

Young Farmers in Agriculture Sector of Turkey: Young Farmers Support Program

M. Kan^{1*}, F. Tosun², A. Kan¹, H. Gokhan Dogan¹, I. Ucum², and C. Solmaz²

ABSTRACT

Although Turkey's agricultural sector is important in terms of national economy, it faces some important structural problems such as decrease in human capital in the agricultural sector. In order to solve these problems, within the "National Agricultural Project", a policy instrument named "Support for Young Farmers Projects" (YFPS) was added to the support in 2016. The aim of this study was to evaluate the criteria used in the selection of the beneficiaries of young farmers' support within the scope of YFPS in Turkey. A survey was prepared to determine what features young farmers benefiting from project support have and the extent to which the selection criteria served the purposes of the support program. The survey was conducted in the TR 71 Region, which is at the center of Turkey, in June-August, 2017. A total of 248 young farmers (139 supported, and 109 non-selected farmers for support) were interviewed. The methodology used in this study was the Categorical Regression. The results showed that the applicants who benefited more from YFPS were in the following order: Female > married > those aged 18-30 > people from rural areas with a population of 1,000 or less > those with education in agricultural production > the disabled / martyr's relatives / ghazi, and those from enterprises with an annual income of TL 10,000 or less. YFPS has breathed new life into agriculture by encouraging youths in rural areas, but this support has to be aimed at creating economically sustainable and viable enterprises.

Keywords: Human capital, Rural areas, Rural development, Young farmers.

INTRODUCTION

Turkey has an important place among the countries of the region in terms of plant and animal production. In the last decade, the contribution of Turkish agriculture to GDP was 8%, and the share of agricultural product exports in total exports was 10%. The fact that the agricultural sector received 19.5% share in Turkey's employment in 2016 is another reason for the importance of this sector in Turkey (TURKSTAT, 2017). According to the World Bank statistics for 2016, 26.11% of the total population in Turkey lives in rural areas (The World Bank, 2017). It would not be wrong to say

that a large part of this population provided their living from agriculture. Turkey is a candidate country for European Union (EU) and it was ranked the 1st among the European Union countries and 8th in the World for agricultural production value of approximately 52.3 billion dollars, in 2016. Agriculture is an important sector for Turkey and it is in the first place in export and production in the world for many products.

Although the agricultural sector is important for Turkey, it is a fact that it cannot contribute to the economic development at the desired level, especially due to its structural problems (Yavuz, 2005; Özertan, 2013; TOBB, 2013; Doğan *et al.*,

¹ Department of Agricultural Economics, Agricultural Faculty, Ahi Evran University, Kırşehir, Turkey.

² Agricultural Economic and Policy Development Institute, Ministry of Food, Agriculture, and Livestock, Ankara, Turkey.

* Corresponding author; e-mail: mustafa.kan@ahievran.edu.tr



2015; TIM, 2016). In addition to this, economic problems such as input costs, product prices, producers' prices are also maintaining the update on the agriculture of Turkey and among the problems that are reported in every platform. In the 2013-2017 Strategic Plan prepared by the Ministry of Food, Agriculture, and Livestock, five strategic goals have been put forward in overcoming these problems. These are listed as "Agricultural Production and Supply Security", "Food Reliability", "Plant Health, Animal Health and Welfare", "Agricultural Infrastructure and Rural Development" and "Institutional Capacity Increase" (GTHB, 2013). It should be noted that the harmonization process of the European Union (EU) is also effective in determination of policies and strategies within the scope of the Strategic Plan.

In parallel with the determined strategies to solve the problems of agriculture, Turkey implements agricultural policy measures in many areas. Within the scope of agricultural policy measures implemented to reach strategic targets, there are deficiency payments, compensation payments, livestock support (feed crops, artificial insemination, milk premiums, disease free livestock areas, beekeeping and fisheries), product insurance support, rural development and environmental protection programs. Turkey created a new support model entitled "National Agricultural Project" at the end of 2016 in order to come to a leading position in the region with its competitiveness in agriculture, production diversity, and standards. This project consists of two main themes, namely, "Basin Based Support Model" in plant production and "Domestic Production Support Model in Livestock Production".

Nevertheless, apart from the problems that appear, when we examine the problems of agriculture sociologically, the aging of the agriculture society in Turkey and the fact that youngsters in rural areas are not seeing the agriculture sector as an income generating and prosperity sector are the forefront problems. In general, Turkey's

population is aging and it is seen that this aging is more in rural areas and agricultural sector. Especially the rural-to-urban migration and the changes in the statistic because of the new law (see the influence of the Metropolitan Act after 2012) show that the rural population is decreasing both proportionally and numerically. It can be observed that with the reason of rural migration, young people do not want to stay in the countryside for long, resulting in a population aging in agriculture. Er (2013) stated that the young population search for jobs outside the rural areas depends on such factors as the rapid increase in the unemployment rate in rural areas and the complete profile of the unemployment profile of young people. Additionally, agriculture is not seen as an attractive employment area by young people and the employment potential of non-agricultural sectors in rural areas is low. Also, the growing services and industry sector attracts low-skilled young population in the rural area and negatively affects the young population in agriculture (Arli *et al.*, 2014).

Approximately half of Turkey's population is under age of 30 and this fact can be regarded as a sign that new or different employment opportunities are needed for the young population. It is regarded as important to provide conditions for employment of young population in agriculture sector for this need. The young population in rural areas is away from agriculture for reasons such as inadequate income in rural areas, limited social opportunities in the villages, fragmented or scarce land, and lack of alternative job opportunities in rural areas. This has also results as affecting the demographic structure of the rural inhabitant in the negative direction. It is stated that the rapid depletion in agriculture today will cause major problems in terms of food production in the future (Doğanay and Alım, 2010). For this reason, agriculture should be encouraged again, education and health services should be restructured in rural areas and social facilities should be developed. Sustainability in agricultural production can

only be achieved when the young population is kept in agriculture.

In order to solve these existing problems, a policy instrument called "Youth Farmer Projects Support (YFPS)" was added to the support in "National Agricultural Project" in 2016. Ministry of Food, Agriculture, and Livestock has started to provide the YFPS with a notification published in the Official Gazette dated April 5, 2016 in the scope of Rural Development Supports. According to the notification, it is aimed to support sustainable agriculture, support entrepreneurship of young farmers, raise income level, create alternative income sources and support the projects for agricultural production in the rural area that will contribute to the employment of young population in rural areas. In the scope of this support, project-based support for the aging of the young population, which meet specific criteria for agriculture under the age of 41, has begun. Initial support started in 2016 and this program was planned for 3 years in the first stage. Within this scope, 30.000 TL grants are given to young farmers who meet the support criteria specified in the following project subjects. Project topics are (Official Gazette, 2016);

1. Animal production oriented:
 - a) Cattle, sheep, and goat breeding projects,
 - b) Bee breeding and bee products production projects,
 - c) Poultry and silkworm breeding projects,
2. Plant production oriented:
 - a) Closed fruit garden plant projects,
 - b) Seedling, sapling, indoor and outdoor ornamental plant growing projects,
 - c) Controlled greenhouse projects,
 - d) Edible cultivated mushroom production projects,
3. For production, processing, storage and packaging of medicinal and aromatic plants with local products:
 - a) Projects on medicinal and aromatic plant production, processing, storage and packaging,

- b) Projects on organic or good agricultural practices on plant and animal production, using geographical indigenous gene sources,
- c) Projects on the production of food with geographical indication.

This project, which aims at keeping young farmers in agriculture and deals with agriculture, is an important policy argument also aimed at preventing the aging of the agricultural population in rural areas. With the project call, 540,112 applications were made in 2016 throughout Turkey, of whom 393,719 were accepted and 14,977 were supported. This number reached 16,067 in 2017 (GTHB, 2017). Support will continue in 2018 that is the third year of the project, and no policy statement has been made for the post yet.

This study aimed at a general evaluation of YFPS, which started in 2016 and is ongoing in 2017 and expected to be implemented in 2018 as well. In this context, attempts were made to show which young farmer's profile is supported and how the criteria in support are effective at the time of selection by conducting surveys with a total of 248 people benefiting from and not benefiting from YFPS in the TR71 Region (Aksaray, Kırıkkale, Kırşehir, Nevşehir and Niğde districts) within the scope of Turkish Statistical Region Units Classification 2 (TSRUC2)

MATERIALS AND METHODS

The study was carried out in May-September 2017 in the 3 districts where the YFPS was given the most within the TR71 region of Turkey (Aksaray, Kırıkkale, Kırşehir, Nevşehir ve Niğde) within the scope of the NUTS-2 classification. The main material of the study is the data obtained through a questionnaire survey with 139 young farmers who were randomly selected from a total of 453 people benefiting from YFPS in the selected provinces and 109 randomly selected applicants who applied for YFPS but were

unable to benefit from the evaluation. The region in which the work was performed is shown in Figure 1.

The questionnaire forms of the study were prepared within the scope of the project "Determination of the parameters that could be a criterion for young farmers' support and the tendency of the young people to stay in agriculture" and the evaluation criteria specified in the YFPS were taken into consideration in determining the questions.

In the study, Categorical Regression Analysis (CATREG) was used in order to determine the effectiveness of the selection of the main criteria to be considered in the evaluation of the individuals entitled to benefit from the project and those who were not (Gifi, 1996; Meulman and Heiser, 2004). Categorical regression analysis based on optimal scaling is a multivariate analysis technique that can be used when the dependent variable is categorical, with both linear and nonlinear relationships between variables (Cengiz, 2008).

In this analytical technique, the measured data at nominal, ordinal, and numerical measurement levels can be included in the functioning of the analysis. The categorical variables are digitized in order to reflect the

characteristics of the original categories. The criterion to obtain optimal linear regression equations is considered when the digitization process is performed. In other words, various non-linear transformations are used to find the most appropriate regression model. Mentioned transformation is designed to maximize the relationship between each of the independent variables and the dependent variable (Meulman and Heiser, 2004). As a consequence, Categorical Regression is a multiple regression model applied to transformed variables with Optimal Scaling. The loss function used in the functioning of the model is given as follows:

$$\varphi_r(y) = \sum_{j=1}^J \beta_j \varphi_j(x_j) + e \quad (1)$$

Where, J is the number of independent variable, y is dependent variable, x_j is independent variables, β_j is regression coefficients, φ_r and φ_j are the transformation functions for dependent and independent variables, respectively, and e is the error term (Kooij et al., 2006).

Each variable included in the analysis can be represented by the matrix G_j of size N_{xkj} .

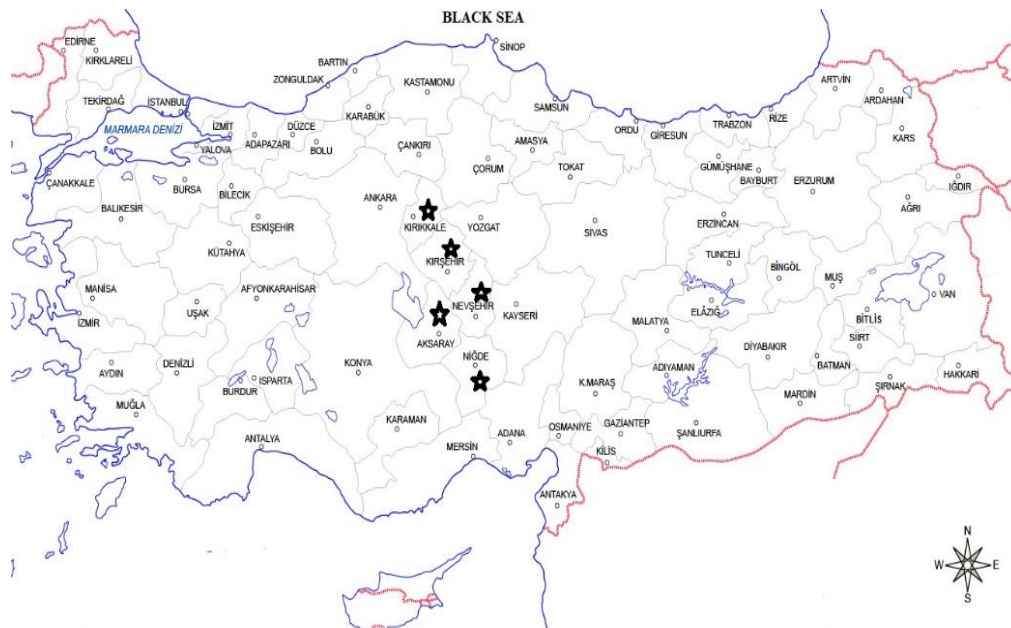


Figure 1. The region in which the study was performed.

N , which is the number of rows of the indicator matrix, represents the number of units in the analysis and k_j , the column number, represents the category number of variable j . The indicator matrix G_j is a matrix of values 0 and 1. Related line units to which they belong; If j is in the category of the variable, then the column-alignment takes the value 1, while the other column's value is 0. Thus each row consists of values 0 and 1, and when there is no missing observation, the sum of each row in the matrix is 1.

Similarly, for each variable included in the analysis, the vector of y_j category digitizations ($k_j \times 1$ dimensional) can be generated. With the help of these defined indicator matrices and the category digitization vectors, the loss function can be written as follows:

$$G_r y_r = \sum_{j=1}^J \beta_j G_j y_j + e \tag{2}$$

In the operation of the analysis, this loss function is minimized by Alternating Least

Squares (ALS) algorithm. In the steps of the algorithm, digitizations are made and the regression model coefficients are estimated. Later on, the value of the lost function is calculated. The iterations continue until the contraction in the loss function becomes meaningless. When the loss function becomes minimum, the iterations are stopped. In this way, optimal category digitizations and model coefficients are obtained (Cengiz, 2008).

CATREG analysis does not work as linear regression because transformations at variable levels are not linear. In CATREG analysis, the variables are digitized to reflect the characteristics of the original categories, and these quantified variables are included in the regression model as numerical variables. CATREG coincides with linear regression analysis by transforming categorical variables into numeric with the help of transformations (Xu *et al.*, 2010).

ALS (Alternating Least Square) Logarithm was used in the quantification of the variables considered under CATREG scope. The scale types of the variables

Table 1. Discussed dependent and independent variables and their properties in the scope of CATREG.

Variables	Variable categories	Variable level
Gender	Male	Classification
	Woman	
Marital status	Married	Classification
	Single	
Age	Age 18-30	Grading
	Age 31-40	
Residence population	1,000 and below	Grading
	1,001-10,000	
	10,001 and over	
Distance to city center	Closer than 10 Km	Grading
	Between 10-40 Km	
	Far from 40 Km	
Education level	Literacy – Secondary school	Grading
	High school and over	
Training in agricultural production	Not trained	Classification
	Trained	
Status of being disabled/Martyr's relatives/Ghazi	No	Classification
	Yes	
Annual operating income of business	10,000 TL and below	Grading
	Over 10,000 TL	
Support redemption condition	Not used	Classification
	Used	



included in the scope of the analysis are mostly nominal and ordinal. The variables and their characteristics discussed in the CATREG framework are presented in Table 1. The variables discussed in Table 1 include 9 out of 13 criteria which are the scoring criteria within the scope of YFPS.

RESULTS AND DISCUSSION

The initial stage of development is the development of human and social capital. When the relationship between development and human capital is examined, human capital has a close relationship with the possibilities of health and education (Ateş, 1998), and since the late 1980s, human capital has begun to be regarded as a qualified workforce with a good education level, and economic growth has begun to be regarded as a driving force (Nesterova and Sabirianova, 1998). The concept of human capital is used to express the whole of concepts such as knowledge, skills, abilities, health status, place of social relations, and level of education that a person or society has. This concept constitutes the basic source of economic growth (Kar and Ağır, 2003) and has emerged as an alternative to the physical capital in industrial society and has gained importance as a development strategy for different countries. Human capital, which is expressed as the personnel infrastructure of the information society, is in essence a concept that defines specialized people (Özyakışır, 2011).

One of the most important problems in rural areas is aging and young people are inclined towards urban areas more than rural areas, especially non-agricultural sectors. It is reported that this is not only a problem in Turkey, but also in many other countries (Aggelopoulos and Arabatsiz, 2010; EC, 2013; ECA, 2017; Nag *et al.*, 2018). In this context, the young farmer support program is an important supporting argument for the Common Agricultural Policy, especially in order to ensure that young farmers mainly in the EU stay in agriculture, to support new

business establishments, or to encourage more efficient production. In Turkey, the project-focused Young Farmer Project Support started in 2016, for the first time, to aim directly at young farmers and to encourage them to stay in agriculture.

Criteria to be taken into consideration in the selection of young farmers to be supported under the scope of YFPS have been stated in the “Communiqué on Supporting Young Farmers' Projects under the Rural Development Supports No 2016/16” published in Official Gazette No. 29675 dated 05 April 2016. The project supports were distributed with the evaluations made among the highest scoring points according to the criteria specified in Communiqué E-4. Accordingly, the criteria such as age, gender, educational status, marital status, living place population, distance from the center to the living place, ownership status of the project site, status of being disabled / martyr's relatives / ghazi, and project theme are taken into consideration.

The determination of the young farmers to be supported under the YFPS has been made through the Evaluation Commissions established by Provincial and District Food Agriculture and Livestock Provincial Directorates, which constitute the provincial organization of the Ministry of Food, Agriculture and Livestock. In addition to the criteria set out in the Communiqué published in these evaluations, the commission was also given the authority to award a score of 10 points. Categorical Regression Analysis was conducted to find out which criterions were more prevalent in the evaluations made by the commission and to find out how these criteria served the intended purpose.

When the installed model was tested; the model established as a result of categorical regression was found statistically significant ($F= 8.00$; $P= 0.00$). The model's multiple R-value and R^2 value was calculated as 0.52 and 0.24, respectively. These results led to the conclusion that YFPS selection criteria, which are explained explanatory variables,

could account for about 24% of the selection result (Table2).

When the contribution of the independent variables to the model is examined; it is seen that the variables such as gender, marital status, age, residence population, education about agricultural production, being disabled/martyr's relatives/ghazi status and

annual operating income variables have a meaningful effect on determining the recipients of YFPS ($P < 0.10$). It is seen that the distance of residence to the provincial/district center and the educational status variables have no meaningful effect on determining the YFPS recipients ($P > 0.10$) (Table 3).

Table 2. Model summary statistics.

	Sum of squares	SD	Average of squares	F	P
Regression	67.38	11	6.13	8.00	0.00
Error	180.62	236	0.77		
Total	248.00	247			
Multiple R^2 : 0.52		R^2 : 0.27	Corrected R^2 : 0.24		

Table 3. CATREG results showing some of the evaluation criteria of the Young Farmer Project Support.

Variables	Variable categories	Frequency	Digitization value	β coefficient	Coefficient of variables categories	Variable level
Gender	Male	98	-1.24	0.42***	-0.52	Classification
	Woman	150	0.81		0.34	
Marital status	Married	205	0.46	0.12*	0.05	Classification
	Single	43	-2.18		-0.25	
Age	Age of 18-30	139	-0.89	-0.10*	0.09	Grading
	Age of 31-40	100	1.13		-0.11	
Residence population	1,000 and below	142	-0.27	-0.21***	0.06	Grading
	1,001-10,000	101	0.03		-0.01	
	10,001 and over	5	6.90		-1.46	
Distance to city center	Closer than 10 Km	26	-2.20	-0.07	0.16	Grading
	Between 10-40 Km	162	0.17		-0.01	
Education level	Far from 40 Km	60	1.40		-0.10	Grading
	Literacy - Secondary school	174	-0.65	-0.03	0.02	
	High school and over	74	1.53		-0.04	
Training on agricultural production	Not trained	182	-0.60	0.08*	-0.05	Classification
	Trained	66	1.66		0.13	
Status of being disabled/Martyr's relatives/Ghazi	No	218	-0.37	0.08*	-0.03	Classification
	Yes	30	2.70		0.22	
Annual operating oncome of business	10,000 TL and below	131	-0.95	-0.12*	0.11	Grading
	Over 10,000 TL	117	1.06		-0.12	
Support redemption condition	Not used	109	-1.13			Classification
	Used	139	0.89			

* Statistically significant at the 90% confidence level; ** Statistically significant at the 95% confidence level, *** Statistically significant at the 99% confidence level.



The coefficient of the effect can be calculated as a result of multiplying the digitized values of the variable categories obtained by optimal scaling by β coefficients obtained as categorical regression (Cengiz, 2008). The effect coefficients show how the independent variable categories are related to the dependent variable. High coefficient of effect indicates that the level of the relevant variable is in the same direction (positive) as the dependent variable. In Table 3, the effects of statistically significant 7 variables' coefficients to the model as a result of categorical regression have been examined.

According to Table 3:

- In terms of gender variable; it is seen that the rate of selection of female (0.34) individuals to YFPS is higher than that of male (-0.52) individuals.
- In terms of marital status variable; married (0.05) individuals were selected to have higher YFPS while single individuals (-0.25) were inversely related to being selected to YFPS.
- In terms of age variable; it is seen that individuals aged 18-30 years (0.09) were higher in YFPS and those aged between 31-40 years (-0.11) showed opposite behavior.
- Regarding the residence population variable; individuals from a population of 1000 or less (0.06) were selected to have higher YFPSs whereas those living in higher populations (-0.01 and -1.46) were found to have an inverse relationship with YFPSs.
- From the point of view of the training in agricultural production variable; the individuals with this training (0.13) were selected to have higher YFPS; whereas those who did not have this education (-0.05) were inversely related to the selection of YFPS.
- In terms of being disabled/martyr's relative/ghazi variable; the victimized individuals in this regard (0.22) were selected at a higher rate while the

individuals with no victim (-0.03) were in an inverse relation to be selected for YFPS.

- In terms of annual operating income variable; individuals who were applying from business with an annual income of TL 10,000 or less (0.11) were selected at a higher rate while individuals who are applying from business with an annual income of TL 10,000 and above (-0.12) were in an inverse relationship with this issue.

Among the selection criteria, project issues are of special importance. Between the applications made according to the project subjects stated in the communiqué, it appears that the cattle and sheep breeding projects are seen to constitute the majority. However, it is seen that the proportionally less applied topics during the support phase appeared to be more foreground (Figure 2). Intensification in the certain project subjects, increasing the chances of young farmers resorting to the project subjects that were less accumulated in the selection, while other farmers did not qualify, even though they provided the criteria. Especially during the selection, attention to the distribution according to the project subjects in the region has been influential in giving the election score by the commission.

By considering the given criteria, the general situation of young farmers who were selected and not selected is given in Table 4. In the *Chi-square* analysis, when the table was analyzed, support utilization status and the criteria of gender, marital status, education status, being disabled/martyr's relatives/ghazi status of the young farmer, population of the residence and distance to the city center of the residence were determined to be statistically significant at different levels of importance.

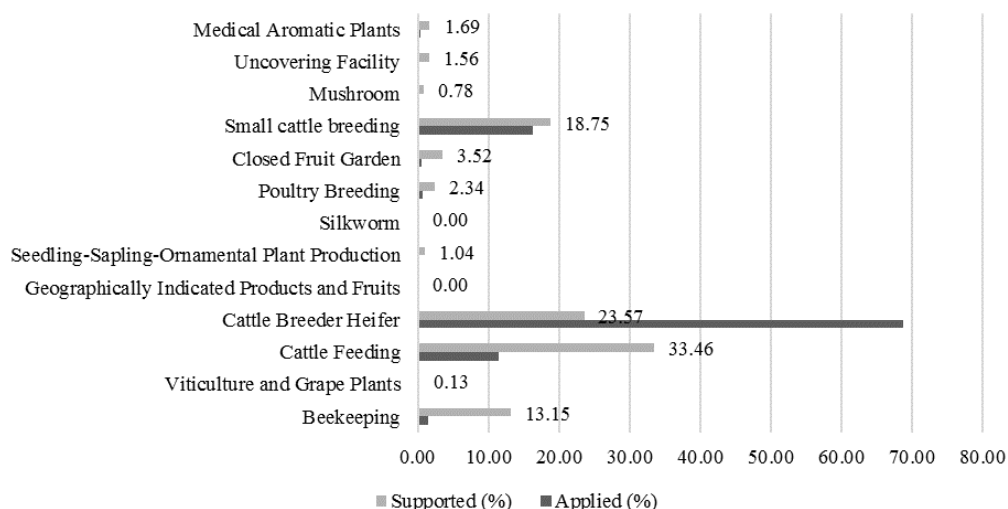


Figure 2. Distribution of the projects submitted and supported by the themes (GTHB, 2017).

Table 4. The general situation of young farmers who were selected and not selected.

Factors		Get supported (%)	Not supported (%)	Average (%)	Chi square (χ^2)	
Economic and demographic factors	Age	Between 18-30	59.71	51.38	56.05	1.72
		Between 31-40	40.29	48.62	43.95	
	Gender	Male	20.86	63.30	39.52	46.04***
		Female	79.14	36.70	60.48	
	Education level	Literacy – Secondary school	74.82	64.22	70.16	3.28*
		High school and over	25.18	35.78	29.84	
	Marital status	Married	90.65	72.48	82.66	14.07***
		Single	9.35	27.52	17.34	
	Training on Agricultural Production	Not trained	72.66	74.31	73.39	0.09
		Trained	27.34	25.69	26.61	
	Status of being Disabled/ Martyr's relatives / Ghazi	No	84.89	91.74	87.90	2.70*
		Yes	15.11	8.26	12.10	
	Annual Operating Income	10,000 TL and below	52.52	53.21	52.82	0.01
		Over 10,000 TL	47.48	46.79	47.18	
	Social Security Status	No social security	43.88	45.87	44.76	0.10
		Have social security	56.12	54.13	55.24	
Geographical factors	Population of Residence	1,000 and below	64.03	48.62	57.26	10.67**
		1,001-10,000	35.97	46.79	40.73	
		10,001 and over	0.00	4.59	2.02	
	Distance to city center	Closer than 10 Km	9.35	11.93	10.48	6.45**
Between 10-40 Km		71.94	56.88	65.32		
Far from 40 Km		18.71	31.19	24.19		

* It is statistically significant at the 90% confidence level; ** It is statistically significant at the 95% confidence level, *** It is statistically significant at the 99% confidence level.



CONCLUSIONS

In this study, it was determined how the criteria determined in the selections were effective and the general characteristics of the farmers benefiting from the support during the assessment of the application of YFPS, which started in 2016. As conclusion, it can be said that the project title, the property status of the subject for investment, and the commission evaluation note, which were not included in the model, might have played an important role in determining the farmers who will benefit from YFPS. In this support, which is preoccupied with the support of young people and women of low income who are in agricultural production or want to be found, the selection criteria were effective but insufficient to make this distinction.

In particular, there are structural differences between the program for young farmers in EU countries and the program for implementation in Turkey. At the beginning of these differences, it appears that such supports in the EU countries are supportive (not entirely welcoming) to young people seeking new business or economically sustainable. Although support for production by young farmers in low-income families seems logical, the fact that the issues concerning the lack of continuity of production, the problem of poor young people who have benefited from cattle livestock project support (procurement of the cattles on non-production age, because of that they suffered on feeding of the cattles in terms of financially, and the appropriateness of selected animal breeds are the most important obstacles to the success of the project.

The fact that there are uncertainties about the definition of farmers in Turkey and the fact that farming is not fully found as a profession lead to some problems in the determination of target population. In the context of support, women are expected to be more prominent in the selections, and thus giving young women an advantage in

scoring in the selection can be seen as a positive discrimination. However, another finding is that the outcome of this situation does not occur at the desired level. It has been seen that many female farmers who have benefited from the support, or who are in the application for the support, are in a position to assist their husband instead of taking direct responsibility for agricultural production.

As a result, when the selection criteria of YFPS are evaluated in terms of the magnitudes of the effect coefficients, it is seen that applicants who benefited more from YFPS were in the following order: Female> married> age between 18-30> people from residence with a population of 1000 or less> those who have an education in agricultural production> victims of being disabled/martyr's relatives/ghazi and from enterprises with an annual income of TL 10,000 or less. It is seen that Young Farmer Project Support has added vitality to the rural area by the enthusiastic youth of agricultural communities. However, these supports must be directed at creating an economically sustainable business. Selection criteria and evaluation criteria should consider project issues, regional structures, and young entrepreneurs should be supported in the form of credit-supported grant schemes rather than direct grants. Increasing the quality of human capital in agriculture should be a priority, distributed resources must be monitored, and impact assessment should be done.

ACKNOWLEDGEMENTS

The data of the study was compiled from the project “*Genç Çiftçi Desteklemelerine Kriter Olabilecek Parametrelerin ve Gençlerin Tarımda Kalma Eğilimlerinin Belirlenmesi (TR71 (Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir) Bölgesi)- Determination of the Parameters Being Able to a Criterion for Supporting Young Farmers and the Tendency of Young People to Stay in Agriculture-TR71 Region*” supported by the

Ministry of Food, Agriculture, and Livestock in Turkey.

REFERENCES

1. Aggelopoulos, S. and Arabatsiz, G. 2010. European Union Young Farmers Program: A Greek Case Study. *New Medit.*, **N9(2)**: 50-55.
2. Arlı, R., Balcı, M. ve Abay, C. 2014. *Gençlerin Kırsalda Çiftçilik Yapma Eğilimleri: Akhisar İlçesi Örneği*. Ulusal Aile Çiftçiliği Sempozyumu 30-31 Ekim 2014, Ankara. (in Turkish)
3. Ateş, S. 1998. Yeni İçsel Büyüme Teorileri ve Türkiye Ekonomisinin Büyüme Dinamiklerinin Analizi. Doktora Tezi, Sosyal Bilimler Enstitüsü, Çukurova Üniversitesi, Adana.
4. Cengiz, D. 2008. Kategorik Regresyon Analizi ile Öğrencilerin Benlik Algılarını Etkileyen Özelliklerin Belirlenmesi *Öneri Dergisi*, **8(29)**: 193-198. (in Turkish)
5. Doğan, Z., Arslan, S. ve Berkman, A. N. 2015. Türkiye’de Tarım Sektörünün İktisadi Gelişimi ve Sorunları: Tarihsel Bir Bakış. *Niğde Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, **8 (1)**: 29-41. (in Turkish)
6. Doğanay S. ve Alım M. 2010. Türkiye’de Kırsal Nüfusun Şehir Algısı Üzerine Bir Araştırma: Yeşilyurt Köyü (Trabzon). *Doğu Coğrafya Dergisi*, **15 (23)**: 171-184. (in Turkish).
7. EC (European Commission). 2013. *Overview of CAP Reform 2014-2020*. Agricultural Policy Perspectives Brief, No: 5, December 2013. Available at: https://ec.europa.eu/agriculture/sites/agriculture/files/policy-perspectives/policy-briefs/05_en.pdf.
8. ECA (European Court of Auditors). 2017. *EU Support to Young Farmers Should Be Better Targeted to Foster Effective Generational Renewal*. No: 10. Available at: www.eca.europa.eu/en/Pages/DocItem.aspx?did=41529, (23 Oct. 2017).
9. Er, C. 2013. Tarım Gençlere Sevdirmeli. *Hasad Dergisi* 114-126.
10. Gifi, A. 1996. *Non-Linear Multivariate Analysis*. John Willey & Sons Ltd Press, Chichester.
11. GTHB (Gıda Tarım ve Hayvancılık Bakanlığı). 2013. *Gıda Tarım ve Hayvancılık Bakanlığı Stratejik Plan 2013-2017*. (in Turkish) Available at <https://www.tarim.gov.tr/SGB/Belgeler/StratejikPlan/2013-2017.pdf>
12. GTHB (Gıda Tarım ve Hayvancılık Bakanlığı). 2017. *Genç Çiftçi Projesi Desteği İstatistik Verileri (Yayınlanmamış)*. (in Turkish).
13. Kar, M. ve Ağır, H. 2003. *Türkiye’de Beşeri Sermaye ve Ekonomik Büyüme: Nedensellik Testi*. II. Ulusal Bilgi, Ekonomi ve Yönetim Kongresi Bildiriler Kitabı, İzmir, SS.181-190. (in Turkish).
14. Kooij, A. J., Van Der Meulman, J. J. and Heiser, W. 2006. Local Minima in Categorical Multiple Regression. *Comput. Stat. Data Analysis*, **50(2)**: 446- 462.
15. Meulman, J. and Heiser, W. 2004. *SPSS Categories 13.0*. SPSS, Inc., Chicago.
16. Nag, A., Kumar Jha., S., Mohammad, A., Maiti, S., Gupta, J., Gosain, D. K., Datta, K. K. and Mohanty, T. K. 2018. Predictive Factors Affecting Indian Rural Farm Youths’ Decisions to Stay in or Leave Agriculture Sector. *J. Agr. Sci. Tech.*, **20(2)**:221-234.
17. Nesterova, V. D. and Sabirianova, Z. K. 1998. *Investment in Human Capital under Economic Transformation in Russia*. EERC Working Paper Series, No: 99/04
18. Özertan, G. 2013. *Türkiye Tarım Sektörü’nde Yapısal Dönüşüm ve Teknoloji Kullanımının Rolü* Resarc NO: EC 2013-1, Boğaziçi Üniversitesi Ekonomi Bölümü. (in Turkish) Available at: http://www.econ.boun.edu.tr/public_html/RePEc/pdf/201301.pdf
19. Özyakışır, D. 2011. Beşeri Sermayenin Ekonomik Kalkınma Sürecindeki Rolü: Teorik Bir Değerlendirme (in Turkish). *Girişimcilik ve Kalkınma Dergisi*, **6(1)**: 46-71.
20. Resmi Gazete (Official Gazette). 2016. *Kırsal Kalkınma Destekleri Kapsamında Genç Çiftçi Projelerinin Desteklenmesi Hakkında Tebliğ* (Tebliğ No: 2016/16). (in Turkish), <http://www.resmigazete.gov.tr/eskiler/2016/04/20160405-2.htm>
21. The World Bank. 2017. *Rural Population (% of Total Population)*. Available at <https://data.worldbank.org/indicator/SP.RU.R.TOTL.ZS?locations=TR>
22. TİM (Türkiye İhracatçılar Meclisi). 2016. *Tarım Raporu*. (in Turkish) Available at



- www.tim.org.tr/files/downloads/Raporlar/Tarim_Raporu_2017.pdf
23. TOBB (Türkiye Odalar ve Borsalar Birliği). 2013. *Türkiye Tarım Sektörü Raporu*. (in Turkish) Available at https://www.tobb.org.tr/Documents/yayinlar/2014/turkiye_tarim_meclisi_sektor_raporu_2013_int.pdf
24. TURKSTAT. 2017. *Different Statistical Databases*. Available at <http://www.turkstat.gov.tr/Start.do>
25. Xu, J., Danny, H. and Capretz, L.F. 2010. Building an OSS Quality Estimation Model with CATREG. *IJCSE*, 2(6); 1952- 1958.
26. Yavuz, F., 2005. *Türkiye'de Tarım*. Tarım ve Köy İşleri Bakanlığı Yayınları, Ankara. (in Turkish).

کشاورزان جوان در بخش کشاورزی ترکیه: برنامه حمایت از کشاورزان جوان

م. کان، ف. توسون، ا. کان، ه. گوکان دوگان، ی. اوکوم، و س. سولماز

چکیده

هرچند بخش کشاورزی ترکیه از نظر اقتصاد ملی اهمیت دارد، اما از نظر سرمایه انسانی این بخش با مسائل ساختاری مهمی دست به گریبان است. به منظور حل این مسایل، در سال ۲۰۱۶، در چارچوب " پروژه ملی کشاورزی" ابزاری سیاستی به نام " پروژه حمایت از کشاورزان جوان" (YFPS) افزوده شد. هدف پژوهش حاضر ارزیابی ضوابط مورد استفاده برای انتخاب افراد بهره مند از این پروژه در چارچوب YFPS در ترکیه بود. به این منظور یک نظر سنجی تهیه و انجام شد تا ویژگی های کشاورزان جوان بهره مند از این پروژه تعیین شده و مشخص شود که تا چه اندازه ضوابط انتخاب در خدمت اهداف پروژه حمایتی است. نظر سنجی در منطقه TR 71 که در مرکز ترکیه قرار دارد در سال ۲۰۱۷ انجام شد. در مجموع، ۲۴۸ کشاورز جوان (۱۳۹ نفر بهره مند از پروژه و ۱۰۹ نفر غیر بهره مند) مصاحبه شدند. روش تحقیق در این پژوهش رگرسیون نوعی (Categorical Regression) بود. نتایج نشان داد که متقاضیانی که بهره بیشتری از YFPS بردند به این ترتیب بودند: زنان <متاهلین> افراد بین ۱۸-۳۰ سال < افراد ساکن در مناطقی با شمار ساکنین کمتر از ۱۰۰۰ > افراد آموزش دیده برای تولید کشاورزی < معلولین / اقوام شهدا، ghazi، و کسانی که مشاغلی با درآمد سالانه ۱۰۰۰۰ لیر ترکیه یا کمتر دارند. باید گفت که YFPS با تشویق جوانان در مناطق روستایی جان تازه ای به کشاورزی دمیده است، ولی چنین برنامه حمایتی باید ایجاد مشاغلی را هدف قرار دهد که از نظر اقتصادی پایدار و معتبر باشد.