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Farmers' Attitudes toward Public Support Policy for Sustainable Agriculture in GAP-Şanlıurfa, Turkey

Gönül Sevinç ^{1,*} , Mustafa Hakkı Aydoğdu ¹ , Mehmet Caçelik ² and Mehmet Reşit Sevinç ³

¹ Department of Agricultural Economics, Faculty of Agriculture, Harran University, 63050 Şanlıurfa, Turkey; mhaydogdu@hotmail.com

² Department of Social Science Voc. Sch., Harran University, 63200 Şanlıurfa, Turkey; m.cancelik@harran.edu.tr

³ Department of Bozova Voc. Sch., Harran University, 63850 Şanlıurfa, Turkey; rsevinc@harran.edu.tr

* Correspondence: gsevinc@harran.edu.tr; Tel.: +90-414-318-3749

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Abstract: Despite agricultural support in Turkey, agricultural production areas, production quantities, and the number of farmers have gradually decreased. In this research, we aimed to determine farmers' attitudes toward public agricultural support policy for sustainability in GAP, Şanlıurfa, Turkey, and the factors affecting their attitudes. This research is the first of its type for GAP, Şanlıurfa, Turkey. The data were obtained in 2017 from face-to-face interviews with farmers who were selected using the simple random sampling method. Categorical regression, based on the optimal scaling model, was used in the analysis. The results indicate that although 80% of the farmers believe that support has improved agricultural sustainability, 76.2% find public support policy inadequate. The average land area of those who were in favor of the policy was 18.3 hectares, whereas that of those who stated that support does not provide a significant contribution was 7.17 hectares. The age of the farmer, total cultivated area, settlement area, education level, property type, crop pattern, irrigated agriculture, and income were factors affecting farmers' attitudes. The support policy should be reviewed for small-scale farmers and farmers who engage in dry farming. The results could be helpful to support policy and decision-makers during sustainable agriculture policy planning.

Keywords: public policy adequacy; agricultural support policy; farmer attitude; affecting factors; GAP; Şanlıurfa; Turkey

1. Introduction

Many policies have been implemented to improve agricultural sustainability, covering the environment, economy, and society [1] in countries. However, they are still far from meeting the growing and diversifying needs in many countries where agriculture plays an important role in development, and influences livelihoods. In 2018, the total agricultural land in Turkey was 37.8 million hectares; 61.4% of which was cultivated and 38.6% was permanent meadows and pastures. Additionally, 81.7% of cultivated areas was used for cereals and other crop products, 3.4% was vegetable gardens, and 14.9% was fruit, beverage, and spice crops [2]. A total of 8.5 million hectares of cultivated land was economically irrigable, of which 5.61 million hectares was under irrigation [3]. Wheat, barley, and red lentils are mainly cultivated in rain-fed areas, whereas wheat, cotton, and corn are cultivated in irrigated areas [4]. The share of agriculture in employment was 17.7% [5], while its share in gross domestic product (GDP) was 6.2% in 2018 in Turkey [6].

Governments play an active role in promoting a number of programs to fulfill their institutional and public responsibilities. Few studies, however, have examined the impact of these public support programs on the beneficiaries' decision to adopt [7]. The adoption level of public policies implemented

by users partially shows the appropriateness of these policies. Conversely, if policies are not appropriate and do not meet the beneficiaries' expectations, they are not adopted. Although agricultural public support is provided, approximately 2 million producers were separated from agricultural production and approximately 3.5 million ha of agricultural land started to be used for non-agricultural purposes between 2001 and 2018 in Turkey [8,9]. In this sense, the expectations, attitudes, and perceptions of the farmers have an important impact on the effectiveness and adoption of public agricultural support policies. These type of policies affects the decisions of farmers to continue farming, since policies may solve partially some of the problems they face during production based on inputs requirement. In this research, we aimed to determine the attitudes of farmers in Şanlıurfa toward the agricultural public support policy, their consideration of and satisfaction with it, and the factors that affect their attitudes. The results demonstrate the appropriateness and adequacy of the agricultural support policies implemented in Turkey from the farmers' side.

1.1. Background and Selected Related Literature Review

Agriculture is supported worldwide due to its importance. Public policies contribute to the strengthening of farming to increase food security [10], and rural and regional development is mostly promoted by support policies in many countries [11]. Agriculture benefits all living things if done properly, but also faces problems mostly arise from human activities based on increasing demands that cause deterioration in quality and quantity in agricultural areas [12,13]. Together with these deteriorations, increased input prices and low incomes cause farmers to abandon agriculture. These issues highlight the absence of adequate policies to overcome problems [14]. Agricultural support is defined as the annual monetary value of gross transfers to agriculture from government policies that support agriculture, regardless of their objectives and economic impacts [5]. One of the most important reasons for supporting agricultural production is that risks and uncertainties are higher and more based on natural conditions in comparison to other sectors. Additionally, investment attractiveness is lower given the sectoral competitiveness. Globally, sustainable agriculture is recognized as one of the main problems to be solved due to growing environmental, economic, and social problems [15,16]. The agricultural sector retains importance due to the above-mentioned subjects, and support policies may vary according to the socio-economic structure of each country. Today, policies on sustainable agriculture have been an international concern and issue-focused efforts have produced impacts below expectations in many countries [17]. A need exists to shift to more sustainable forms of agriculture and to introduce comprehensive policies that support responses to these multiple challenges [14]. Therefore, in-depth research conducted through multidimensional analysis is needed [17] that should mostly focus on social processes and different approaches rather than a lack of agronomic knowledge [18], where special attention should be paid to rural life and farmers.

In a study conducted in Erzurum, which is located in Eastern Anatolia in Turkey, a less developed region with similar socio-economic characteristics to Şanlıurfa, age, education, income, and land acreage were found to affect the attitude of farmers toward government agricultural support [19]. Public agricultural support helps local producers can stand, especially for small-sized farms, in sustainable agriculture [20]. Researchers in Switzerland concluded that payments within the scope of direct support have decreased the negative effects of financing problems on farms and household income. This support has served as insurance for most of the farmers and has effectively reduced risks on the household income and revenue derived from agricultural activities [21]. In other words, this support reduces the fluctuations in the income of the farmers and positively contributes to balanced and sustainable farming. In another study conducted in Italy, direct payments were found to positively affect income [22]. This support positively contributes to the farmers' livelihoods and to the continuity of agriculture. Agricultural production was found to be positively affected by the support provided in Turkey according to a study conducted between 1986 and 2015 to determine the effect of agricultural support on production [23]. A study conducted in selected European Union (EU) countries determined that direct support payments in agriculture contribute to financial viability, both politically and

economically [24]. In another study, the common agricultural policy of the European Union was found to have some positive effects on labor use in agriculture [25]. Agriculture remains a large employer within the EU with 9.7 million people working in agriculture in 2016 [26].

1.2. Agricultural Support Policies in Turkey

The creation of agricultural income, the increase of producers' welfare, the balance of supply and demand for agricultural products, and ensuring the balance of producer–consumer interest are the macroeconomic targets of sustainable agriculture in Turkey. Mentions of agricultural policy generally indicate public agricultural support policies in Turkey [8]. All kinds of expenditures in farming are considered in the scope of agricultural sustainability and require public support due to the low agricultural income so that farmers can continue their agricultural activities in Turkey [19,27–29].

Public agricultural support policies have been implemented since Turkey's early years until the 2000s—such as market price support, input subsidies, incentives, premium payment, and productivity—and all kinds of support were based on foreign trade policies. After the World Trade Organization Agreement was implemented, non-intervening support policies were preferred in Turkey [29]. Article 18 of the Law on Agriculture, law number 5488 published in 2006, refers to the purposes and principles of agricultural support policy in Turkey. In addition, support policies are closely associated with rural development and employment. The number of people employed in the agricultural sector in Turkey has dropped in recent years. This decline in the agricultural sector has not occurred within the framework of certain plans and programs. The agricultural sector has been reduced by the effects of practices such as changing the agricultural support system, low level of support, and inadequate public policies after the 2000s. [30]. Accordingly, various negative socioeconomic consequences have ensued, such as forced migration, poverty, and unemployment in Turkey. Whereas the poverty rate in the agricultural sector was 33%, the rates were 9.6% and 7.2% in the industry and service sectors, respectively, according to the latest publicly announced rates in 2009 [31]. The poverty rate in rural areas was 38.69% in 2009 [32]. In Turkey, in 2013, the individual poverty rate in rural areas for those who have a daily income of 4.3 USD and less was 5.13%, in which this rate was 8.02 times higher than the proportion of urban residents for the same year [33].

Article 21 of the Agriculture Law states that the financing of agricultural support programs is provided by budget resources and external sources, and will not be less than 1% of the GDP [34]. In the 10 years between 2006 and 2016, the percentage of agricultural subsidies paid directly to the producer was between 0.5% and 0.67%, and the support percentage for 2016 was around 0.52% of the GDP [15], which is almost half of the public support amount envisaged by the law. Farmers received agricultural support slightly higher than the OECD average between 2016 and 2018 in Turkey [35]. Agricultural support is provided through two modes in Turkey. The first is the provision of diesel and fertilizer support (TL/acre) based on the crop type and cultivation area, where the area is important for the amount of support. The support is provided as a fixed-rate direct payment to the farmers and is usually not a meaningful amount of money for the farmers. The second mode is the provision of production support (TL/kg) based on the crop type and production volume where compensation amounts vary depending on the crop type. This payment means more income for all farmers and is more advantageous for farmers located in irrigated areas compared to those located in dry farming areas. Another advantage of being located in an area with irrigation is that some irrigated crops, such as cotton, receive the maximum amount of support compared to other crops. No specific timetable exists for the payment of public agricultural support in Turkey. Payments can be provided at different times in the year following crop cultivation, depending on the economic structure of the state and political conjuncture.

2. Materials and Methods

2.1. Research Area

The Southeast Anatolia Project (its Turkish acronym is GAP) includes 22 dams, 19 hydroelectric power plants (HEPPs), and 1.8 million ha of irrigation and the budget is USD \$32 billion, representing Turkey's largest integrated development project. Sustainability currently represents one of the main concerns of analysts and political agents involved in regional development [36]. The main objective of the GAP is to increase the income level and quality of life of the local people by evaluating the resources of the region, which is one of Turkey's most underdeveloped regions [35]. The GAP aims to contribute to the economic development and social stability targets at the national level by eliminating the development gap between the GAP region and other regions through increasing productivity and employment opportunities mostly based on agriculture [35,37]. Şanlıurfa is included in the GAP, which had a population of 2.035 million in 2018 [38] as well as 1.2 million ha of agricultural land and 2.29 million cattle and sheep [39]. Şanlıurfa is important for the realization of the GAP project targets due to its potential in the agriculture sector in Turkey [35]. The locations of the GAP and Şanlıurfa within Turkey are depicted in Figure 1 [40].

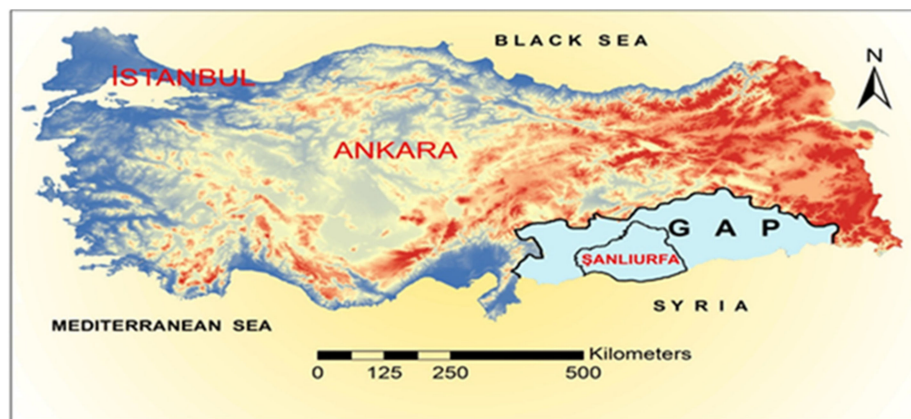


Figure 1. The location of Şanlıurfa and the Southeastern Anatolia Project (GAP) region in Turkey.

2.2. Materials

The main research data were obtained from the 734 participants who were selected by means of a simple random sampling method, among the 57,175 farmers registered in the Şanlıurfa State Farmer Registration System in 2017. The sample volume was determined using the sample size and tolerable sampling error table [41], which is based on Yamane's formula [42] (1), with a 99% confidence level and 5% error margin; where n indicates sample volume, N stands for main sampling volume, which is 57,175, z is confidence level, which is 2.58 based on 99% confidence level, d indicates error margin, which is 5%, p is the probability of entering the sample and accepting to participate in the survey and was taken as 50% in order to obtain the maximum number of sample volume, and q is the probability of not entering the sample and not accepting to participate in the survey, which is $(1-p)$.

$$n = \frac{Nz^2pq}{Nd^2 + z^2pq} \quad (1)$$

Accordingly, the sample volume was determined to be 658, and more questionnaires were administered in the field, to be on the safe side. The questionnaire used in the research consisted of three parts: The first part comprised demographic questions, the second part included socio-economic questions, and the third part provided expressions to measure the effectiveness of agricultural support and its contribution to agricultural production. In the third part, the level of participation of the farmers was measured based on the Likert attitude and perception scale by the provided expressions,

to define whether the support: Does develop agriculture, has positive effects on input and technology used in production, is effective in crop type cultivation decision, and provided support is sufficient to ensure agricultural sustainability or not. Surveys were conducted in 2017 using face-to-face interviews with farmers. The obtained data were analyzed in SPSS software (IBM Corp., Version 21.0, Armonk, NY, USA).

2.3. Methods

Categorical regression analysis based on optimal scaling is used in analyses that extend the standard approach by simultaneously scaling nominal, ordinal, and numerical variables. Using this method, it is possible to analyze the relationships between categorical data in a multivariate manner where both linear and nonlinear relationships exist. The categories of each variable in the multivariate cross-tables can be quantitative and the relationships between the categories can be examined using optimal scaling techniques. In categorical regression analysis, numeric values are assigned to the categories of variables. Therefore, the categorical variable is quantified using a nonlinear transformation.

The procedure quantifies categorical variables so that the quantifications reflect the characteristics of the original categories. The procedure treats quantified categorical variables the same as numerical variables. Using nonlinear transformations allows variables to be analyzed at a variety of levels to find the best-fitting model [43]. The variables are digitized to reflect the characteristics of the original categories, and these digitized variables are included in the regression model, for example, as numerical variables in the analysis. Then, the regression coefficients are estimated and the loss function is calculated. The iterations continue by comparing them with the loss function until the difference between them is insignificant. Iterations are stopped when the purpose function is optimized. Significance is measured by the coefficient of determination (R^2) to assess to what extent independent variables can explain the dependent variable in categorical regression. β coefficients are obtained from categorical regression, and digitized values of the variable categories are obtained by optimal scaling. Impact coefficients are calculated as a result of multiplying these two values [44]. The impact coefficients indicate the correlations and directions of the relationships between the independent variable categories and the dependent variable [45]. A high or low impact coefficient indicates the relationship strength of the related independent variable with the model. A positive value indicates an effect in the same direction, and a negative value indicated an effect in the opposite direction.

Alternating least squares is an optimization technique to solve the matrix factorization problem. This technique achieves good performance. These algorithms are members of a broad class of latent-factor models and they try to explain observed interactions between a large number of users and items through a relatively small number of unobserved, underlying reasons/factors [46]. In categorical regression, an ANOVA table is used to test the significance of variables included in the model. The F-statistic is used to test the significance of each variable in the model by categorical regression. These calculated values are compared with F table values and the importance of the variables is determined.

The basic approach in the Likert attitude and perception scale was based on provided statements about the researched subject and for the determination of the participant's attitudes on these given statements. With this scale, the attitude of a group (here farmers) to an event (here, is support policy) is analyzed. These attitudes can be either in a positive or negative way. This scale is widely used in the social sciences [47].

The expression of "provided support is sufficient to ensure agricultural sustainability" is taken as the dependent variable. The participation rate of this expression also shows the degree of satisfaction of farmers from the support policy. Many affect the attitudes of farmers about various topics, but age, marital status, household size, source of livelihood, land acreage, settlement area (location), total cultivated area, education level, land ownership, crop type, irrigation availability, and income are the main ones affecting the attitudes of farmers, satisfaction, and their adoption level of support policies

according to the socio-economic structure of the research area. These are taken as independent variables. The attitudes of the farmers based on the statements provided in the third part were measured. Then, the results obtained from the third part were compared with the demographic and socio-economic data in the first two parts and the relationship between them was investigated in the research by categorical regression analysis. Detailed information about the method used in the analysis is available in Kooij et al. [48], Cengiz [49], Xu et al. [44], Gazioğlu ve Pesen [50], Lorcü [51], Shrestha [52], and Johnson and Wichern [53].

3. Results

In total, 80% of the farmers believed that support developed agriculture, but 76.2% did not find the support payments and policies to be sufficient to ensure agricultural sustainability. Furthermore, 74.5% of the farmers stated that support has positive effects on input and technology used in production and 79.4% said support is effective in crop type cultivation decision. The variables used in the research and their digitized values and forms are provided in Table 1, which presents the frequencies of each variable category and the digitized forms obtained by applying the alternating least squares algorithm.

Table 1. The variables and quantification values of the variable categories.

Variable	Variable Categories	Frequency	Quantification Values	Variable Level
Age	18–29	85	1.198	Ordinal
	30–39	157	−0.824	
	40–49	208	1.217	
	50–59	157	−1.004	
	60 and above	125	−0.545	
Household Size	1–5	197	−0.725	Ordinal
	6–10	375	−0.419	
	11 and above	160	1.875	
Total Cultivated Area (hectares)	1–10	412	−0.878	Ordinal
	10.1–20	162	0.995	
	20.1 and above	158	1.269	
Marital Status	Married	688	0.226	Nominal
	Single	39	−4.188	
	Widow	5	1.613	
Settlement Area based on the Availability of Irrigation	Harran	104	1.926	Nominal
	Akçakale	58	1.273	
	Haliliye/Eyyübiye	257	−0.780	
	Hilvan	76	−1.119	
	The other districts	237	0.048	
Education Level	Not Literate	85	−0.567	Ordinal
	Literate	178	0.694	
	Primary school	324	−0.005	
	High school	105	−1.745	
	University	40	2.736	
Source of Livelihood	Agriculture	713	−0.051	Nominal
	Agriculture-based enterprise	3	15.528	
	Agricultural enterprise	4	−0.330	
	Others	12	−0.729	
Land Ownership	Property	630	0.345	Nominal
	Tenant	59	−3.249	
	Partnership	24	−1.184	
	More than one type	19	0.15	

Table 1. Cont.

Variable	Variable Categories	Frequency	Quantification Values	Variable Level
Crop Type	Maize	228	−0.404	Nominal
	Wheat	152	1.694	
	Cotton	10	2.271	
	Barley	35	1.018	
	Red Lentil	20	−0.127	
	More than one crop	287	−0.771	
Whole cultivated area is irrigated	Yes	506	0.668	Nominal
	No	226	−1.496	
Livestock	Yes	210	−1.577	Nominal
	No	522	0.634	
Income (TL/year)	10,000 and below	169	−1.461	Ordinal
	10,001–25,000	212	−0.197	
	25,001–50,000	200	0.302	
	50,001 and more	151	1.511	

Analyses were conducted using a digitized (transformed) model of variable categories. The loss function was minimized at the end of the 11th iteration in the analysis. The iterations were stopped at the 11th iteration because convergence was achieved and the current test value was reached. The ANOVA test results are provided in Table 2.

Table 2. The ANOVA test results of the model.

	Sum of Squares	df	Mean Square	F	Significance
Regression	154.066	34	4.531	5.465	0.000 ^a
Residual	577.934	697	0.829		
Total	732.000	731			

^a Statistically significant at the level of $p < 0.01$.

The ANOVA test results of the model, composed of socio-economic variables, showed that the model was statistically significant at $p < 0.01$. The selected socio-economic variables can explain the attitudes of the farmers towards the issue under research according to the results, which are outlined in Table 3. According to the test results, statistically significant variables were interpreted.

Table 3. The categorical regression analysis results of attitudes toward agricultural policies.

Variables	Standardized Coefficients		df	F	Significance
	Beta	Std. Error			
Age	0.074	0.032	4	5.261	0.000 ^a
Household Size	0.031	0.029	2	1.219	0.296
Total Cultivated Area (hectare)	0.073	0.039	2	3.513	0.030 ^b
Marital Status	0.023	0.031	2	0.532	0.588
Settlement Area	0.315	0.040	4	62.175	0.000 ^a
Education Level	0.068	0.031	4	4.602	0.001 ^a
Source of Livelihood	0.029	0.030	3	0.905	0.438

Table 3. Cont.

Variables	Standardized Coefficients		df	F	Significance
	Beta	Std. Error			
Land Ownership	0.110	0.037	3	8.858	0.000 ^a
Crop Type	0.183	0.061	5	9.046	0.000 ^a
Irrigated Agriculture	0.295	0.074	1	15.933	0.000 ^a
Livestock	0.056	0.039	1	2.077	0.150
Income (TL/year)	0.115	0.044	3	6.919	0.000 ^a
Multiple R = 0.459 R ² = 0.210 Adjusted R ² = 0.172 F = 5.465 p = 0.000 ^a					

^{a,b} Statistically significant at the level of $p < 0.01$ and $p < 0.05$ respectively.

Age, total cultivated area, settlement area, education, property type, main crops, irrigated agriculture, and income were found to be statistically significant in explaining the attitudes toward agricultural support policy, according to Table 3. These variables were found to be statistically significant in other research conducted with farmers in the research area [37,54,55]. The significance of these independent variables in the model were $p < 0.01$ and $p < 0.05$. On the other hand, household size, marital status, source of livelihoods, and livestock variables did not have statistically significant effects on the model ($p > 0.05$). The independent variables that statistically significantly contributed to the model and the impact coefficients and directions of the subcategories of these variables are listed in Table 4.

Table 4. The impact coefficients of the variable categories toward agricultural support policy.

Variable.	Variable Categories	Beta Coefficient	Impact Coefficient
Age	18–29	0.074	0.088
	30–39		−0.060
	40–49		0.090
	50–59		−0.074
	60 and above		−0.040
Total Cultivated Area (hectares)	1–10	0.073	−0.064
	10.1–20		0.072
	20.1 and above		0.092
Settlement Area based on the Availability of Irrigation	Harran	0.315	0.606
	Akçakale		0.400
	Haliliye/Eyyübiye		−0.245
	Hilvan		−0.352
	The others		0.015
Education Level	Not literate	0.068	−0.038
	Literate		0.004
	Primary school		−0.000
	High school		−0.118
	University		0.186
Land Ownership	Property	0.110	0.037
	Tenant		−0.357
	Partnership		−0.130
	A few of them		0.016

Table 4. Cont.

Variable.	Variable Categories	Beta Coefficient	Impact Coefficient
Crop Type	Maize	0.183	−0.073
	Wheat		0.310
	Cotton		0.415
	Barley		0.186
	Red Lentil		−0.023
	More than one Crop		−0.141
Whole Cultivated is Irrigated	Yes	0.295	0.197
	No		−0.441
Income (TL/year)	10,000 and below	0.115	−0.168
	10,001–25,000		−0.022
	25,001–50,000		0.034
	50001 and above		0.173

4. Discussion

According to the impact coefficients of the socio-demographic and economic variables, which are given in Table 4, the age groups 18–29 and 40–49 years have a positive attitude toward agricultural support policy, while the 30–39, 50–59, and 60 years and above age groups have a negative attitude. This result is largely consistent with the results obtained from the previous research conducted in Erzurum, Turkey [19] where attitudes worsen and willingness to participate in the process decreases with age. Reluctance to participate in the process exists due to the large number of formal procedures to take advantage of the support. Whereas a landholding variable of 10 ha or less is related to a negative attitude toward the policy, owners of 10.1–20 and ≥ 20.1 ha have a positive attitude. As the amount of land increases, income from agricultural subsidies also increases, and vice versa. A study conducted in Austria showed that government support has different impacts on different farm sizes and types [56]. In a study conducted in African countries, the amount of land was found to be an effective factor influencing the use of technology, social, and economic sustainability in agriculture [57]. The inhabitants of Harran, Akçakale, and other districts, with irrigation and fertile soils, have a positive attitude toward agricultural support policy, whereas those living in Haliliye, Eyyübiye, and Hilvan districts, with limited irrigation and dry farming areas dominating, have a negative attitude.

Literacy and graduation from university are related to a positive attitude toward agricultural support, whereas illiteracy, as well as primary and high school graduates, have a negative attitude. As the education level of farmers increased, their agricultural support was expected to also increase due to the large number of formal procedures needed to apply benefit from support. On the other hand, the positive view of the literate farmers is an unexpected result. When the reason for this result was investigated, we found that most of the literates obtain help from intermediaries by paying a certain percentage of commission from the support amount. From a study conducted in Erzurum, Turkey, when the level of education of the farmers increased, the willingness to benefit from agricultural support was found to also increase [19].

Land size, ownership status, and level of education were the most important factors affecting the likelihood of benefiting from state support of agricultural producers in a study conducted in Turkey [58]. In a study conducted in central Anatolia of Turkey, the education level and land size of the farmers were the factors affecting the benefits obtained from public support. There is a linear relationship between these variables and the benefits obtained from the support. As these variables increase, the rate of the benefit from public support increases [59]. In a study conducted in İzmir, Turkey, education, land size, and type of enterprise affected support policy preferences. As these variables increased, the rate of adoption is increased, thus benefiting from public support increased [60]. We found that the tenants and partnerships are related to a negative attitude toward agricultural support, whereas the property owners and a few of them who have at least two of them—property

owner, tenant, or partnership—have positive attitudes. In Turkey, agricultural support is paid based on the registration deed or written lease agreement. If the leases are for a year or a short term, the lease agreements are completed based on verbal agreements and trust. In such a case, property owners due to having registration deed are benefiting more from agricultural support.

Farm-size- or crop-based agricultural support is effective in terms of both the cultivation type of crop and the cultivation amount decisions of the farmers. Agricultural support applied in Turkey affects farmers' decisions regarding what crops are going to be grown. Wheat, cotton, and barley crop producers have a positive attitude toward agricultural support, while corn and red lentil producers and those who sow more than one crop have a negative attitude. Turkey is the net importer of barley and cotton, while exporter of processed wheat products [61]. These results are consistent with the support policy created based on the product quantity and variety in Turkey. The support policies implemented in China have been found to be less sufficient in terms of the farmers' grain cultivation decisions and their support amounts have been increased to keep them in grain production [62].

Considering irrigation, those whose cultivated area is irrigated that is concerning the crop production system have a positive attitude toward agricultural support, whereas those outside the irrigation area (dry farming areas) have a negative attitude. Although wrong, in the research area, the agricultural support payments are not mostly used directly in the income calculations by farmers but are considered as additional income, as a kind of bonus, from public sources based on agricultural activities conducted by the farmers. Therefore, the declared agricultural income of the farmers does not cover support payments. Those with an income of 25,001–50,000 TL and 50,001 TL or more in the sub-categories of income have a positive attitude toward agricultural subsidies; those with an annual income of 10,000 TL and below and between 10,001 and 25,000 TL have negative attitudes. Income levels are related to the amount of land cultivated, the presence of irrigated or dry agricultural farming, and the type of crop. According to the 2017 average currency rate, USD \$1 was 3.65 Turkish Lira (TL).

According to the overall evaluation of the results in Table 4, those who have the most positive attitude toward agricultural support policy are those located in the irrigation area, residents of Harran and Akçakale districts, and cotton and wheat producers. Those who have the most negative attitudes toward agricultural support policy are located in dry agricultural areas, tenants, and have an annual income of 10,000 TL or less. These farmers are mostly engaged in subsistence agriculture. It is a fact that larger farms benefit from income support more than smallholders. These results are consistent with our expectations. The amount of payments provided by agricultural support policy depends on the crop variety and production amount of crop produced by the farmers. The crop production amounts are higher in irrigated areas. Therefore, the received amount of money is higher in irrigated areas than in dry agricultural areas within the scope of public agricultural support policy.

Şanlıurfa has 12 districts, and most agricultural irrigation areas are located in Harran and Akçakale districts, which is why the farmers in Harran and Akçakale have positive attitudes toward agricultural support policy. In total, 33.2% of the total cultivated land was used for wheat, 20.01% for cotton, and 7.9% for barley in Şanlıurfa in 2017. That is why wheat, cotton, and barley producers have positive attitudes toward agricultural support policy. The agricultural support provided to cotton producers was 4806.9 TL/ha, and 392.5 TL/ha for cereals in 2017, representing the highest rate of crop-based payment [63]. As a result, those who cultivate these crops were expected to have a positive attitude due to their high support rates and location in areas with irrigation. The cultivation area of corn was 7.74% in 2017. All of the corn varieties were in support program a year ago. Later, other corn varieties except for silage corn were not included within the support. The reason that silage corn is kept within the scope of support is due to use in livestock. Turkey is the net importer in red meat production [64]. This led to fluctuations in the amount of corn cultivated area, production quantity, and price, and explains why corn producers have a negative attitude. In a study conducted in China, rice, wheat, and corn crops displayed significantly lower volatility in terms of prices due to public support policies [65]. Farmers with a low agricultural income have less land for cultivation than the other groups. Therefore, they have negative attitudes toward agricultural support policies since the income they derive from

public agricultural support is less than that of the other groups. The average land size of the farmers who are in favor of public support policy is 18.3 ha, whereas the average land size of those who are not in favor of the policy is 7.17 ha. The settlement of the farmers in irrigation or dry farming areas has a significant effect on attitudes and behaviors. In total, 89.9% of the farmers in the dry agricultural areas have negative attitudes toward agricultural support policies. Since these farmers are classified in a disadvantaged group compared with the other producers, they expect positive discrimination from the state. In this sense, this result coincides with expectations and is consistent with the subsistence-based structure of the research area.

5. Conclusions

Although most of the farmers believed that public support is necessary for the sustainability of agriculture, they also stated that the support is insufficient. The factors most influencing these views were the cultivated land acreage and whether the farmer was located in an area with or without irrigation. The age of the farmer, education level, property type, crop types, and income were factors affecting farmers' attitudes. Adequate support policies are important to the increase in prosperity in all sectors by improving the living conditions of the farmers and their welfare in Turkey. Unlike other sectors, agriculture is a sector supported for social, economic, and political purposes that are mostly aimed at transferring a certain amount of income to producers from the public budget in Turkey. However, this resource transfer cannot lift small and marginal producers out of subsistence income levels, especially in dry farming areas. We cannot say that the expected benefits from agricultural support are achieved on behalf of continuity. The support provided to agriculture is not sufficiently effective to retain farmers within the occupation in rural areas. The policy of agricultural subsidies faces suitability, adequacy, and efficiency problems in Turkey. The support policy should be reviewed, especially for small-scale farmers and farmers who farm without irrigation.

Support payments should be paid depending on product groups timely so that the farmers can use this support during crop production periods for continuity. Support payments are paid based on land registry and rental contract systems. In this case, whereas the property owner might not be a real producer that is affected by support, other farmers who are real producers may not receive enough benefit from the support. Agricultural support policies are necessary not only for achieving agricultural macro targets but also for farmers who produce at a certain loss to keep them in crop production. Therefore, the implementation of protective policies in agriculture is mandatory. These objectives can be achieved through the implementation of agricultural support policies within economic policies. Support should be differentiated for small-scale farmers and also for dry and irrigated agricultural areas based on subsistence farming. Long-term average yield values should be taken into consideration in the production amount per acre due to big differences in production amounts in dry farming and irrigated areas. This will ensure more and fair access to public subsidies, especially for farmers in dry farming areas. All the networks in irrigation areas have been constructed by the state almost free of charge. The source of investment expenditures, just like the source of support, is the tax. This study is the first of its type on this subject in GAP, Şanlıurfa. The results can provide policymakers and decision-makers with useful information for agricultural planning and are applicable to other similar countries.

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