, it is stated that the income of 56 individuals out of total samples was increased. The higher group with the 58.9% were the individuals whose their

income increase rate was 20% or less. On the other hand, it was observed that the income of 9 members was increased by 60-80% (Table 3). The 33 members participated in surveys were the head of the cooperatives in various times. The 40% of the 33 members were head for 1-3 years, 33% for 3-4 years and 27% for 5-6 years.

The main problems of cooperative members are asked on the second chapter of survey form. Lacking in technical knowledge, financial problems, education problem, not enough cooperative consciousness and input supply problems are the main problems. The least faced problems are production not for consumer demand, the standardization and the quality.

According to the producers there are no quality problem in production and the production is made for market demand so they do not need to take measures for product differentiation and increasing quality. Since to take measures takes both labor and cost, not paying attention to the problem is a temporary solution and so the problem continue incessantly without solving it. In the study area since the producers has a positive attitude to the education it will be easy to adopt the innovations and to disseminaate them in the case of delivering agricultural extension services.

The financial difficulties that a member faced are shown in Table 4. As is shown in the Table 4, producers suffer generally financial difficulties in storing their products. The financial dificulties in processing products and transportation them follow this. The least financial difficulty faced is promoting the marketing activities. It is because promoting is not paid attention to.

The 74.8% of the members stated that their cooperatives provide them with the training service on various subjects. The most of the trainings are about the animal breeding. general cooperative issues, crop production and irrigation are respectively follow that.

When asked the members which subjects you want to be trained, the 78% of them stated that they want to be trained about animal breeding general cooperatve issues, irrigation, crop production and new production technicsrespectively follow that. The demand of thesetrainings shows that these kind of services that provided by cooperatives are not enough so

the requirement to intensify these training services emerges. The 94.5% of the members stated that training activities are useful for them. A part of the members complain about the training duration and time. It is stressed that timing for the training is bad (10.2%) and time of it is not enough (7.1%). It is strenghtened by the answers to this question that training subjects answer to their training needs. Since the cooperative heads who have an important role in determinig the training needs are also producers they make proper decisions on determining the training subjects.

Only 8 people answer yes to the question of do your cooperative have the publications aimed at training. these publications issued are promoting brochures but only one member stated that they are circular letters and periodics(magazines and bulletins). This case shows that cooperatives must also concentrate on the publications aimed at training.

Socio-economic findings: Surveys mostly are filled out by male members. The main reason for this is that males are in charge of agricultural production in the region, females are not in the decision making processes and are not a cooperative member. The 85% of members is married, 18% of them is single. There ae no member over 50 and below 25. About 25-50 years membership is prevalent. The most of the members (65%) is graduated from primary school, the number of no schooling and university graduate members is only 6. The number of middle and high scool graduate members is substantial.

When it is asked how many years the members are engaged in farming it is found out 11-20 years is prevalent. The 4.8% of them are 41 years and more. The farmers over 50 years leave active farming. After this age

Table 3: The change in members incomes after membership to the coopeartive

Analysis	Frequency	Ratio (%)
Did you have a change in your income after becoming a member of the coopeartive?		
No	71	55.9
Yes	56	44.1
If yout answer is yes what is the increase rate?(%)		
20 or less	33	58.9
21-40	10	17.9
41-60	3	5.4
61-80	9	16.1
81-100	1	1.7

Table 4: The financial difficulties faced in marketing activities

Dificulties	Certainly I accept Frequency	Rate (%)	I accept Frequency	Rate (%)	I have no idea Frequency	Rate (%)	I do not agree Frequency	Rate (%)	Certainly I do not agree Frequency	Rate(%)
Storing	87	68.5	19	15.0	5	3.9	2	1.6	14	11.0
Transportation	85	66.9	16	12.6	5	3.9	3	2.4	18	14.2
Processing	86	67.7	14	11.0	9	7.1	2	1.6	16	12.6
R and D	62	48.8	19	15.0	13	10.2	2	1.6	31	24.4
Technical support/training	53	41.7	42	33.1	17	13.4	1	0.8	14	11.0
Promoting works	36	28.3	39	30.7	16	12.6	2	1.6	34	26.7

Table 5: The deterministic statistics of some important variables

Variables	Min.	Max.	Avg.	SD
Usuresi: membership duration in ADC	1	6	3.50	1.374
Dkoopu: membership outside the ADC (if member 1; if not 0)	0	1	0.24	0.426
Biruye: membership in any union (if member 1; if not 0)	0	1	0.66	0.475
Faalkat: regular participation in ADC activities (if participation 1; if not 0)	0	1	0.75	0.436
Gartistkk income increase after membership (if increase incurs 1; if not 0)	0	1	0.44	0.498
Gartisor: the ratio with income increase after membership in ADC	0	90	12.80	21.838
Baskan: if the head of ADC 1; if not 0	0	1	0.26	0.440
Bask sure: the termof office of the head	0	6	0.81	1.557
Tkkegtd: if ADC arranges training activity1; if not 0)	0	1	0.75	0.436
Cinsiyet: member sex	0	1	0.98	0.152
Medenid: married status (married 0, single 1, widow 2)	0	2	0.16	0.387
Yas: member age	1	66	40.50	11.232
Ikamet: member living place (Sanliurfa province1, its counties 0)	0	1	0.23	0.421
Egitim: member education status (no schooling 1, primary 2, Middle3, high school 4, undergraduate 5, garduate 6	1	6	2.46	0.843
Cift sure: the number of the years farmers farm	1	50	21.49	11.528
Arazi: member land	0	17250	308.70	1542.272
Aile cft: the number of people working off-farm in the family	0	10	2.75	2.585
Baska is: the number of off-farm work member do	0	1	0.24	0.426
Aile birey: the number of people in member family	0	18	6.97	3.263
Cocuk: the number of people under 15 years old in member family	0	8	2.33	1.919
Gelir: member annual net income (<10.000 TL =1. 10.000-19.999 = 2. 20.000-29.999 = 3. 30.000-39.999 = 4. 40.000-49.999 = 5. 50.000-59.999 = 6. 60.000-69.999 = 7. 70.000-79.999 = 8. 80.000-89.999 = 9.90.000-99.999 = 10. 100.000 and above = 11)	1	11	1.89	1.733

even if they continue the farming the young take over it and deal with state, cooperative and off-farm activities.

When it is asked that if any which crop farmers much produce, it is found that the most produced crop is wheat by 41.7%, secondly barley by 38.6% cotton and lentil production are much less ansdvegetable and fruit production are scarcely any.

When the member's land is examined it is interesting these lands sizes are 50 da (45%) or below or 201 da or over (25.4%). This accentuated that there are differences among farmers wealthes. Especially, the producers who do not have enough land not only produce on their land but also on renting land and taking land as a sharecropper. When it is asked the members how many people other than you are there in your familythe 65 of them stated that they have 2 or less people, the 42 of them 3-5 people and 18 members 6-8 people.

The 23.6% of the members surveyed stated that they do not have any off-farm job. The 76% of them deal with only agriculture. The most of the members (57.4%) have 6-10 people of family size. The 59.8 of them have 2 children who are <15, the 32.3% 3-5 children who are <15, the 7.9 of them 6-8 children who are <15.

The 55.9% of the members stataed that their income is <10.000 TL. The members whose income is up to 30.000 TL and who are in first three income group cover the 92.9% of them. On the other hand there are some members whose income over the 60,000 TL.

Deterministic statistics and correlation coefficients: Some questions are asked farmers about farming. It is determined that the time spent in farming for farmers is average 21.5 years but there are some farmers doing farming for 50 years though some only for 1 year. The land size farmers possess is average 308.7 da and the most 17.250 da. The number of the people whose kin is a cooperative member is avearge 2.75 beside 10 people. On the other hand, the number of the people who have a off-farm job is 24%.

The average people number in the family is 7, the most 18. The net income of farmers is between 10,000-19,999 TL. To find out whether or not there is a relationship between variables and their significance levels, the correlation coefficients are calculated among the variables in Table 5 and the results are shown in Table 6. The correlation coefficients among some variables are found significant.

As the correlations among variables in Table 6 are examined, the evaluations made are as follows:

- The incomes of the members who live in center of Sanliurfa and have another paid job are increased more after becoming a member of ADC
- As the membership duration get extended, the income level of members and income increase ratio are increased
- As the members get older, their participation in training activities are decreased

Table 6: The correlation coefficients among the variables

	Usuresi	Dkoopu	Biruye	Faalkat	Gartistkk	Gartisor	Baskan	Basksure	Tkkegtd	Cinsiyet	Medenid	Yas	Ikamet	Egitim	Ciftsure	Arazi	Ailecft	Baskais	Ailebiry	Cocuk	Gelir
Usuresi	1																				
Dkoopu	00.269**																				
Biruye	-00.089	-0.072	1																		
Faalkat	-00.237**	-0.104	0.121	1																	
Gartistkk	00.299**	0.253**	0.133	-0.142	1																
Gartisor	00.444**	0.232**	-0.073	0.009	0.662**	1															
Baskan	-00.048	0.051	0.007	0.220*	-0.201*	-0.175*	1														
Basksüre	00.141	0.139	0.042	0.198*	-0.137	-0.101	0.883**	1													
Tkkegtd	-00.091	-0.104	0.313**	0.164	0.004	-0.121	-0.028	0.011	1												
Cinsiyet	-00.094	0.087	-0.111	0.149	-0.071	-0.123	0.092	0.081	-0.090	1											
Medenid	00.118	0.061	-0.269**	-0.139	-0.034	-0.026	-0.009	-0.029	-0.092	0.064	1										
Yas	-00.114	0.018	0.187*	0.282**	0.041	-0.007	0.028	0.133	0.085	0.012	-0.450**	1									
Ikamet	-00.022	0.095	-0.047	0.013	0.197*	0.029	0.020	0.078	0.013	0.085	0.0700	0.209*	1								
Egitim	00.070	0.068	-0.060	0.040	0.037	0.028	0.314**	0.303**	0.105	0.148	0.188*	-0.094	0.056	1							
Ciftsure	00.004	-0.012	0.042	0.172	-0.049	-0.005	-0.083	0.015	0.080	0.065	-0.297**	0.620**	0.057	-0.209*	1						
Arazi	00.057	-0.088	0.097	0.087	-0.131	-0.097	0.157	0.250**	0.035	0.022	-0.065	0.140	0.138	-0.043	0.188*	1					
Ailecft	-00.082	0.069	-0.025	-0.050	0.062	-0.047	0.065	0.057	0.091	-0.035	-0.016	0.144	0.119	-0.172	0.123	0.014	1				
Baskais	00.391**	0.084	0.006	0.109	0.253**	0.444**	0.051	0.080	0.067	-0.036	0.013	0.030	0.095	0.288**	-0.017	0.134	-0.140	1			
Ailebiry	-00.228**	-0.023	0.162	0.229**	0.013	-0.029	0.006	0.008	0.117	0.046	-0.279**	0.364**	0.080	-0.272**	0.261**	-0.047	0.543**	-0.154	1		
Cocuk	-00.314**	-0.193*	0.132	0.262**	-0.120	-0.134	0.020	0.040	-0.004	0.054	-0.402**	0.229**	0.053	-0.213*	0.179*	-0.075	0.103	-0.232**	0.593**	1	
Gelir	00.117	0.078	0.012	0.152	0.020	0.070	0.163	0.233**	0.036	-0.010	-0.151	0.206*	-0.085	0.274**	0.139	0.087	0.017	0.293**	-0.002	-0.061	1

**. Correlalton is significant for 0.01 (2-sided). *. Correlalton is significant for 0.05 (2-sided)

Table 7: The testing of significance level of the difference between the average inrease in incomes of the members of adcs and the ones of other cooperatives

	Levene test for the equity of variances		t-test for the equity of averages	
Source of variation	F-test	Sigificance level	t-test	Significae level
Increase rate in Income				
In case of equal variance	6.588	0.011	-2.666	0.009
After becoming of a member of ADC				
In case of different variance	-	-	-2.338	0.024

- As the membership duration get increased, the regular particpation in cooperative activities is decreased
- As the income level of members get increased, the participation in cooperative activities is increased
- As the annual incomes and lands of members get increased, there are a linear relationship between the possibility of members becoming cooperative head and continuing the duration of their head of office
- As the education level of members get increased the luck of becoming the head of the cooperative and heading duration are increased
- Cooperative heads are more than educated than members and the married cooperative members are more educated than singles

The incomes of the people after becoming a member of the ADC are compared to the those of the previous years, that if the another cooperative membership addition to the ADC is effective on income increase and especially that which cooperative or cooperatives cause this increase are tried to analyse by statistical tests. A part of the members who are a member of ADC can be a member of other cooperatives.

In this study the income increase of the members becoming both a member of ACC and other coperatives is investigated. If the member is only a memeber of ACC, the average increase in his or her income is 9.99. In Table 6 the signicance level of the difference between the average increase in incomes of the only. ACC members and the members of other cooperaives also is tested. In the case of equal variance it is thought that every variable has the same variance value. For example, it is assumed that the variance of 9.99 and 5.75 and others' variance are equal to each other but in fact variances differ from each other. This difference is to be seen when each variance of increase rate are seperately calculated and compared to each other. F test assumes equal variance. On the other hand in t test an analyse can be made in the case of both equal and different variance.

As shown in Table 7 F value is 6.588. significance levelfer is 0.01. With 99% confidence inetrval at least an increase rate differ from other increase rates. At Table 8 if the average increase amounts in the incomes of the different cooperatives members are different from each other is showed in ANOVA analysis. In Table 7 the differences/changes are examined among the average increase rates. Table 7 is a table that shows a summary of calculating of variables needed with F test in order to calculate F test. F test is again significant. Significance level is 0.01 which means the difference among the average increase rates is significant. With 99% confidence inetrval at least an average increase rate differ from other average increase rates in an important level.

Table 8: ANOVA table about average increase rates in incomes of th members of different cooperatives

Groups	Sum of squares	Degree of freedom	Mean squares	F-test	Significance level
Between groups	6721.098	3	2240.366	5.138	0.002
Within groups	53200.561	122	436.070	-	-
Total	59921.659	125	-	-	-

CONCLUSION

According to the study findings; ADC members are pleased with their memberships and they regularly participated in the activities prepared by the cooperatives. It is determined that especially, members participated highly in trainings arranged by cooperatives. The members that participated in trainings stated that trainings are useful and the training subjects are rightly chosen but trainings are insufficient.

Members stated that their cooperatives inform them about satate aids toward cooperative members. Cooperatives in this respect provide their members with the information about agricultural support and implementations of changing agricultural policies. In this context cooperatives are a bridge between producing area and outside world.

The number of the members affliated with the agricultural cooperatives and unions except ADCs were a considerable level. In the case of the ADCs members as a member of another cooperative when income increase was considered, the most income increase was seen in ACCs members and other members who are a member of ADCs at the same time. ACCs have an important role in meetinig farmers financial needs.

The yearly income, land posession and education levels of cooperatives heads higher than the other members. These people are considered as the leaders of farmers in their regions and they are guides for members loyalty to cooperatives and continuing their memberships.

It was observed that ADCs assisted to their members in supplying inputs, processing, marketing, etc. As a natural result of this it is observed that the incomes of members were increased compare to previous years spent without membership.

Agricultural development cooperatives are one of the most effective organizations in regional development so the subsidies which support development must be used from the several foreign sources such as European Union and World bank. Southeast Anatolia Project (SAP) is an important Project in this process. In the beginning SAP was an energy and irrigation project but in the last period it had been transformed into a regional development Project and had been taken place among the state's priorities. The region has become a center of attraction as a result of incentive policies. Agricultural development cooperatives, a support organization for farmers have substantial duties for using the resources in an effective way, utilizing and marketing products. With the assistance of these coperatives, farmers will be aware of the incentive and support policies toward Southeast Anatolia region and they are benefited from them.

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