

Full Length Research Paper

Gender analysis in agricultural enterprises producing early potatoes in the Adana province of Turkey

Müge K. Davran^{1*} and Naciye Tok²

¹Department of Agricultural Economics, Faculty of Agriculture, University of Çukurova, 01330 Adana-Turkey.

²Adnan Menderes University, Atça Vocational High School, Adın-Turkey.

Accepted 19 March, 2019

Given gender, there exists an unequal social structure between women and men related to education, division of labour, occupation structure etc. This discrimination is rather sharp especially for women working in the agricultural sector and the agricultural enterprises in Turkey, which produce early potatoes, which can be taken as a good example for this paper. In this study, the gender structure in the enterprises in Adana, producing early potatoes was analysed in terms of the owner of the enterprise and his wife and women working as agricultural workers and their spouses. The data was obtained in the villages producing early potatoes in the years 2008 to 2009 through individual interviews and statistical analysis. As a result of the study, it is evident that women are generally oppressed; moreover, female seasonal workers have certain disadvantages compared to both men and their counterparts living in urban areas.

Key words: Gender, seasonal women worker, division of labour, early potato, Turkey.

INTRODUCTION

In Turkey, there has been a significant increase in the farmland where potatoes are produced and their yield over the years; Turkey now provides 2% of the potato production in the world (FAO, 2004). The potato is the second most significant staple food for feeding man after wheat, and nutritionally it has the second highest level after eggs (TBMM, 2004). Since Turkey has the most profitable plant where it is produced, it is a significant source of income for the producers (Ario lu et al., 2006). Besides being an important source of income, the early potato has another importance in that it is supported by family labour. As the potato needs hoeing, it ultimately appraises the dormant labour in the enterprise, especially in terms of women's labour. Hoeing, in which women's labour is intensely used from cultivation to harvest, is typical women's work. In addition, seasonal women workers are mostly employed in such enterprises, rather than the owner's spouse. One of the most important reasons for this is that enterprises have certain sizes.

It was proved in a study carried out by Kantar (2000) that because the enterprises in Adana are of a certain size, a significant numbers of owners' spouses have no interest in agricultural activities and they are housewives. Although seasonal women workers are mostly used in production as well as being indispensable, there is an unequal structure between women and men in terms of gender. The same unequal structure exists between the owner of the enterprise and his spouse. This case is evident in the enterprises producing potatoes. The unequal gender structure between men and women, the distribution of the income, division of labour by gender, poverty etc are cases that are acknowledged and included in their programmes by such international organisations as FAO (2010), IFAD (2000) and UNDP (2010). As a consequence of the gender structures particularly in rural areas, there is a division of labour by gender in almost all parts in agricultural activities.

According to the results of the studies carried out in Turkey, was determined that women work in labour-intensive production, whereas men work in mechanical and market-based production (Morvaridi, 1992; Ertürk, 1991 and 1994; World Bank, 1993; Kantar, 2000; Yildirak et al., 2003; Gündüz-Ho gör and Smiths, 2006; Davran et

*Corresponding author. E-mail: mkantar@cu.edu.tr. Tel: +90.0322.3386441. Fax: +90.0322.3386441.

al., 2008; FAO, 2010). It is obvious that such a division of labour is a consequence of social structure. Gender approach suggests that the roles men and women have are granted by the society in which they live (Demir ve Acar, 1993) and there is an unequal structure between men and women (Marshall, 1999). The unequal structure between men and women is proved by the gender analysis. The gender analysis examines the differences in men and women's lives, it deals with the reasons for social and economic inequality and aims to provide positive change for women (www.gdrc.org).

The gender analysis is a social study carried out in order to understand the different roles, sources and kind of needs and priorities that men and women have (FAO, 2010). Starting from the point that women's labour is mostly used in early potato production, the purpose of the study is to analyse the gender structure in the enterprises producing early potatoes in Adana in terms of the owners of the enterprise and their spouses as well as seasonal women workers and their spouses.

MATERIALS AND METHODS

The choice of investigation area

Adana, which produces a significant amount of early potatoes, was chosen as an investigation area. Adana is the only production center in the Mediterranean region. The official documents belonging to the city were examined and all the towns where the production is dense were included in the study. According to the data of the directorate of the Ministry of Agriculture, 64,250 tons out of 80,015 tons of total potato production is early production (TKB, 2006) and 95% of the production is in Yüre ir, Seyhan, Ceyhan, mamolu and Yumurtalık, which are the towns of Adana. A roughcast list was obtained by means of determination of the total numbers of the agricultural enterprises producing early potatoes in the located villages through purposive sampling.

A "Stratified Sampling Method (Neyman method)" was implemented on the list obtained. Stratified sampling method is a classical survey-sampling technique, which is used to estimate population parameters efficiently when there is substantial variability between sub populations (Neyman, 1934). The villages that represented the investigation area were determined through "Purposive Sampling Methods" by means of the records of the Directorate of the Ministry of Agriculture in Yüre ir, Seyhan, Ceyhan and mamolu and the opinions of technical staff and the early potato producers in the area, who are arbiters, were taken into consideration.

On the strength of the data obtained, 11 villages, Kizildere, Kürkçüler, Küçük Dikili, Sarıhuvarlar, A zı Büyük, mamolu (centre village), Misis, Zeytinli, Karao lan-Camili, Gemisüren and Ali Hocalı were included in the study.

The choice of the enterprise

With the aim of finding proper stratum classes and sample sizes, based on the potato cultivation areas, alternative models were examined and it was determined that working on four strata were appropriate. The size of the stratum was determined at 1 to 50, 51 to 150, 151 to 300 and 300+ acres. The numbers of the sample

determined were distributed to the strata by a "Rational Method" and it was determined that depending on the stratum width and the numbers of the enterprises (sample size) where the questionnaire should be applied were 58 according to the Neyman method and had a 95% reliability gap with 5% deviation from the mean. However, for the reliability of the study, 10% of the sample size (6) spare questionnaire were added to the sample size and it was determined that the sample volume should be 64 (18 for 1 to 50; for 2951 to 150; 11 for 151 to 300; 6 for 301+). Through interviews with 64 owners of enterprises, gender structure in the enterprise was determined.

The choice of seasonal workers

Seasonal workers are those who work in enterprises that stop business for some time in a certain period of year. It is a widespread employment method in such sectors as agriculture, food, industry etc (Emiro lu et al., 2006) . The precise numbers of the working employed are not known, as they have no registration at the official foundations. The owners of the enterprises gave permission for the interviews to be carried out with the seasonal women workers and 100 women voluntarily participated in the interview in person.

The quality of the data and the content of the questionnaires

The initial data of the main material of the study was constituted. The data was obtained as a result of the owners of the enterprises who produce early potatoes and the seasonal women workers who are employed in those enterprises through individual interviews. A questionnaire was prepared for the individual interviews. The content of the questionnaire is that there are items related to socio-economic characteristics (age, gender, place of birth, number of children, having a driving licence) and questions that reveal gender structure (education, occupation, first marriage age, the participation in the domestic decisions taken amongst the family and agricultural matters etc). In addition, there are items on division of labour depending on gender, wage, how the income is spent and controlled and childcare in the gender structure for seasonal workers.

The method applied during the data analyses

The data obtained as a result of the personal interviews were transferred to the computer and the distribution of the percentage, statistical methods seeking for identification and correlation were analysed. The researchers performed the questionnaires in 2008 to 2009. The data of the questionnaires applied in the investigation area were analysed via SPSS 15. Statistics identifying and seeking correlation were used and it was investigated whether or not there was discrimination depending on gender in the enterprises was examined during the study.

RESULTS

The producers in the investigation area have been cultivating early potatoes for 19.63 years on average. The size of the average cultivated area is 137.4 acres, which is higher than the average in Turkey of 61 acres (D E, 2004). The land where the early potatoes are cultivated is

Table 1. Educational level of enterprises' owners (male) and their spouse (women).

Education level	Women		Male		Total	
	Frequency (person)	%	Frequency (person)	%	Frequency (person)	%
Illiterate	7	100.0	-	-	7	100.0
Literate	10	62.5	6	37.5	16	100.0
Primary School	31	48.4	33	51.6	64	100.0
Secondary School	3	30.0	7	70.0	10	100.0
Lycee	11	50.0	11	50.0	22	100.0
University	2	22.2	7	77.8	9	100.0
Total	64	50.0	64	50.0	128	100.0
Average education year	5.47		7.09		6.28	

101.5 acres, which accounts for 73.9% of the whole cultivated area.

The socio-demographic characteristics of owners and their spouses

We can show the make-up of the owners of the enterprises in the investigation area (64) and their spouses: 57% of them live in a village and 43% of them (55) were born in an urban area. The average age of men is 52.02 and of women is 48.33. The majority of the owners of the enterprises and their spouses in the investigation area (89.1%; 57 families) live as nuclear families. The rest of the families live as extended (7.8%; 5 families) and dissolved (3.1%; 2 families). It was determined that each family had 4.05 children on average.

The gender analysis of the owners of the enterprises and their spouses

The educational background of the owners of the enterprises and their spouses is 50% (64), mostly elementary level. Their average education duration is 6.28 years, which is very low. Given gender, the education duration of women is lower than mens (Table 1). There is a correlation between gender and educational background. In the chi-square analysis carried out during the study, Pearson chi-square value is (10.083), and when it comes to the value p, which is ($p < 0.05$), it is evident that there is a correlation between educational background and gender. The level of the correlation is 0.28 (Cramer's V) and this value is statistically significant. As the places where the owners of the enterprises dwell and the land where they cultivate is rather far from each other, it was also examined whether they had driving licences or not. Whereas 87.5% of the women had no driving licenses, only 23.4% of men had

no licences. The men with no driving licenses commuted the land usually accompanied by their children. Only one of the women with a driving license commuted across the land on her own.

It was determined that women got married at earlier ages than men when the distribution of ages depending on gender was investigated. It was found that the average first marriage age is 20.33 for women, whereas for men this figure is 22.83. There is a correlation between the first marriage age and gender. Women constitute 74.1% of those who got married between 16 to 18 years and all those who got married between 13 to 15 years comprise women. In the chi-square analysis, the value of Pearson chi-square is (19.996) and when the value p ($p < 0.05$) is examined, it is evident that there is a correlation between the first marriage age and gender. The level of the correlation is 0.40 and the value found (Cramer's V) is statistically significant.

When the occupational structure of the owners of the enterprise in the investigation area was examined, it was found that 71.9% of them (46) deal simply with agriculture and 28.1% of them (18) deal with agriculture along with trade. The majority of women (90%, 58) are housewives and the numbers of women dealing with agriculture are rather low (7.8%, 5). Only one of the women is retired, having been a civil servant. 89.5% of the potential labour in a family is unproductive. The amount of using family labour in the enterprises is rather low. The group of enterprises in which family labour is used is in 1 to 50 land-size group (92.7%).

The Socio-demographic characteristics and seasonal women workers

The owners of the enterprises interviewed in the investigation area mentioned that women comprise 70 to 80% of the seasonal agricultural labour working in potato production and men comprised the rest. The information gathered from families also proves this fact and it was

determined that women comprise 74% of the seasonal agricultural labour working in potato production employed in the investigation area. Girls under 10 are not included in this ratio. As men often only deal with a certain kind of physical- effort based occupations, they are not required as much as women. Rather than what they occupy, men symbolise the head in the family.

The average age of the women interviewed is 25.4. Although some are under 15, the rate of women working/made to work is 14%. Half of the women are between 15 to 18 and 19 to 22.24% of the women are married, while 66% are single. The main reason why the number of married women are low is that families depend on the money their daughters make and; as a result of this, they have to work continually and they are not able to save any money for themselves. Average numbers of children for each family was found to be as 5.59. 53% of the women (18) have 6 or more children.

Accordingly, all the families of women interviewed in the investigation area depend mainly on agriculture. It was expressed that the reason why women have become seasonal workers is that 64% of them have no other source of income, 22% of men are unemployed and have no land to cultivate and families do not allow their married or single women to work in other sectors. The women interviewed mentioned that their families did not allow women to deal with other occupations and they were only allowed to work as seasonal workers for fear of negative rumours being spread about them.

Seasonal women workers and gender analysis

42% of seasonal women workers are illiterate, 38% of them are only somewhat literate and 20% of them are elementary school graduates. In other words, 80% of the women have no elementary school diploma. There is a contradictory correlation between women's age and educational background. As women's age increases, their literacy ratio decreases. In correlation analysis $r = -0.478$, which is significant at the level of 0.01. Although men's level of education in the investigation area is not that high, they have a better condition. In the Chi-Square analysis, the value of Pearson Chi-Square is (27,645) and when the value p ($p < 0.00$) is examined, it is evident that there is a correlation between the level of education and gender. The level of the correlation is 0.47 and the value found (Cramer's V) is statistically significant.

In terms of education, there is a difference between the spouses of owners of the enterprises and seasonal women workers. According to statistical analysis, there is a significant difference (Mann-Whitney U:1253.000; Z:-6.851; Asymp.Sig. : .000) . Seasonal women workers work for 103 days a year; 70% of them only deal with early potatoes production and then spend rest of their time doing housework. The other 30% of them either go

to certain places in the same region where tomatoes, melon, watermelon production are farmed, or they go to Ordu to harvest hazelnuts. Women work 12 h a day. Their working hours are between 7am and 7pm. Meanwhile, women are also in charge of food preparation and childcare. Women have to come to the land where they work together with their children, as they have no other family members to look after them, which causes failures in their children's education. Although men start work at the same time as women do, they are able to take rest breaks during the work.

While women in early potatoes production deal with plantation, hoeing, harvesting, putting potatoes into sacks and sewing the sacks, men help women to open the sacks and carry them to lorries. In addition, men deal with the irrigation of the plants. The irrigation in the investigation area does not require much technical knowledge and physical strength. In quite a general term, the valves by the land are turned on and plants are irrigated. It was determined that one women worker was employed in irrigation only in one of the enterprises interviewed in the investigation area. The owner of the enterprise employing a women worker mentioned that the women had been working as a permanent worker with his wife and knew everything including irrigation and started to do all the chores after her husband's death. While seasonal women workers have complaints about health as constant dizziness and some injuries in their hands during the harvest (cuts, blisters etc.), men do not appear to have illnesses caused by work. Although 68% of the women interviewed wanted to quit working as seasonal workers, they had no chance to do so as their husbands were unemployed; 10% of them mentioned that the men at home would not allow them to quit working due to economic reasons. All the women interviewed mentioned that this type of seasonal workers would also be carried out by their children.

The daily wage paid to women is determined depending on that year's criterion of seasonal workers' wages. The minimum wage paid to seasonal workers varies from city to city or product to product. During the time when the investigation was carried out the foundations concerning with the determination of wages expressed that the seasonal workers' wage determined for women was 23 TL. However, the wages determined for men occupied with irrigation and mechanical labour was 30-35 TL during the time when the investigation was carried out, which was higher than that of women's (currency is 1\$=1,420 TL as an average in 2008-2009, TCMB, 2010). The total amount of money that women earn on a yearly basis was 2,369 TL (23 TL*103 days). When the entire year was taken into consideration, women's along with their families' monthly wages were 197.4 TL, which is rather low.

All the women mentioned that all the money that they earned was spent on the family's needs. Women had no

chance to spare some amount of the money they earned for their personal needs. Besides this, they had no control on the money that they earned. It was totally under men's control how to spend and when to spend as well as where to spend the money earned by the women. Single women (66%) hand in money to their family (to father or elder brother), while married ones (34%) hand in money to their husbands. Moreover, most of the time, the money earned by married women was directly paid to men.

DISCUSSION

Compared to men, women who are married to the owners of enterprises are disadvantageous in terms of such matters as gender, educational background, occupation, spending the money earned and its control. Since almost all the women in the investigation area as housewives are actively engaged in domestic issues, whereas men are actively engaged in public matters, in terms of the owners of the enterprises and their wives, division of labour in agricultural activities that depend on gender have disappeared. The division of labour was structured in two ways as at home and out of home since women are hired for agricultural business. Women who deal with potatoes production with their husband visit the land as owners of the enterprises and they deal with nothing heavy in terms of labour-based activities. Apart from these women, the others prefer to be housewives. As there are not fixed working hours in agricultural business and the hardship, women prefer to be housewives, which accounts for having a higher social status. Some certain eligible occupations, such as the management, organisation and marketing of the agricultural business are performed by men. Therefore, the owners' spouses mostly prefer to be at home and manage the space belonging to them as they are not only economically sufficient but the occupation performed by women is not possible for men to do. As a consequence of this, women have no rights in the management of the money earned, especially in agricultural business.

The reasons causing dormant labour differ in terms of small and big enterprises. As the size of the land in small enterprises is not sufficient, especially since children are unable to work, they seek occupations that are out of agricultural-based businesses. On the other hand, in big enterprises, the reasons for causing dormant labour are that children/youths are students and women are housewives. As the enterprises expand, since the women's labour in enterprises is not sufficient, they hire seasonal workers; hence, the owners' spouses remain at home. In other words, there is a correlation between the expansion of enterprises and being housewives. Regardless of the patriarchal structure, the low educational background of women leads them not to be occupied as paid staff. That the first marriage age is low

leads to the ratio of becoming housewives and thus increasing the ratio of bearing birth, which causes women to do housework constantly as well as raising children and the continuity of the vicious circle. As for seasonal workers, they live on the wages earned from seasonal occupations; there is unemployment among men children are often prevented from continuing their education on account of financial and intangible reasons.

In the investigation, there is a division of labour depending on gender amongst workers. Some activities such as irrigation do not actually require technical and physical strength. In other words, men in division of labour perform irrigation; however, but when the conditions are better it can be performed by women as well. Nevertheless, on no account do women directly perform such activities as irrigation. As is the case in the investigation, women are allowed to participate in some activities with only men's resentment and absence. Although women want to quit working as seasonal workers, families mainly depend on this occupation and women have no right to make decisions on their own that will lead to the continuity of the seasonal working; therefore, this case leads children not to carry on their education and enables the permanence of seasonal working.

Conclusion

Due to the reasons stemming from patriarchal society and, besides, since women are responsible for household activities (childcare, food preparation, cleaning, household management etc), even if women are employed and educated, the majority of them prefer to be housewives. That women remain at home causes them not to have any right to interfere in household matters; what's more, men support this social structure. The desire to become housewives exists among seasonal women workers, they have no right to remain at home since men are unemployed; which is why there is an unequal structure between the spouses of the owners of the enterprises and seasonal women workers. As a result, there is gender inequality between men and women at every level of society; the content of the inequality differs and men are hierarchical at the top level.

In terms of the women in the investigation, the studies will achieve positive results in the long run. The reason why there exists such a situation is that women experience certain problems, such as low educational level, young marriage, occupational structure based on unqualified skills, inability to manage the income, work share depending on gender. The problems mentioned above stem from patriarchal structure, financial imbalance and gender inequality in the society. Therefore, the studies that can be carried out should focus on the programmes that take notice of positive

discrimination in terms of women and both public and civil society movements. Additionally, universities should support social projects (such as education, lifelong education, occupational courses, increase in awareness etc.). Such kinds of studies, which will be able to yield positive results in the long run, should be applied and assessed systematically and men should be included along with women in order to be successful. Moreover, there should be some courses on awareness of gender equality for students at the elementary and high schools in urban and rural areas.

ACKNOWLEDGMENT

This study was carried out by means of the data obtained from the project (ZF-2007/ BAP-22) called "Socio-economic and Gender Structure of the Agricultural Enterprises Producing Early Potato in Adana Province of Turkey".

REFERENCES

- Ario lu H, Çali kan ME, Onaran H (2006). "Türkiye'de Patates Üretimi, Sorunları ve Çözüm Önerileri", 6-8 Eylül 2006 IV. Ulusal Patates Kongresi, Patates Ara tırma Enstitüsü, Ni de. (Basılmami Kongre Bildirisi).
- Davran MK, Ocak S, Seçer A (2008). An analysis of socio-economic and environmental sustainability of goat production in the Taurus Mountain Villages in the Eastern Mediterranean Region of Turkey, with consideration of gender roles. *Trop. Anim. Health Prod.*, 2009 Oct; Epub 2008 Dec 24, 41(7): 1151-1155.
- Demir Ö, Acar M (1993). *Sosyal Bilimler Sözlü ü*, A aç Yayınları, 3. Baskı, Ankara, 461 s.
- DIE (2004). (State Istatistics Institute) 2001 Genel Tarım Sayımı, Tarımsal İetmeler (Hanehalkı), T.C. Ba bakanlık Devlet İstatistik Enstitüsü, Yayınları, Yayın No: 2924, Ankara.
- Emiro lu K, Dani o lu B, Berbero lu B (2006). *Ekonomi Sözlü ü*, Bilim ve Sanat Yayınları, 2006, Ankara, X+1101 sayfa.
- Ertürk Y (1991). *Türkiye'de Sosyo-Ekonomik Geli me ve Kırsal Kadının Konumu, Kadın ve Sosyo Ekonomik Geli me Konferansı, Kadının Statüsü ve Sorunları Genel Müdürlü ü Yayınları*, Ankara.
- Ertürk Y (1994). *Kırsal Dönü üm ve Hanehalkı gücü Kullanım Biçimleri, Tarım Haftası'94 Sempozyumu, Ziraat Bankası Kültür Yayınları: 25*, Ankara.
- FAO (2004). www.fao.org (Statistical Division-Statistical Yearbook 2004).
- FAO (2010). FAO Programme-Gender Equity. Available online at: <http://www.fao.org/gender/gender-home/gender-programme/gender-equity/en/> (23.09.2010).
- Gündüz-Ho gör A, Smits J (2006). The Status of Rural Women in Turkey: What is the Role of Regional Differences, NiCE Working Paper 06-101, March 2006, Nijmegen Center for Economics (NiCE), Institute for Management Research, Radboud University Nijmegen, P.O. Box 9108, 6500 HK Nijmegen, The Netherlands, <http://www.ru.nl/nice/workingpapers>. <http://www.gdrc.org/gender/framework/what-is.html> (Ministry of Women's Affairs, New Zealand).
- IFAD (2000). IFAD's Gender Strengthening Program for East and Southern Africa. Available online at <http://www.ifad.org/gender/learning/role/labour/54.htm> (23.09.2010).
- Kantar M (2000). "Adana İ Merkezinde ve Kırsal Alanında Ya ayarak Tarımsal Faaliyetlerine Devam Eden Ailelerde Toplumsal Yapı Toplumsal Cinsiyet", Çukurova Üniversitesi Fen Bilimleri Enstitüsü Basılmami Doktora Tezi, Kod No: 561, Adana, 326 s.
- Marshall G (1999). *Sosyoloji Sözlü ü* (Çev: Akinhay, O., ve Kömürçü, D.), Bilim ve Sanat Yayınları, viii+917 s., Birinci Basım, Ankara
- Morvaridi B (1992). "Gender Relations in Agriculture: Women in Turkey", *Economic Development and Cultural Change*, Vol:40, Issue:3, Chicago University, pp. 567-586.
- Neyman J (1934). On two different aspects of the representative method: The method of stratified sampling and the method of purposive selection, *J.Royal Stat. Soc.*, B. 97: 558-606.
- TBMM (2004). The Turkish Grand National Assembly, Meclis Tutanakları. Available online at <http://www.tbmm.gov.tr/tutanak/donem21/yil2/bas/b088m.htm> (10 Mayıs 2004).
- TCMB (2010). <http://evds.tcmb.gov.tr> (Central Bank of the Republic of Turkey).
- TKB (2006). Ministry of Agriculture and Rural Affairs, General Directorate of Adana, Statistics of Early Potatoes, 2005, Adana.
- UNDP (2010). Gender Equality Strategy 2008-2011, UNDP-USA, Available online at : <http://www.undp.org/women/docs/Gender-Equality-Strategy-2008-2011.pdf> (24.09.2010).
- World Bank, (1993). *Turkey: Women in Development*, World Bank Country Study, Washington.
- Yıldırak N, Gülçubuk B, Gün S, Olhan E, Kiliç M (2003). "Türkiye'de Gezici ve Geçici Kadın Tarım çilerinin Çali ma ve Ya am Ko ulları ve Sorunları", *Tarım- Türkiye Orman-Topraksu-Tarım Sanayi çileri Sendikası*, Yayın No: 2003/4, Ankara, 264 s.