



## FARMERS' POINTS OF VIEWS OF RURAL ISSUES AND THEIR RECOMMENDATIONS FOR SOLUTIONS

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**Abstract:** The primary purpose of this study was to investigate the major problems encountered by farmers operated in Carsamba District of Samsun Province, and also possible solution recommendations proposed by the participants. A stratified sample of 350 farmers was contacted through face to face interviews in the Summer of 2016. Respondents were qualitatively asked to list the most important problems they faced in their agricultural activities as well as non-agricultural occupations in rural areas. A questionnaire was developed to collect data on farmers' socioeconomic characteristics and problems encountered during their production process, and their stay in the rurality. Farmers' recommendations for the solutions of their problems to the problems they identified were also asked in open-ended questions. Both quantitative and qualitative methods were used for data analysis. Descriptive statistics included frequencies, standard deviations, means, and percentages were used to analyze the socio-economic characteristics of farmers. Since this study was focused on the farmers' points of views of their problems and solutions, their comments on the open-ended questions were noted by the researchers during the data collection process. Farmers' responses on the main problems they faced were categorized considering the most frequently mentioned and stressed issues relating to farming and rural livelihoods. Research results showed that the major problems faced by farmers were lack of marketing opportunities for the farm commodities they produced, high input prices, improper shape and low-level production capacity of the lands owned by farmers, problems with plant protection, and lack of extension and training activities. Farmers suggest that the government should take more initiative to solve these problems. The results of this study are expected to provide useful information for farmers farmers' organizations, the Ministry of Agriculture and Forestry, and non-governmental agencies in the region.

**Keywords:** Farmers' problems, Rural issues, Farmers' points of views, Carsamba

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### 1. Introduction

Although its rates in Gross Domestic Production (GDP) and exports have declining trends in the last decades, agriculture is still an important sector in Turkey. It keeps millions of people living in rural areas and engaging in agricultural activities, provides basic food needs for the increasing population, provides employment in farms as well as in the developing agro-industry, and makes significant contributions to national income and exports. Agriculture and rural areas also provide labor and raw materials for the other sectors of the economy; and creates demand for the inputs produced by different industries, such as chemicals, pesticides, and farm machinery (Cinemre and Kılıç, 2015).

A total of 20.4 million people live in rural areas and engage in agricultural facilities in Turkey. It can be said that the amount of population intertwined with agriculture is higher if the rural areas that are within the scope of Greater City Municipalities are included in this population. Approximately 7.5% of the total GNP comes from agriculture, 21% of the working population is somehow related to agriculture. On the other hand, agricultural exports reached USD 16.1 billion and

accounted for 8.8% of total exports. This ratio increases to 14.7% with processed agricultural products and 22.4% with agriculture-based industry. The total agricultural area in the country is 37.9 million hectares. The number of cattle is 17.7 million cows and 184 thousand buffaloes. The numbers of small ruminants are 33.6 million sheep and 10.6 million goats (TURKSTAT, 2019).

Having a large potential in terms of crop and animal production, the agricultural sector in Turkey faces major structural problems. First of all, the average farm size is quite small as compared to developed countries and it is far from providing a stable income to the farm population living on it. This makes it difficult for farmers to make long-term investments and create a sustainable farming structure in rural areas. Given the agricultural potential, the competitiveness of the agricultural sector, and the contribution of agriculture to exports are low. The Turkish government has supported the agricultural sector for many decades. Agricultural supports are based on productivity, quality, and rural development. The amount of support to agriculture was increased to 14.5 billion TL in 2018. From 2003 through 2017, Turkish



farmers received 103 billion TL cash support. National Agricultural Project was passed to improve the welfare of our farmers, to have a more significant say in global competition, to leave a full warehouse for future generations in Turkey. The two most important pillars of the project are the Basin Based Support Model "and Domestic Livestock Production Supporting Domestic Model (TOB, 2018).

Various studies use the method of determining the problems experienced in a specific population using the perspective of individuals sampled from that target population. Kızılaslan and Somak (2019) determined the views and expectations of producers regarding agricultural policies with an example they selected from the central district villages of Tokat province. Another study in Tokat province was conducted to evaluate farmers' point of view of agricultural activities (Gözener, 2019). Başaran and Oraman (2019) researched the college of agriculture students' points of view of the future of agriculture. Kaya et al. (2016) evaluated farmers' perspectives on cooperatives comparing Agri and Eskisehir provinces. A study on farmers' points of view regarding the place and importance of agriculture in the Turkish economy was carried out by Oruç et al. (2016). A study conducted in Kırklareli province (Eğri, 2014) to measure farmers' perceptions regarding the transformation of Turkish agricultural policy after 2000. The study conducted in Kahramanmaraş province identified main agricultural issues and their solution recommendations using the opinions of extension agents employed by the provincial directorate of the Ministry of Agriculture and Rural Affairs (Boz, and Candemir, 2007). The common characteristic of the earlier research cited here is they all tried to identify agricultural and rural issues, some of them measured perceptions of respondents on determined subjects, and came out with recommendations considering the opinions of related clientele.

Being one of the largest delta plains of Turkey, Carsamba district is producing a significant amount of fruits, vegetables, field crops, and animal products. Farming commodities produced in this district are marketed not only within the borders of Samsun province but also in all other regions of Turkey. However, farmers in the districts face many different problems with production and marketing. With this study, solutions were sought for the main problems faced by the farmers operating in agricultural production in the district.

The overall purpose of this study was to explore agricultural issues faced by farmers operated in the Carsamba district of Samsun province. Specific objectives were to determine the socio-economic characteristics of farmers, to list the main agricultural problems farmers facing, and develop recommendations for the solutions to these problems. The findings of this study are aimed to provide useful information for agriculturists, policymakers, farmers' organizations, and scientists.

## 2. Materials and Methods

The main material of this study was information provided by administering a questionnaire to 350 farmers operated in different villages of Carsamba District. To draw accurate sample size, the villages where farming is predominated rural livelihood were selected with the aid of agricultural engineers employed by Carsamba district directorate of the Ministry of Agriculture and Forestry. Lists of farmers showing their farm sizes were provided from the directorate and these made the accessible population from which the sample size was determined. First of all, farmers who made the accessible population were divided into three strata based on their frequency distribution of land sizes they owned. Then using the stratified sampling technique, adequate sample size was determined as follows (Yamane, 2001):

$$n = \frac{N \sum N_h S_h^2}{N^2 D^2 + \sum N_h S_h^2} \quad (1)$$

Where  $n$  shows the sample size,  $N$  represents an accessible population,  $N_h$  is the number of subjects in a stratum, and  $S_h$  is the standard deviation in a stratum.  $D^2$  is calculated by the formula  $d^2/Z^2$ , where  $d$  is an allowable error from the mean of the accessible population and  $Z$  represents the  $Z$  value in the standard normal distribution table. Accepting a 5% error from the mean of the accessible population and 95% confidence interval ( $t=1.645$ ), the sample size represented the target population of this study was calculated as 350 farmers. Since the accessible population was divided into three strata based on the frequency distribution of farm size, this sample size was also proportionally divided into three strata. Random sample numbers were used to determine each respondent to interview for data collection. In case of respondents could not be found or refused to respond to the questionnaire, spare farmers from the same stratum were predetermined and these were replaced by the original respondents.

A well-structured questionnaire was prepared to assess the sociodemographic characteristics of the respondent, their points of view of rural issues in their villages, and the possible solutions they offer for the identified issues. Therefore, the study was carried out by utilized both quantitative and qualitative research methods. Quantitative questions were technically closed-ended and qualitative ones were open-ended as they were required from farmers to freely express their opinions and views of agricultural issues around their environment and possible solutions they propose for solutions. Earlier work of (Boz and Candemir, 2007), and (Boz and Kaynakçı, 2019) was explicitly utilized to prepare the questionnaire. It was included three sections; the first section searched socioeconomic characteristics of farmers, the second section included farmers' points of view of agricultural issues in their environment and the third section covered questions relating farmers'

proposed solution recommendations, and other unspecified subjects, if any. Data collection process was completed between May and September months of 2016. The questionnaires were mostly filled in farmers' houses and tea shops of villages where farmers gather and socialize, particularly during the winter season. It took approximately half an hour to complete one questionnaire.

Closed-ended questions were analyzed using descriptive statistics such as means, standard deviations, minimum, and maximum values. To analyze agricultural problems in the locality farmers were asked to rank their problems regarding the effect of each identified problem on their farming. Then possible solution recommendations for each problem were explained by farmers and noted by researchers. The most stressed issues and farmers proposed solutions were organized and reported by the researchers.

### 3. Results and Discussion

#### 3.1. Socioeconomic Characteristics

The socio-economic characteristics of farmers are presented in Table 1. A general farmer profile can be generated from these findings as a 53 years old male farmer having an average of 5.58 years of education and 31.93 years of farming experience. The average family size was 3.58 persons while the number of people working on the farm was 1.9. Since farming was not the only livelihood in the locality the amount of off-farm income per farmer was 2166 TL per month. The average farmer operated 33.29 decare of agricultural land of which 29.93 decare was property land, and farming activities were carried out on an average of 5.19 parcels. Most of the operational land was devoted to hazelnut production (23.50 decare) and it was followed by maize (4.50 decare), and tomatoes (2.58 decare) production.

**Table 1.** Socioeconomic characteristics of respondents

Socioeconomic characteristics	Min.	Max.	Mean	Std. Dev.
Age of farmer	27	87	53.23	11.32
Schooling years	0	16	6.59	3.31
Farming experience	5	63	31.93	11.52
Family size	1	8	3.58	1.73
Number of people working at the farm	1	6	1.90	1.10
Off-farm income (monthly)	0	9000	2166.03	2229.11
Total operational land (decare)	0	400	33.29	37.08
Property land (decare)	0	400	29.93	34.95
Number of parcels	1	39	5.19	5.49
Area of hazelnuts	0	220	23.50	18.91
Area of maize	0	65	4.50	11.25
Area of tomatoes	0	120	2.58	10.66
Number of tractors	0	2	.43	.53

The number of tractors owned per farmer was 0.43 indicating many farmers are operating their land by rental tractors. The district has adequate climate and soil conditions for growing many different fruits (pears, apples, plums, peaches, mulberries, etc.) and vegetables (tomatoes, lettuces, cabbage, peppers, eggplant, parsley, etc.).

Considering geographic characteristics, average operational land, family size, family labor, and value of farming commodities grown in the district, it can be said that the district may offer a sustainable livelihood for average farmers if they have the intention to continue farming by applying proper farming practices suggested by extension offices. This amount of land can provide adequate income for a family of four persons, even larger. But the problem here is there should be a consistency with input and output prices which have been subject to large fluctuations during the last decades. Also, a major observation in the countryside is that young people do

not want to stay in these places as they want to receive higher education and find employment other than farming. This observation was corroborated with the finding that farming labor per household was even less than two persons (1.9) while the average family size was 3.58.

#### 3.2. Farming Issues and Solution Recommendations

In this section, farmers were asked to list and explain the main issues influencing the farming profession in the locality and what kind of solutions they would offer to solve these issues. Responses to this question were noted and put in the order of importance as stressed by farmers. The following priority issues and solution recommendations were reported.

##### 3.2.1. Marketing of farm products

The most preferred reason for hazelnut plants, which has the highest production area in the region, is that it requires less labor than other farm commodities. In addition to this, especially the farmers who raise

livestock obtain roughage fodders from the hazelnut orchard and graze their animals there. Besides, firewood is also provided from the hazelnut garden. However, the main source of income that the hazelnut plant provides to producers is dried hazelnuts, which are harvested and sold once a year. The selling price of the product is determined by the government to close to the harvest period. The main buyers are the government through agricultural products office, the hazelnut agricultural sales cooperatives union (FISKOBIRLIK), and private traders.

Hazelnut farming is the livelihood of the Black Sea Region and it has an important place in the world market. According to the recent data 75% of global hazelnut production and approximately 60% of hazelnut cultivation area in the world take place in Turkey (FAOSTAT, 2020) Although hazelnuts occupy a significant place in Turkish agriculture, the price of the hazelnut produced by the Turkish producers is determined in the Hamburg Hazelnut Stock Market in Germany. The government's purchase price is also highly influence by this price and the domestic producers have to sell the hazelnuts at the prices determined here. Farmers stressed that the price of hazelnuts have been determined at low levels for years and it is far away of providing viable income for them. Due to periodicity in many districts, stable production cannot be achieved and this further causes price fluctuations which make it more difficult for farmers to earn stable income.

Beside hazelnuts marketing problems farmers also have difficulties of marketing other farm commodities such as fresh fruits and vegetables, as well as livestock products. Although Carsamba's agricultural products are consumed not only in Samsun province but also in many other provinces of Turkey, a value chain for farm commodities could not be achieved. This prevents farmers and processors to continue production and processing in a well operated market environment.

To solve marketing problems of hazelnuts it is proposed to set up a hazelnut stock market in Turkey. Besides, new and alternative uses of hazelnut should be increased. Examples of this are new types of chocolates, hazelnut butter, hazelnut oil, muffins, and cakes. Also, the consumption of hazelnut products should be encouraged with various advertising campaigns. Other marketing problems can be solved by encouraging farmers to establish farmers' organizations such as vegetables and fruits growers' cooperatives.

Although the unit cost of hazelnuts varies according to the farms, it varies between approximately 9 TL and 17 TL in the region (Yıldırım, 2018). Sales prices, on the other hand, may sometimes fall below the cost. Especially because the farmers have fewer storage facilities, they quickly sell their products at lower prices without following the market sufficiently. With the expansion of licensed warehousing, both the need for safe storage and the liquidity needs of farmers will be met to some extent. Besides, by using cooperatives or similar unions in which

the producers' hands will be strengthened in determining prices in hazelnut sales, it will be possible to reduce the advantage of traders and companies and increase the income of producers.

### **3.2.2. High-level input prices**

A significant portion of the interviewed farmers complained that input prices in agricultural production were too high. For example, the purchase of chemical fertilizers, pesticides, seeds, seedlings and saplings at high prices decreases profit margins and often leaves no additional income for producers. On the other hand, the daily wages of off-farm labor force needed especially in hazelnut harvest are quite high. The fact that the input prices are so high brings many farmers to the threshold of abandoning agricultural production.

Farmers offered three alternative suggestions to solve this problem. First of all, they stressed the importance of sale prices being determined at higher levels and showing stability from year to year. The second suggestion is that input prices should be cheaper. If this objective cannot be provided with market forces, the state should increase its input subsidies for agricultural production as a precaution. Although farmers receive many subsidies from the government (TOB, 2018), many argue that these subsidies are not producing enough yield and productivity in many farm commodities (Boz and Kaynakçı, 2019). This is because Turkey has been importing many agricultural products for domestic demand which cannot be met by domestic supply. For these reasons, the prices are continuously increasing which causes consumers to spend the majority of the household budget on food consumption.

### **3.2.3. Lack of qualified labor**

There is a lack of qualified workforce in hazelnut farmers in the study area. In cases where the family workforce is insufficient, the importance of the quality of the off-farm workforce, which is used extensively, becomes evident. As in every field of agriculture, an unqualified labor force prefers to work and landowners do not have a chance to choose workers due to the difficulty of finding adequate workers in the region. Employees can be certified through practice-based and short-term training programs focused on the work they will do, and a higher wage can be provided thanks to the certificate. By ensuring that certified workers are employed through private companies, the adequacy of both their social security and technical capacities can be guaranteed. By providing incentives to employing certified workers, the benefits of workers with high technical capacity can be proven to farm managers and be adopted. Workers who do not have a certificate in the region may be prevented from entering the region for work purposes. Employers will also be more willing to choose people who are trained in their specific branch.

### **3.2.4. Fertilizing and plant protection measures**

Producers lack information on the amount and timing of chemical fertilizers and pesticides to be used in fresh fruit and vegetable production. In some cases, it was



stated that excessive chemical fertilizers and pesticides were used in the region. Although this prevents plant diseases and pests and prevents yield decreases, sometimes unconscious chemical use causes residues in products and reduces the market value of the product. On the other hand, it was stated that the producers could not control the packaging materials and residues properly and this situation sometimes poses a health risk for the farmer's family and the local people. This finding of the research has been confirmed by the earlier studies conducted in Carsamba district (Bayraktar and Boz, 2020), Türkoğlu district of Kahramanmaraş province (Alben and Boz, 2014), and Isparta province (Demircan and Yılmaz, 2005).

Farmers should be supported by the district directorate of agriculture, chamber of agriculture and other farmers' organizations with regular training and extension activities to solve the problems in chemical fertilization and spraying. Also, good agricultural practices and organic farming activities which ensure more sustainable use of agricultural resources in the region should be encouraged (Eryılmaz et al., 2019; Eryılmaz and Kılıç, 2018). Various demonstration activities should be carried out with the assistance of the faculty of agriculture operating in the region. In addition to the proper use of chemical fertilizers and pesticides, the use of farm manure should be encouraged. In this context, family farmers should be encouraged, even supported to raise at least a couple of livestock.

### **3.2.5. Lack of using modern agricultural technologies**

Although many developments have occurred in agriculture, in the research area it was observed that these technologies have not been used by many farmers. Use of pesticides and chemical fertilizers, on the other hand, is common. Also, farmers own adequate machinery for cultivating fresh fruits and vegetables, as well as field crops. However, modern irrigation technologies have not been adopted by hazelnut farmers. Research showed that if hazelnut is irrigated in specific periods of growing seasons the yield and quality are directly affected (Külahcılar, 2017). Results of the present study showed that there is a lack of information on the benefits of irrigation in the region. Although some farmers who practice irrigation can easily observe its benefits, the rate of irrigation is very low due to the opinion that the water need of hazelnut is met with rainfall and the idea that it will bring additional workload.

### **3.2.6. Land division and fragmentation**

Both inheritance laws and the geographical features of the region prevent farmers from being farm owners consisting of a single parcel. Inheritance laws require that agricultural land should be divided equally among children, which leads to fragmentation of agricultural assets. On the other hand, although the research area is a plain, there are also rugged, irregularly shaped and unsuitable lands for machine use. All these negative features are reflected in costs by increasing both labor and energy use. To solve this problem, land consolidation

works should be carried out in the region and the agricultural land should be left only to the heirs who are willing to farm.

### **3.2.7. Lack of land-use planning in the region**

As a result of the study, the farmers especially addressed the problem of land-use planning. In terms of agricultural production, land and production planning depend on the type of land use. In this respect, land-use planning in the region should be rearranged and land consolidation should be undertaken. It is clear that farmers will contribute more to production as a result of the land consolidation works. Increasing production, especially by using modern agricultural techniques, depends on having land parcels in proper size and shapes. Greenhouse production in the region has a tremendous potential, particularly in fruit and vegetable growing. However, the scattered and fragmented lands pose an obstacle.

## **4. Conclusion and Recommendations**

The results of this study showed that although farming in Carsamba district offers a remarkable potential for future developments, farmers face many different problems that restrict their ability to reach this potential. Many argue that the government should take the major initiative to solve these problems, particularly by increasing farming subsidies which they believe to have a major influence on farmer income and welfare in the long term. However, the results of this study showed that governmental subsidies can only play a partial effect to solve farming issues and offer sustainable agriculture, particularly in terms of economic and social aspects. Except for farming subsidies more specific attempts should be made to develop agriculture in the district.

First of all, marketing structure of the farm commodities produced in the district should be improved. A key measure to be taken is the practicing of product traceability which is applied in many developed countries to follow-up each farm commodity from pre-production to post consumption. If this system is applied for farming products of the region, production plans will be arranged accordingly and this will probably minimize price fluctuations through marketing channels. At the same time, effective control of government support payments can be ensured by product traceability.

High input prices pose a problem for input use. In addition to the contracted production of the producers in the district, dealing with the institutions and organizations instead of individual farmers in the region will create more feasible results in terms of reaching input prices that reasonable for farmers. However, the low-level organizational awareness of the farmers in the region prevents the utilization of this advantage. Besides, there is a lack of thrust among farmers to join farmers' organizations due to many different reasons. Establishing properly functioning farmers organizations, as well as, the government's legal controls over these organizations are very important at this point.

Land-use planning will offer more viable farms in the

district. An effective and functional land-use planning will make it possible for farmers to grow fruits and vegetables which have easier access to markets at suitable prices. This will probably reduce price fluctuations and its adverse effects to farmers' income. Land consolidation practices; use of modern farming technologies, particularly pressurized irrigation systems; encouraging farmers' organizations, and implementing continuous extension training programs will reduce the problems faced by farmers and make farming more viable livelihood in the locality.

### Authors Contributions

ÇY, HT and İB contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

### Conflict of Interest

The authors declare that there is no conflict of interest.

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