



## RESEARCH ARTICLE

# Investigation of Seasonal Female and Child Labor Use in Cotton Agriculture: The Case of Mardin Province

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### ARTICLE INFO

#### Article History:

Received: 22.06.2021

Accepted: 29.06.2021

Available Online: 29.06.2021

#### Keywords:

Cotton

Mardin

Probit analysis

Seasonal agricultural female workers

### ABSTRACT

In the study, it has been tried to determine the dimensions of seasonal female and child labor employed in cotton agriculture in Mardin province and the factors that are effective in the seasonal agricultural workers working in cotton harvesting themselves and their children. For this purpose, the data obtained by face-to-face interviews with 150 seasonal female workers in the cotton-producing villages of Mardin province were determined by simple random sampling method. It was used in the analysis of the probit model with the LIMDEP statistical program. In the study, according to the results of the CART analysis, it was determined that the most important factor affecting the annual income level of female working in the cotton harvest is the annual working period and the education level of the children. In the probit model, which predicts whether female working in the cotton harvest business have children under the age of 18, the employee's nationality other than the Turkish Republic, the number of children under the age of 18 working in the cotton harvest business, and the probability of the children of those with social security other than SSI (green card, etc.) increases, the probability of being married decreases. It can be suggested that female working in the cotton harvest in Mardin and their children under the age of 18 can become SSI employees, raise their living standards, and improve social, accommodation and nutrition education conditions.

### Please cite this paper as follows:

Bağirtan, S., & Demir, N. (2021). Investigation of seasonal female and child labor use in cotton agriculture: The case of Mardin province. *Journal of Agricultural Production*, 2(1), 16-25. <https://doi.org/10.29329/agripro.2021.344.3>

### Introduction

Agriculture; It is an indispensable field of activity that meets the most basic needs of people such as nutrition and clothing, which is defined as the production of plant and animal products, increasing their quality and efficiency, protecting, processing, evaluating and marketing under appropriate conditions. The agricultural sector, which has become one of the most important sectors in the world, is the sector with the highest employment after the service sector and is an important economic activity area especially in developing countries (Anonymous, 2010).

Today, a large part of the population lives in rural areas in almost all countries except developed countries. The fact that a significant part of the population is engaged in agriculture is certainly not a sign that those living in rural areas are fully employed or earn enough to earn their living. In addition, in many developing countries, the agricultural sector is a sector

where important social problems arise and grow gradually (Anonymous, 2010) Turkey is one of the most suitable countries for agricultural activities in terms of its climate zone and local structure. In our country, intensive and intensive expression in the stages of growing agricultural products. Families who do not have sufficient income level seek employment by migrating to regions where agricultural labor is needed in order to work during planting and harvesting times when agricultural work is intense (Bülbül, 1982).

The most obvious form of seasonal employment or unemployment is seen in agricultural areas where production is largely dependent on natural conditions. In the field of agriculture, which opens up a wide range of work opportunities at the time of sowing or during the harvest season, employment opportunities suddenly shrink and unemployment occurs outside of the planting and harvest seasons. In these periods, when seasonal activities are at their fastest, the

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agricultural workforce is not sufficient to carry out agricultural activities, while a significant part of the same workforce is unemployed during the dead season becomes (Ekin, 1971).

Seasonal agricultural production and the need for intensive labor in the production process require seasonal employment of agricultural workers. Seasonal agricultural workers, which are defined as workers who migrate from one place to another for agricultural production and return to their homes at the end of the season, are expressed as the heart of sustainable agricultural production. Almost half of the world's workforce (estimated 1.3 billion employees) is engaged in agricultural activities. According to the October - 2017 statistics of the Turkish Statistical Institute (TSI), 19.3% of the workforce employed as 28 million 645 thousand people is agricultural workforce. According to the Parliamentary Research Commission Report (2015), seasonal agricultural work in Turkey It is a very large sector, including female, children, and the elderly, which make up about half of the 6.3 million agricultural workforce (PRCR, 2015; TSI, 2016).

Seasonal agricultural workers are a poor group who do not have health insurance, whose monthly income is below the minimum wage, and who share these scarce resources with a large household. More than 60% of the world lives below the poverty line, at least 80% of them do not have social security and 70% of them live below the poverty line. It has been revealed in various studies that. Seasonal agricultural workers are living in the world where premature deaths and diseases are high due to unsuitable living conditions and housing conditions, lack of basic sanitation, inadequate unbalanced nutrition, accidents and injuries, pesticide cultivation, extreme heat and cold, lack of access to services, and those who are exposed to the worst conditions of working life considered as a group experiencing all dimensions of social exclusion. Working and living conditions increase the inequality in the working life of seasonal agricultural workers and significantly endanger their health and safety (Kümbetoğlu & Çağa, 1994).

Seasonal agricultural workers are one of the disadvantaged groups due to the difficult conditions in their working life. In our country, approximately 300 thousand people leave their homes and travel to places thousands of kilometers away with unsuitable vehicles, live in shelters that can be called primitive, are faced with malnutrition and work for very low wages. In addition, the lack of social security increases health problems and future anxiety. The education of children, on the other hand, is a problem that has never been addressed (Bora, 2012).

Seasonal agricultural workers in Turkey are workers who do not have the opportunity to work in the labor market and seasonally go to regions with more agricultural job opportunities because they cannot obtain sufficient income from their own agricultural enterprises. The fact that a significant part of the households in Turkey's agriculture is landless suggests that the number of these workers, who have no alternative but to sell their labor, is quite high. These people earn their living either as agricultural workers or by tenancy/partnership. In addition, households who cannot earn

enough income in the cities go to the regions where there are more agricultural job opportunities as seasonal agricultural workers in order to earn their livelihood. These workers work in physically and mentally challenging environments due to the unique characteristics of agricultural production and mobile work conditions. Seasonal workers are mostly unregistered and lack any form of social security. For employers, these workers are cheap, precarious, and replaceable, flexible workforces (Işık & Pınarcıoğlu, 2012).

Some of the seasonal agricultural workers come to a certain region and work there for a certain period of time and return to their hometowns, while others migrate from city to city according to the product throughout the year. Seasonal migration in Turkey is generally based on industrial crops such as cotton, tobacco and sugar beet is taking place. Hundreds of thousands of seasonal agricultural workers from Eastern and Southeastern Anatolian regions, together with households, migrate to Çukurova, Black Sea, Aegean and Central Anatolia regions, especially during hoeing, irrigation and harvesting of cotton, hazelnut, tobacco, tea, sugar beet and grape plants. Although the exact number is not known, it is estimated that there are about 1 million seasonal agricultural workers in Turkey. In recent years, it is seen that not only seasonal agricultural worker migration from the Eastern Regions to the West, but also a reverse migration movement has occurred. In fact, it is known that in this migration movement that took place, not only refugees from the West to the East, but also those who had to leave their countries such as Syria, who had the advantage of cheap labor and were trying to earn a certain income, migrated from their regions (Gülçubuk et al., 2003).

Almost all of the family members working in seasonal agricultural labor started with the participation of female in working life. Historically, female's participation in working life in the world has gone through long processes. When we look at it, in the mentality of people from the past to the present, the place of woman is at home, she is responsible for taking care of her family, husband and children, she lives under male domination, her understanding is dominant. The transition to a settled life with agriculture did not change the secondary status of female (Doğan & Kaya, 2013).

There are various economic and social reasons such as education, rising wages, technology and decreasing birth rates among the reasons for female's participation in the workforce at increasing rates throughout the historical process. The increase in the education level of female brings with it both the increase in the age of marriage and the fact that female begin to gain bargaining power at home. In addition, due to the improving working conditions and rising wages in the historical process, the job market has become more attractive to female; because the alternative cost of not working under these conditions is increasing. On the other hand, the increasing cost of living conditions, especially in urban areas, necessitates the participation of female in the labor market. In addition, with technological developments, female is able to both work and do housework, which is seen as their "homework", relatively more comfortably and with less time spent. Beyond that, the modernization that comes with the increase in the education level of both men and female has

begun to change the entrenched gender gap, albeit slowly, and the decrease in fertility rates, again with the effect of education, has enabled female to increase their presence in the labor market (Doğan & Kaya, 2013).

However, despite all the positive developments, the female workforce still lagged behind the male workforce and could not get rid of the secondary workforce status (Ecevit, 2010).

Since most rural female is often unable to attend school or not at all, there is no alternative employment alternative. Therefore, most of the female in rural area have started to work in seasonal agricultural labor in order to contribute to the household economy with their families. However, there are not only female but also children who have never started their education life or who have to work in seasonal agricultural labor with their families while continuing their education. Child labor, which is one of the most important problems of working life; It is defined as "work that often prevents children from living their childhood, diminishes their potential and dignity, and is harmful to their physical and mental development".

Agricultural work is among the "worst forms of work" for children. In addition to risks such as sun exposure, insect bites, contact with agricultural chemicals, bending over, carrying heavy loads, children as mobile seasonal agricultural workers face many risks such as living in nylon tents, not being able to eat enough, not being able to access clean water, not going to school. Another danger for children working in agricultural areas is the risk of contracting parasitic and other infectious diseases. One of the most important problems of agricultural worker children is long working hours. The working hours of children working in agriculture are above the average and can reach 60 hours per week.

According to the "Global Estimates of Child Labor Report" prepared by the International Labor Organization (ILO, 2004), it is noteworthy that there are still 152 million child workers worldwide, of which 73 million are in "dangerous" jobs. Agriculture has the highest share in the distribution of children working in Turkey by sectors. While 45% of child workers work in agriculture, 31% are employed in the services sector and 21% in industry. Especially, the rate of girls working in agriculture is 58%, which is above the general average. Children aged 6-14 years account for 66 percent of the increase in child employment in agriculture and 90% of the increase in unpaid family workers. It is this increase in the number of child workers aged 6-14 that causes the increase in child labor in total. A significant portion of children working in agriculture are seasonal migrant agricultural workers and children who have to migrate with them. From 2013 to June 2018, 168 of 319 child occupational homicides occurred in the agriculture-forest sector. Agricultural occupational homicides, which are 53 percent of the total occupational homicides, were mostly experienced due to traffic accidents, followed by drowning and poisoning. Children who are transported to the fields die by drowning or poisoning in car crates or in the water they enter to cool off. 3 out of every 5 children who died in the field of agriculture died while working as seasonal agricultural

workers or shepherds. The basis of labor resources in seasonal agricultural work is established through female and child labor. On the other hand, farm children also have completely unpaid family labor. Especially in this field, the working age has fallen below 10. Among the children who lost their lives, there are also children who are 5 years old (ISIG, 2018).

Considering the general situation of seasonal female's and child labor; In Turkey, it is seen that the segments that tend to get rid of poverty and meet family needs through seasonal agricultural work as a survival and subsistence strategy are especially concentrated in Eastern and Southeastern Anatolia Regions (Şen & Altın, 2018). As a matter of fact, these regions include the settlements where rural poverty is most severe in terms of small commodity producers and wage workers. Terrorism, crowded household population, high and chronic unemployment, low investment level, industry and service sectors not providing sufficient job opportunities, blood feuds etc. Regional characteristics, such as local characteristics, have severely limited the opportunities for work and livelihood in the place of residence. While the immigration resorted to feed the reserve army of wage workers settled in the cities, this segment has turned into an indispensable cheap labor army for domestic capital. While some of the workers work in the informal sector, which is insecure, low-paid and high-risk, in the centers or districts of large cities, another part of them has turned to seasonal agricultural work (Yıldırım, 2016).

In general, seasonal agricultural work includes a form of work and migrant labor, which is estimated to reach 3-4 million in Turkey and that irregular migrants and refugees (refugee families) who have recently come to our country, mainly from the Syrian region, also tend. The province of Mardin, on the other hand, is a province that both receives and sends immigrants in seasonal agricultural work. Mardin Province is located in the upper Mesopotamian Basin of the Southeastern Anatolia Region. It is a province bordering the Syrian State and covers 1.1% of the country's territory with an area of 8891 km<sup>2</sup>. Vegetable and animal activities are very important in the economy of Mardin province. A large part of the total gross product is obtained from agriculture and animal husbandry. Grain production generally takes the first place in terms of increasing the diversity of the products produced. In order to increase agricultural production in the province, product change studies are continuing rapidly. With the introduction of the GAP (Southeast Anatolia Project) at the end of 2013, the irrigated agriculture will both disappear and the second crop has increased in planting throughout the province, and therefore production has increased in parallel. In this context, cotton production has become an indispensable product for the province in question. The province of Mardin is a place that migrates for agricultural labor and partially receives migration during the cotton harvest. Families living in Mardin districts and villages of the districts and especially refugee Syrian families from outside the province come to the cotton production enterprises of the district during the cotton harvest to work as seasonal workers. With the harvest starting from September-October to mid-November for the cotton harvest, the cotton harvest is an important source of income for the local and seasonal agricultural workers of Mardin. In this

context, the province of Mardin, where cotton farming is carried out intensively, was chosen as the working area and the factors that affect the seasonal female working in cotton farming and the female working with their children to do this job were tried to be determined. It is thought that the study will be beneficial in order to find solutions to the problems of female and child labor in the investments made in Turkey in general and to guide rational planning within the province.

## Materials and Methods

The primary data sources of the research are survey data obtained by face-to-face interviews with 150 seasonal female workers, which were determined by simple random sampling method in Artuklu, Derik, Kızıltepe, Nusaybin and Savur counties where cotton is produced in Mardin province and their villages. Statistical data obtained from the Forestry Directorate consist of time series data obtained from institutions such as the Food and Agriculture Organization of The United Nations (United Nations Food and Agriculture Organization), Turkish Statistical Institute, and data obtained from national and international studies on the subject.

The main population of the research consists of seasonal female workers working in cotton farming in Mardin province and female workers working with their children under 18 years of age. This study was carried out to determine the factors that affect the cotton harvesting work of female and their children under the age of 18 to do this work.

In determining the number of people surveyed, Simple Random Sampling Method was used based on the number of enterprises engaged in cotton farming in line with the 2018 production data obtained from the Mardin Provincial Directorate of Agriculture and Forestry, and the number of surveys was determined. In determining the number of seasonal workers surveyed in the study, it was studied within 5% margin of error and 95% safety limits (Çiçek & Erkan, 1996). As a result of the calculations, the number of surveys to be made was determined by the formula below.

$$N = \frac{Nz^2\sigma^2}{d^2(N-1) + z^2\sigma^2}$$

In the formula;

n = sample volume,

N = Total number of units of the sampling frame

$\sigma^2$  = Population variance

d = Acceptable error ( $\bar{x} \pm 0.05$ )

z = It shows the Z value in the Standard Normal Distribution table according to the acceptable error rate

According to the sampling results, the total number of surveys conducted in the region was calculated as 137. However, considering the inaccuracy or missing data in the data to be obtained from the survey study, the sample volume was expanded by 10% to 150. It was carried out in 5 districts, namely Artuklu, Derik, Kızıltepe, Nusaybin, and Savur. The number of surveys conducted in these districts was determined by proportioning the cotton numbers in the districts.

In the study, the data obtained through the questionnaire were used in crosstab analysis in order to reveal the characteristics of the employees, in the CART analysis in the SPSS program to determine the factors that are effective in the work of female and child workers, and in the probit model analysis with the LIMDEP statistical program. Factors affecting female and female working with their children in doing this job were determined. Therefore, the model was estimated by the probit method used in the estimation of the limited dependent variable model. The functional state of the model is shown below.

$$Y = f(X_1 X_2 X_3 X_4 X_5 X_6 X_7)$$

Y: Those who work in cotton harvesting (Female: Children under 018 years: 1)

X1: Female characteristics

X2: Age of Employee

X3: Nationality (TC: 1, Others: 2)

X4: Marital Status (Married: 1, Single: 2, Widowed: 3)

X5: Days Worked per Year

X6: Social Security Status (Yes: 1, No: 0)

X7: Whether the Wage He Gets is Rewarded for His Labor (Yes: 1, No: 0)

## Results

The survey study on the dimensions of seasonal female and child labor use in cotton farming in the province of Mardin was conducted by interviewing 150 seasonal female workers in 5 districts, namely Kızıltepe, Derik, Nusaybin, Midyat and Savur. The socio-economic characteristics of the employees participating in the survey are given in Table 1 It is seen that the group with the highest average age of the surveyed employees consists of the age group of 31-50 with 55.3% (83 employees).

27.3% of the female working in cotton harvesting are Turkish citizens and 8.0% are other nationalities. Considering the female working with their children, 50.0% are Turkish citizens and 14.7% are other nationalities. Looking at the general total, 77.3% of the employees are Turkish citizens.

22.0% of female working in cotton harvesting stay at home, 12.7% in tents and 50.7% in other places. Considering the female working with their children, 34.7% stay at home and 30.0% stay in a tent. In general, it has been determined that 56.7% of the employees stay at home.

4.7% of female working in cotton harvesting stated that they provide transportation by their own vehicles, 2.0% by bus and 28.7% by rented vehicle. Considering the female working with their children, 9.3% stated that they provide transportation by their own vehicles, 8.0% by bus and 47.3% by rented vehicle. Looking at the general total, it has been determined that the highest 76.0% of them travel with a rented vehicle.

While 28% of the female working in the cotton harvest business signed a contract, 7.3% did not. Considering the female working with their children, 53.3% signed a contract, while 11.3% did not. Overall, the highest 81.3% of the employees signed contracts.

While 0.7% of female working in cotton harvesting take occupational safety precautions, 34.7% do not take occupational safety precautions while working. When we look at the female working with their children, 14.0% of them take occupational safety precautions while 50.7% of them do not

take occupational safety precautions. In general, 85.3% of the employees do not take occupational safety precautions while working.

While 2.0% of the female working in the cotton harvest business have social security, 33.3% do not have any social security. When we look at the female working with their children, 4.0% of them have social security while 60.7% of them have no social security. In general, 94.0% of the employees do not have social security.

**Table 1.** Socio-economic characteristics of the employees participating in the survey

Variables	Groups	Female		Female working with her child		Total	
		N	%	N	%	N	%
Age groups	15-30	46	30.7	1	0.7	47	31.3
	31-50	7	4.7	76	50.7	83	55.3
	51-70	-	-	19	12.7	19	12.7
	71<	-	-	1	0.7	1	0.7
	<b>Total</b>	<b>53</b>	<b>35.3</b>	<b>97</b>	<b>64.7</b>	<b>150</b>	<b>100.0</b>
Nationality	TC	41	27.3	75	50.0	116	77.3
	Other	12	8.0	22	14.7	34	22.7
	<b>Total</b>	<b>53</b>	<b>35.3</b>	<b>97</b>	<b>64.7</b>	<b>150</b>	<b>100.0</b>
Place of stay	Home	33	22.0	52	34.7	85	56.7
	Tent	19	12.7	45	30.0	64	42.7
	Other	1	0.7	-	-	1	0.7
	<b>Total</b>	<b>53</b>	<b>35.3</b>	<b>97</b>	<b>64.7</b>	<b>150</b>	<b>100.0</b>
Transportation	Own tool	7	4.7	14	9.3	21	14.0
	Bus	3	2.0	12	8.0	15	10.0
	Rented vehicle	43	28.7	71	47.3	114	76.0
	<b>Total</b>	<b>53</b>	<b>5.3</b>	<b>97</b>	<b>64.7</b>	<b>150</b>	<b>100.0</b>
Contact signing status	Yes	42	28.0	80	53.3	122	81.3
	No	11	7.3	17	11.3	28	18.7
	<b>Total</b>	<b>53</b>	<b>35.3</b>	<b>97</b>	<b>64.7</b>	<b>150</b>	<b>100.0</b>
Status taking occupational safety precautions	Yes	1	0.7	21	14.0	22	14.7
	No	52	34.7	76	50.7	128	85.3
	<b>Total</b>	<b>53</b>	<b>35.3</b>	<b>97</b>	<b>64.7</b>	<b>150</b>	<b>100.0</b>
Social security status	Yes	3	2.0	6	4.0	9	6.0
	No	50	33.3	91	60.7	141	94.0
	<b>Total</b>	<b>53</b>	<b>35.3</b>	<b>97</b>	<b>64.7</b>	<b>150</b>	<b>100.0</b>

CART analysis results in the Figure 1; It has been determined that the most important factor affecting the annual income level of female working in the cotton harvest is the annual working period of the cotton harvest. The incomes of those who think that there are changes in meeting the needs of the house and children (who are considered important in the 2nd and 4th ranks) and in paying their debts have increased and their incomes are significantly affected by these factors.

CART analysis results in the Figure 2; It has been determined that the most important factor affecting the annual income level of female working with their children under the age of 18 in the cotton harvest is the education level of female. The fact that the fee is greater than 45 ₺ affects these factors significantly.

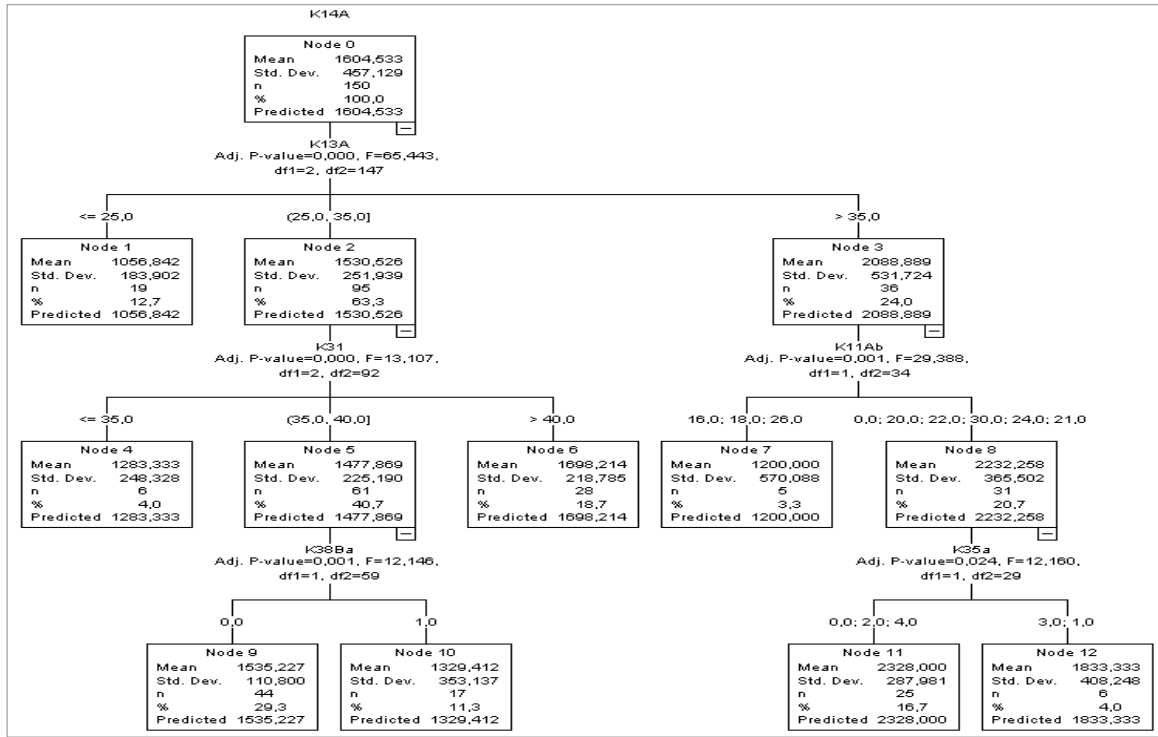


Figure 1. Factors affecting female's annual income level, CART model (Growing method: CART, Dependent variable: Factors affecting female's annual income level, K14A: Annual income from cotton harvesting [₺], K13A: Annual working time [months], K11Ab: Age of working child under 18, K35a: Whether there is a change in economic status [Yes: 1, No: 0], K31: Last year's daily fee [₺], K38Ba: Contract signing status with employer or ambassador [Yes: 1, No: 0]).

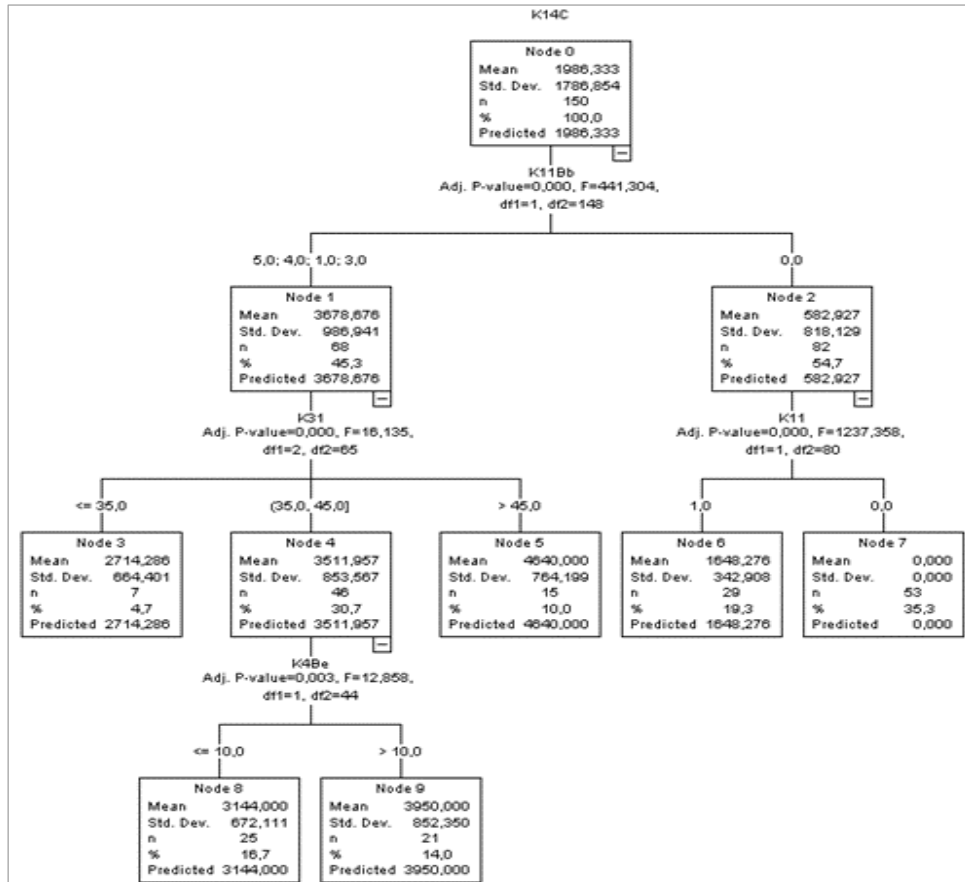
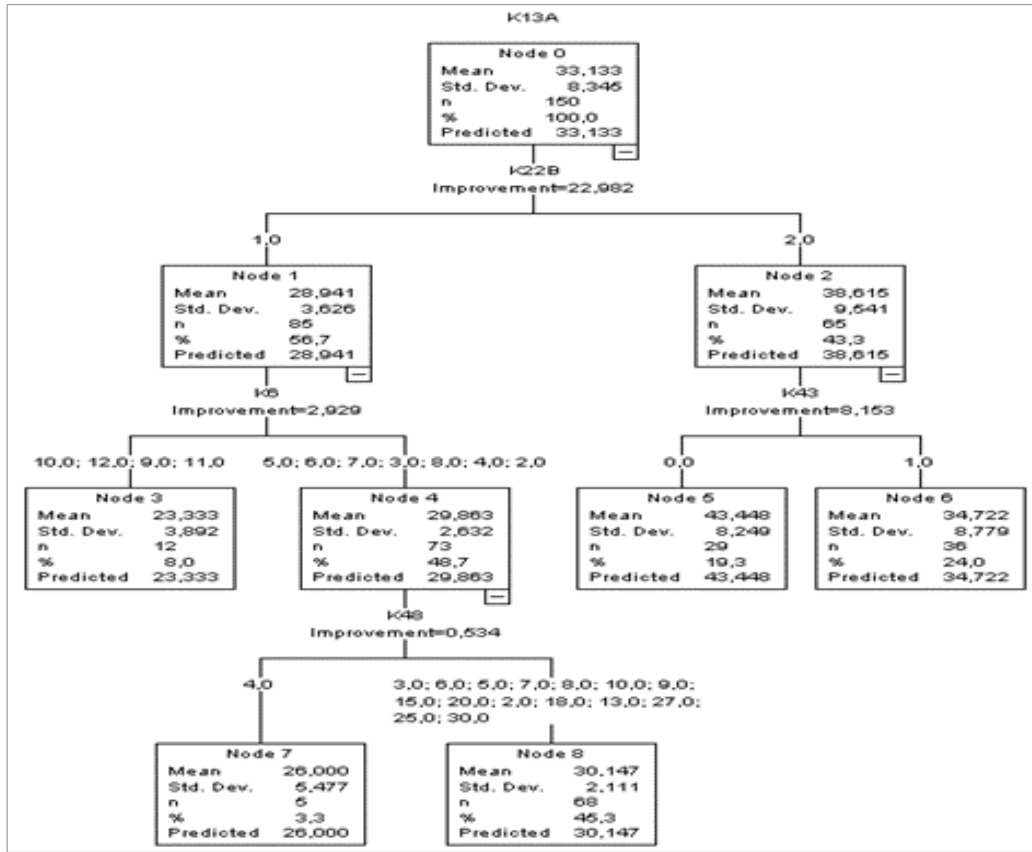
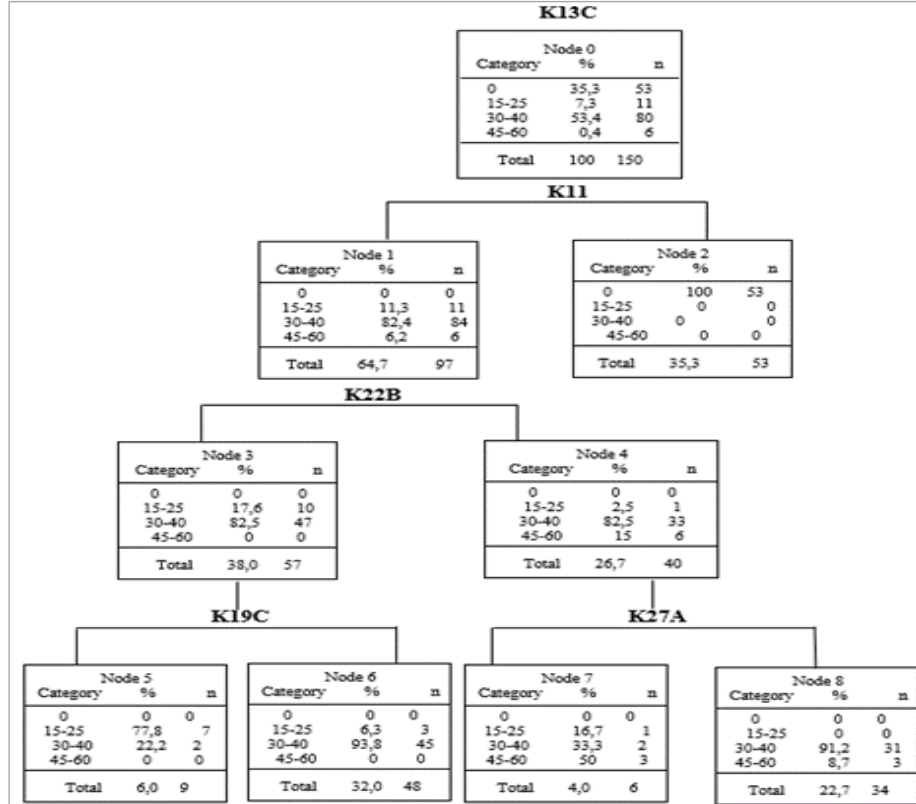


Figure 2. Factors affecting the annual income level of female working with their children, CART model (Growing method: CART, Dependent variable: Factors affecting annual income level of working female, K14C: Annual income from cotton harvesting [₺], K11Bb: Education level of female working with children under 18 [Illegal, primary, secondary, high school], K11: Satisfaction status of working female with children under 18 [Yes: 1, No: 0], K31: Last year's daily fee [₺], K4Be: Age of the employee's 2nd child, if any).



**Figure 3.** Factors affecting the annual working time of female, CART model (Growing method: CART, Dependent variable: Factors affecting female's annual working time, K13A: Annual working time [months], K22B: Working time in cotton harvest [months], K6: Total number of individuals in the family, K48: How many years do you consider working as a seasonal worker?, K43: Whether or not he has a house of his own [Yes: 1, No: 0]).



**Figure 4.** Factors affecting the annual working time of female working with their children, CART model (Growing method: CART, Dependent variable: Factors affecting annual working time of working female with children, K13C: Annual working time [months], K11: Satisfaction status of working female with children under 18 [Yes: 1, No: 0], K22B: Working time in cotton harvest [months], K19C: Seasonal withdrawal from work in case of another job opportunity [Yes: 1, No: 0], K27: Finding a cotton harvest job [own, agent-ambassador-sergeant, other]).

CART analysis results in the Figure 3; The most important factor affecting the annual working time of female working in the cotton harvest is how many days a year they work in the cotton harvest. It can be said that these variables are important in the number of days worked in the cotton harvest by female who work more than 2 months per month and do not have their own house.

CART analysis results in the Figure 4; It has been determined that the most important factor affecting the annual working time of female working with their children in the cotton harvest is that at least 1 child works in cotton harvesting. The number of days worked by female who work with their children is affected by the fact that at least 1 child works in cotton harvesting and spends time in this job for 1 month, and the number of days worked by female who consider longing for their relatives as 4th and 5th important.

In general, the probability of the dependent variable in probit models is explained by increasing the independent variables by one unit, or in other words, by marginal effects. The estimated model of the dependent variable in the study of whether there are female working with their children in the cotton harvesting business is given in Table 2. In the study, it was determined that while the age and marital status of the employee were important at the 1% significance level, variables such as the employee's nationality and social security status were important at the 5% significance level. In the estimation model, it is observed that there is a negative

relationship between the employment status and marital status of the female working with their children, and a positive relationship between the age, nationality and social security status of the female working in the cotton harvesting business. Having a nationality other than Turkish Republic increases the number of children under the age of 18 working in this job. This shows that mostly Syrian families work with their children. It increases the probability of working for children under the age of 18 of people with social security other than SSI (green card, etc.). However, being married reduces the possibility of a child under the age of 18 working. In probit models, we should look at the "marginal effects" of the variables to show how this change will have an effect on the probability of the dependent variable by increasing the independent variables by 1 unit. Marginal effects show us how the effect of this will appear on the dependent variable by increasing the independent variable by 1 unit. According to the chart, when the marginal effects of the data are taken into account, the age of the employees is one more year, the probability of working for children under the age of 18 working in the cotton harvest is 6%, the probability of having a child under the age of 18 is 0.29%, and the probability of having a child under the age of 18, etc. It has been observed that having social security, such as a child under the age of 18, increases the probability of working by 71%, while being married reduces the probability of working in the cotton harvest for a child under the age of 18 by 27%.

**Table 2.** Probit model estimation results of whether female work with their children in the cotton harvest business

Variables	Coefficient	Standard Error	Marginal Effect
Constant	-17.140	0.026	-4.510
Employee's Age	0.230***	0.010	0.060
Employee's Nationality	1.113**	0.490	0.293
Employee's Marital Status	-1.029***	0.041	-0.270
Employee's Social Security Status	2.716**	0.274	0.714
Annual Working Time	0.006	7.994	0.001
Daily wages	0.040	4.319	0.010
Status Situation of Remuneration	0.852	2.286	0.224

\*\*\* %1 significance level, \*\* 5% significance level

## Discussion

Economic sectors are generally divided into three parts: agriculture, industry and services. Although the ratio of those working in the agricultural sector is gradually decreasing due to development; Agriculture still maintains its characteristic of being an important sector in meeting the basic needs of the population, especially in nutrition, and in rural development. The rate of workers in the agricultural sector in our country is around 20% (5.4 million) of the total employment in 2015 (TSI, 2016), and it is stated that approximately half of this is seasonal agricultural workers (PRCR, 2015). For seasonal migrant agricultural workers in our country, it is very difficult to give an exact number since they are generally unregistered. However, in some studies, figures such as 300 thousand (PRCR, 2015), 485 thousand (Selek Öz & Bulut, 2013) and 546 thousand

(Çelik et al., 2015) are expressed. When children are added to this, their number is estimated to be around 1 million (PRCR, 2015).

However, seasonal migrant agricultural work has become an important sector not only in our country but also in other countries of the world. As a matter of fact, in a study, it was stated that waged agricultural workers working in the agricultural sector worldwide constitute 40% of the total employment in the sector (Hurst et al., 2007). In a study based on official data from the USA, it was stated that 2.5 million people work in agriculture annually in the country, of which approximately 1.4 million are migratory and temporary seasonal agricultural workers, especially those coming from abroad (ILO, 2004; Donham & Thelin, 2016).



Seasonal agricultural labor is a form of seasonal labor to meet the labor shortage in agricultural production. Two different aspects of this craftsmanship, temporality and wandering, draw attention (Özbekmezci & Sahil, 2004). Accordingly, we come across two different terms: seasonal migrant agricultural worker and seasonal local agricultural worker. Seasonal migrant agricultural workers are the labor force group that moves mostly with their families from one region to another agricultural area, according to the crop pattern and worker demand, when agricultural work is intensified (Semerci et al., 2014).

Seasonal local agricultural workers, on the other hand, can be defined as workers who live in their own settlements and participate in agricultural activities for a short time, working in return for wages, salaries or daily wages (Beleli, 2013).

Based on the definitions mentioned above, seasonal migrant agricultural workers can be defined as real persons who come from outside the region where agricultural production is carried out and work at any stage of agricultural production, with or without a contract, in return for wages (Görücü & Akbıyık, 2010).

While some of the academic studies on seasonal migratory agricultural work are about seasonal agricultural workers coming to a certain area; some include their legal status (Selek Öz & Bulut, 2013), working and living conditions (Özbekmezci & Sahil, 2004; Görücü & Akbıyık, 2010; Şimşek, 2012; Kaya & Özgülner, 2015) female's life difficulties (Çelik et al., 2015); focused on a number of issues, such as child labor exploitation and education issues (Gülçubuk et al., 2003). Another part of the studies on this subject consists of studies in the form of reports prepared by various organizations. Although these are quite comprehensive and based on on-site observations, seasonal workers in the province of Mardin and the cotton harvest were excluded from the scope of these studies.

## Conclusion

Since seasonal agricultural workers are unregistered employment, they could not find a place in the agenda of the legislation, regulations and relevant institutions. In today's conditions, where the number of seasonal agricultural workers is increasing, the agricultural policies that cause this number are the subjects that should be investigated primarily. After January 24, 1980, a policy change emerged that would make agricultural production subject to market conditions. The way for imports has been cleared, input subsidies have been removed, product price support has almost ended and its scope has been narrowed. Input costs in agriculture have increased. Due to the conflicts that have been going on for years, the state of emergency, the village evacuation, and the lack of land reform, few landed and landless peasants have been added to the city of Mardin. Each of these has brought about an increase in the number of seasonal agricultural workers. These reasons are increasing rather than disappearing. As a result, seasonal agricultural work has become a family business as the only way to live and work. Seasonal agricultural work has become a source of livelihood for poor families working in cotton farming in Mardin, by migrating to other seasonal

agricultural regions at certain times of the year, and by working with local products in their own country at certain times. Recently, with the increasing refugee Syrian family population in Turkey, there has been an increasing labor demand for agricultural products in the province of Mardin.

- As can be understood from the results of the analysis, the factors that affect the female working in the cotton harvest and their children under the age of 18 to do this work are explained. Employees are generally low-educational, uninsured and unregistered workers, trying to live in primitive places such as houses and tents, deprived of environmental cleanliness and hygienic conditions, and deprived of social and cultural life activities.

- For this purpose, suggestions and measures that can be taken to guide policy makers in order to improve the living conditions of seasonal workers working in the cotton harvest in Mardin province can be listed as follows.

- Arrangements should be made to enable seasonal agricultural workers to unionize and bargain collectively.

- It is necessary to improve the current situation of seasonal migrant agricultural workers in terms of social security, to make the employment contract in agriculture compulsory, to pay wages for business intermediaries and landowners/workers, and to benefit from universal health insurance.

- In order for the children of the compulsory education age to reach the education services, the children of the workers who are in the compulsory education age should be admitted to the Regional Primary Boarding Schools in their own regions or the places they go as guest students or in the places where seasonal agricultural works such as transported education are carried out, such as courses, schools, etc. Children are required to attend school by choosing the most appropriate opportunity.

- Measures should be taken for the preparation of exposure to pesticides and chemicals from agriculture, to be raised and to health services, free public health center, shelter and living will be provided to live in a humane way, bathrooms, toilets, etc. should be provided. ensuring that places are appropriately suited and you are informed about business development. "Consolidated Temporary Settlement Areas" can be created for sheltering in adequate, safe and healthy accommodation areas such as container houses instead of tents in primitive conditions.

- It can be ensured that the workers can travel safely and healthily during the migration season, and the road safety can be increased during the transportation of seasonal agricultural workers from their residences to the places where they will work and from the field to the accommodation area.

- Ensuring the safety of accommodation areas and seasonal agricultural workers, taking effective measures to prevent illegal agricultural work of foreign nationals, and security awareness raising activities can be carried out in Mardin, which is a place of immigration and immigration.

Measures should be taken for the socialization of seasonal migratory agricultural workers, awareness-raising activities and social cultural activities can be carried out in order to prevent all kinds of social exclusion and to ensure social cohesion.

### Acknowledgment

This research is a part of the Master's thesis of Sevgi Bağirtan.

### Conflict of Interest

The authors declare that they have no conflict of interest.

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