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WOMEN IN AGRICULTURE AND IRRIGATION – TURKISH CASE

B. Özekici*, O. Tekinel* and S. Kıymaz*

* Çukurova University, Faculty of Agriculture, Adana, Turkey

ABSTRACT – As it is the case in most developing and developed countries in the world, women play a vital role in rural areas of Turkey in contributing to agricultural activities in addition to household duties and non-agricultural activities such as industry and services. Women's role in the daily economic life in Turkey has always been very important especially in the agricultural sector however its visibility and distinction was not recognized until the foundation of the Republic in the 20th century. The contribution of women in the total adult labor force is 26%. Although this percentage is not fully satisfactory it is expected that it will increase as women get more active in all sectors of the economy through educational advancement and legislation. When women's share in agricultural sector is compared with other sectors of the economy it is seen that women's share of labor force in agriculture is 44%. Besides, when economic activity for each sex is analyzed it is seen that majority of the female labor force (>73%) is employed in agriculture. This finding clearly implies that support for the activities directed towards rural women will improve their status in the family, in their community and in the nation as a whole.

Turkish rural women play important roles in every stage of agricultural production right from land preparation to harvest and animal husbandry. Despite their substantial contributions in every step of the way, their role however has been ignored for years. Only little attention has been paid to women as producers. The two main factors limiting women's role in agriculture are: (1) Women's reproductive role (taking care of children, household works which limit mobility, time and energy required by agriculture) and (2) Socio-cultural factors (religion, cultural attitudes and educational status keep women more in home than men, therefore, reduce economic effectiveness).

Women's role in irrigation, compared to other agricultural activities such as planting, hoeing, harvesting, etc, is very small or limited due to cultural reasons. Irrigation is considered to be a heavy duty work therefore women are thought to be unfit for such a work in the fields and orchards except for very small scale areas. There are many women agricultural engineers, irrigation specialists and social workers in governmental and non-governmental organizations that are involved in irrigation and drainage. With the recent transfer of irrigation schemes to Water Users Associations educated women see a new opportunity for managerial and technical positions. However, most women labor force in agriculture face many constraints such as limited access to land, insufficiency of extension services, limited information transfer between sexes, limited access to financial services, loans and credits, lack of mobility and time off from family work, lack of education, limited role in decision making process and etc. Since the role of women in irrigation is small compared with other agricultural activities, any improvement must go along with advancement of their role in agriculture and in society as a whole.

INTRODUCTION

The scientific and technical development in our age has caused many changes in every aspect of our lives. Industrialization has become the major driving force behind all the transformations and developments. These changes may have brought many new problems; but they also have resulted in the destruction of traditional norms that have led to acceptance of contemporary norms and values. The roles of women have changed in accordance with this modernization. These role changes in women have been very fast in and radical in nature. Women, with their new found identity and personality, have declined their previously defined destinies and have started to claim modern rights.

Every society has a cultural identity of its own, and women in any cultural formation determine and shape its social status by that society's rules and values. The value and status of women are determined by their fellow country's degree of development, society's classes and cultural values. For example, in democratic and liberal societies, women are evaluated on an equal basis and consideration just like men. However, even in developed nations equality between the sexes is not fully realized despite all the legislation and rules. If a society accepts a woman as an individual with all

her differences without any reservations, then that society can be called a progressive and equalitarian society.

Turkey as a developing country is clutched between the western and traditional values and norms. When this dilemma is considered it is clear that the role and development of Turkish women is under many influences. The foundation of Turkish Republic in 1923 has definitely accelerated the contribution of women to the national economy. The precautions and laws for the advancement of women in Turkish society have resulted in the potential gains in all sectors of the economy, be it industry, services or agriculture.

In 1926, Turkey became the first Islamic country to eliminate the Sharia (the law which continues to dominate the area of marriage and family life in most Muslim countries) by establishing its own Civil Code. Despite this decision, the position of women in Turkey varies over an extremely wide range: from the highly educated, professional women in the major cities to the majority of women in the urban and rural areas who are caught between two different worlds - one determined by culture and tradition that limits their activities to the family homestead, and the other shaped in large part by the continuing migration that brings them into the modern, productive sectors (World Bank, 1993).

Women contribute far more to the economy and to the family than is reflected in official statistics. Although women's contribution is substantial, their productivity remains low because of cultural and traditional constraints, even though laws and policies are generally gender neutral (World Bank, 1993). Table 1 presents the Turkish population -12 years of age and over- by their economic activity status for both genders between 1955-2000. Table 2 summarizes general gender profile of Turkish society between 1980 to 2000.

Table 1. Population by economic activity status, 1955-2000 - 12 years of age & over

Census year	Total		
	Total	Female	Male
1955	14 589 543	7 306 560	7 282 983
1960	16 327 814	8 104 297	8 223 517
1965	18 242 797	9 072 782	9 170 015
1970	23 280 116	11 568 033	11 712 083
1975	26 945 724	13 122 254	13 823 470
1980	30 539 621	15 137 801	15 401 820
1985	35 339 299	17 535 704	17 803 595
1990	40 783 431	20 234 706	20 548 725
2000	51 724 194	25 683 222	26 040 972
Census year	Economically active		
	Total	Female	Male
1955	12 205 272	5 261 709	6 943 563
1960	12 993 245	5 295 762	7 697 483
1965	13 557 860	5 137 031	8 420 829
1970	15 118 887	5 812 545	9 306 342
1975	17 383 828	6 204 322	11 179 506
1980	19 212 193	6 927 936	12 284 257
1985	21 579 996	7 647 265	13 932 731
1990	24 726 601	8 653 041	16 073 560
2000	28 544 359	10 164 540	18 379 819
Census year	Economically inactive		
	Total	Female	Male
1955	2 384 271	2 044 851	339 420
1960	3 334 569	2 808 535	526 034
1965	4 684 937	3 935 751	749 186
1970	8 161 229	5 755 488	2 405 741
1975	9 561 896	6 917 932	2 643 964
1980	11 194 199	8 169 368	3 024 831
1985	13 670 254	9 849 302	3 820 952
1990	16 030 516	11 570 818	4 459 698
2000	23 173 230	15 516 101	7 657 129

Source: State Institute of Statistics

Table 2. Summary of Turkish gender profile

					Upper Middle Income	
	1980	1990	1995	2000	1980	2000
GNP per capita(US\$)	1,920	2,270	2,750	2,980	2,900	5,160
Population						
Total (millions)	44,5	56,2	61,7	67,4		
Female population (% of total)	49.6	49.3	49.4	49.5	50.3	50.7
Life expectancy at birth (years)						
Male	59	64	66	67	65	70
Female	64	68	71	72	71	76
Adult illiteracy rate (% of people aged 15+)						
Male	17.2	10.8	8.4	6.6	9.9	5.7
Female	46.2	33.6	28.1	23.5	15.6	8.8
Labor force participation						
Total labor force (millions)	19	24	28	32		
Female labor force (% of total)	36	35	36	38	34	37
Unemployment						
Total (% of total labor force)	10.9	8	7.5	6.6	..	9
Female (% of female labor force)	23	8.5	7.2	6.5	..	8.9
Education access and attainment						
Net primary enrollment rate (% of age group)						
Male	..	..	98	91	..	93
Female	..	..	94	85	..	94
Progression to grade 5 (% of cohort)						
Male	..	98	93	..	..	90
Female	..	97	96	..	..	92
Primary completion rates						
Male	..	..	..	..	..	..
Female	..	..	..	..	..	..
Youth illiteracy Rate (% of people aged 15-24)						
Male	4.3	2.9	1.9	1.2	5	2.2
Female	20.2	11.7	8.4	6	8.1	2.8
Health						
Total fertility rate (births per woman)	4.3	3	2.7	2.4	3.6	2.5
Contraceptive prevalence (% of women aged 15-49)	..	63	..	64	..	..
Births attended by skilled health staff (% of total)	..	..	76	81	..	..
Maternal mortality rates (per 100,000 live births)	..	..	..	70	..	67
Child malnutrition-weight for age (% of children under 5)	..	..	10	8	..	..
Prevalence of HIV (% of people aged 15-24)						
Male	..	..	..	..	..	0.6
Female	..	..	..	..	..	0.3

PROPORTION OF WOMEN IN VARIOUS EMPLOYMENT SECTORS

Turkish women have gained great benefits thanks to education and legislation in the past decades. This advancement is clearly seen when one analyzes the percentage of employed population by their occupation (Table 3). For example, the percentage of women that have highly skilled jobs such as

scientific, technical and professional jobs have increased from 2.5% to 4.8% between 1970-1990 and still increasing.

Table 3. Percentage of employed population by occupation (%) - 12 years & over

Census year	1970		1975		1980		1985		1990	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Scientific, technical, professional, related workers	5.3	2.5	4.2	2.8	5.0	3.7	5.5	4.0	5.9	4.8
Administrative, Managerial workers	1.0	0.1	0.6	0.1	1.3	0.1	1.2	0.1	1.5	0.2
Clerical, related workers	3.5	1.3	3.6	2.1	3.8	3.1	3.8	3.2	4.2	3.9
Commercial, sales workers	5.7	0.3	4.8	0.5	6.5	0.5	7.1	0.8	8.1	1.1
Service workers	6.6	0.8	4.7	0.9	7.2	1.0	7.8	1.2	8.7	1.6
Agricultural, animal husbandry, forestry workers, fishermen, hunters	63.6	90.5	52.8	87.5	43.9	87.1	42.9	86.3	37.6	82.1
Non-agricultural production & related workers, transport equipment operators, laborers	14.2	4.6	29.3	6.0	32.3	4.5	31.7	4.5	34.0	6.4

Source: State Institute of Statistics

In 1999, adult economic activity was lower for women than for men, with 31% of women economically active and 74% of men ([UN, Social Indicators](#)). There was a sharp decline in the female labor force in Turkey (70% in 1955 to 36% in 1998) (World Bank and [Genderstats, World Bank](#)). This is largely due to the special circumstances created by large-scale and increasing urbanward migration of the Turkish population. Women in the cities, many of whom are unskilled due to the low level of education, have limited employment opportunities, withdraw from the labor force and become housewives or work in the informal sector ([DGSPW](#)). According to the World Bank (1993), an estimated 1 million women work in the informal sector. Women are active mainly in the 20-24 age brackets. The percentage of women in the labor force then gradually declines as they bear children and assume full responsibility for child rearing.

In the decline of women's participation in the labor force, sectoral changes in the economy are also a significant factor, especially in the agricultural sector, which has been the traditional source of employment for Turkish women but has decreased significantly during the past 30 years. In the growing industrial and services sector, women are at a disadvantage in competition with men for jobs because they generally have lower, or different, academic achievement and labor force qualifications and are constrained by family, tradition and culture (World Bank, 1993).

As indicated by the graph below, women are active mainly in agriculture, sharing this sector equally with men (ILO, Laborsta). Of all working women in 1999, 72% worked in agriculture, 9% in the manufacturing sector, and 4% in sales and the food service industry (ILO, Laborsta).

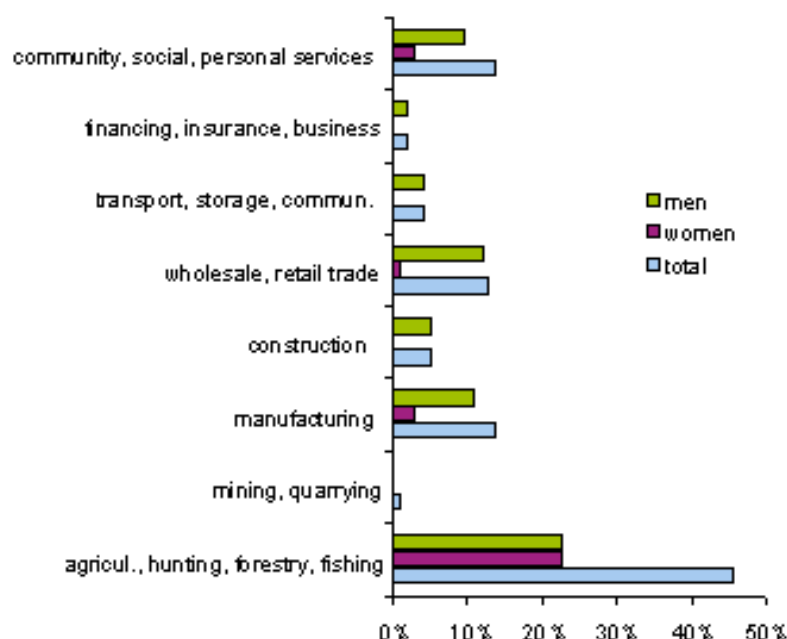


Fig. 1. Proportion of individuals (age 12 and over) by employment sector and proportion of women. (ILO, Laborsta)

STATUS OF WOMEN IN THE WORKPLACE

As the share of women in the total labor force declined steadily, the female proportion of unpaid family workers fell from 75% (in 1960) to 67% (in 2000) while that of wage earners rose from only 11% to 25% (Figure 2), indicating that unpaid family workers remain largely women, while wage earners remain mainly men (UN, The World's Women).

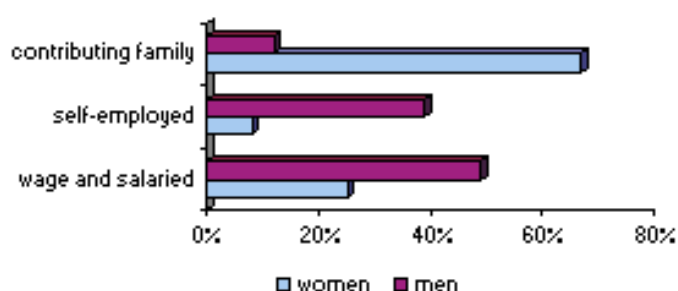


Fig. 2. Distribution of the labor force by status in employment. Source: UN, World's Women

Whether in the agricultural, industrial or service sector, it is generally agreed that some trades are preferable for men, while others are more suited for women. In agriculture, activities that are female-intensive include hoeing, weeding, hand harvesting and feeding animals, while male-intensive activities include livestock, fertilization, chemical spraying, irrigation, harvesting and marketing. The manufacturing sub-sectors also reflect these perceptions. Males are thought to be suited to jobs requiring physical strength and technical skills, whereas it is believed that women are "naturally" inclined to be "patient" and "meticulous", characteristics thought to be essential for certain occupations (World Bank, 1993).

There has been an increase in the number of women in administrative and managerial positions, from less than 5% in 1985 to slightly more than 10% in 1995 (UNIFEM, Biennial Report).

WOMEN IN AGRICULTURE

Women have long had an important role in Turkish agriculture although their contribution has not been well recognized. Women's work in traditional rural activities is generally unpaid and is not considered work for it is, rather a life style (World Bank, 1993). Underestimation of women's work also derives from social values which assign the bread winning role to the men. Unpaid family workers are most common in the agricultural sector and almost all of the women working as unpaid family workers are employed in agriculture. Self employment is also higher in agriculture compared to other sectors.

Table 4, below, shows that women constitute 26.3% of the total employment compared to 73.7% for men in all sectors of the economy. However, it also clearly presents that more women are employed in the agricultural sector than other sectors (44.3% versus 16.4%). These numbers reveals that 73% of the working women are engaged in the agricultural activities compared to 40% for men. This implies that supporting the activities directed towards rural women to improve their status in the family and the community. This also will lead to increases in the yield and quality of the products (Özçatalbas and Özkan, 2000).

Table 4. Women's employment in agriculture and non-agricultural sectors (2000)

	Male (%)	Female (%)	Total (%)
Agricultural Sector	55.7	44.3	100.0
Non-Agricultural Sector	83.6	16.4	100.0
Total Labor	73.7	26.3	100.0

Source: Atis, 2002 and State Institute of Statistics, 2002.

Compared to other sectors, agriculture employs a higher proportion of illiterate workers as seen by the data in Table 5. A more recent data from 2002 (State Institute of Statistics) shows that overall literacy rate is 87.5% with 95.3% for men and 79.9% for women. Although this situation is changing, on average three quarters of the illiterate males and almost all of the illiterate females in the labor force are engaged in the agriculture. As the education level increases both genders prefer to move into and work in other sectors of the economy.

Table 5. Educational status – 12 age and over- (1990)

Gender	Agriculture		Non-Agriculture	
	Illiterate	Literate	Illiterate	Literate
Female	40.8	59.2	5.6	94.4
Male	19.1	80.9	3.4	96.6
Average	30.0	70.0	4.5	95.5

Source : State Institute of Statistics.

Education is essential for improving women's living standards and enabling them to exercise greater "voice" in decision-making in the family, the community, the place of paid work, and the public arena of politics. Basic literacy and other basic skills are absolutely vital to women's empowerment, and without the skills acquired in higher education, women cannot obtain better paid employment.

DIVISION OF WORK BY GENDER

There is no rigorous gender distinction in terms of agricultural tasks. Overall, considerable variation is found by region and by crop. However, there are some operations handled mostly or by only by men, such as pruning, grafting, chemical spraying and irrigation. Shortage of labor in these operations are met by employing from outside. In general, mechanized operations are considered as men's work. Therefore, men's work is usually seasonal since soil preparation, seeding, fertilization, spraying and harvesting are more often performed by machinery at certain times of the cropping

season. Women usually, together with children, provide intensive non-mechanized labor and assistance required by mechanized operations. Women provide regular labor input during the cropping season (weeding, hoeing) and in peak seasons increase their contributions.

CONSTRAINTS WOMEN FARMERS FACE

The socio-economic and political conditions prevailing in the Near East Region along with Turkey which impose constraints on women and either limit their participation or result in their working under inferior conditions with low productivity, can be listed among many others (Kasnakoğlu, 1999; Saito and Spurling, 1992):

1. Limited Access to Land: In most countries, land title is in the name of the male head of the household. Worldwide, households headed by women tend to have too little land.

2. Lack of Technology Suitable for Women Farmers: The inadequate supply of or access to of suitable labor and energy-saving farm and household technologies for women's activities impairs women's productivity.

3. Poor Access to Extension Services: Worldwide extension services reach more men than women. Mostly man extension agents tend not to communicate or unaware of the needs of women farmers.

4. Limited Intra-Household Transfer of Agricultural Knowledge: Agricultural knowledge acquired by men, unless they themselves will benefit, often does not "trickle across" effectively to women in the family.

5. Women's Limited Access to Financial Services: Although women may demand financial services, they have little access to formal credit or deposit facilities.

6. Lack of Mobility and Time: Because of childbearing and inflexible domestic responsibilities women are less mobile and have less uncommitted time than men. Around the world, rural woman work extremely long hours. They rarely have access to transport or to labor saving technologies.

7. Lack of Education: Women have substantially lower literacy rates and lower school enrolment rates than men.

8. Lack of Incentives: People are more productive when they personally benefit from their labor, but in many cultures, women do not have control over returns from their activities.

9. Limited Role in Decision Making at Different Levels: "Although rural women are heavily involved in almost all aspects of agricultural production, it emerges from the scant data available that their share in decision-making is not commensurate with the amount and type of work they shoulder" (FAO, 1995b). This is true for decision making at the household level, village level and even more so true at the national level. Women's participation at the policy making process in the Near East Region is below the world average.

WOMEN'S ROLE IN IRRIGATION

Irrigation has a vital role in increasing and stabilizing agricultural production in Turkey due to erratic character of rainfall which might prevail during the growing season in most parts of the country. Economically viable irrigation is possible for 8.5 million hectares. Of the total irrigable area 55% is under irrigation.

The institutional framework for Government and other public institutions responsible for irrigation and drainage are Ministry of Agriculture and Rural Affairs (MARA), General Directorate of Rural Services (GDRS), State Hydraulic Works (DSI) and The General Directorate of Agricultural Reform (GDAR).

Government-supported irrigation has contributed substantially to agricultural growth. State Hydraulic Works (DSI) will continue to plan and implement huge irrigation projects such as Southeastern Anatolian Project. A limited area is also expected to be developed for irrigation by the General Directorate of Rural Services (GDRS) and the farmers themselves.

Recently, in the past decade, most of the irrigation schemes in operation have been transferred to Water Users Associations (WUA) and cooperatives in order to run them more efficiently and recover costs. There is no legal problem in transferring the irrigation systems owned by DSI to Governmental organizations (municipal authorities) and non governmental organizations (cooperatives or WUAs). Many educated women see this transfer as a new opportunity to find jobs in technical and managerial positions. All WUAs are required by law to have at least one agricultural engineer as a staff member. There are many women engineers, managers and technicians in state institutions like DSI, GDRS and MARA.

The degree of the women's participation in production and decision making are two most important parameters in measuring the involvement of women in agriculture. As the numbers have shown women are heavily involved in the production however they have little control or participation in the decision making process at the farm level although studies show that female farmers all around the world are equally efficient as men. Studies carried out in Izmir in western Turkey gives an idea about the involvement of women in agricultural activities (Atis, 2002). As it is seen in the table below (Table 6) women who are very active in most of the agricultural actions have not mentioned irrigation as one of their activities. This is explained by the fact that irrigation is regarded as heavy duty work; women are thought to lack the physical strength required by irrigation, therefore they are not considered to be able-bodied. The cultural values and traditions prevent women from doing such a heavy burden. Other reasons why rural women are not active in carrying out irrigation might be the fact that some irrigation work is carried out at night time; however women are expected to take care of the family and household works during that time.

Table 6. Average working time of surveyed women agricultural activities in their own farms (Atis, 2002 and Abay, et al., 1999)

Crop Production		Animal Production		
	Average Time (days/year)		Average Time (days/year)	Average Time (hours/day)
Tobacco planting	29.19	Barn cleaning	564.14	1.55
Tobacco hoeing	18.50	Feeding	468.05	1.28
Tobacco harvest	53.61	Watering	274.30	0.75
Olive harvest	33.39	Milking	446.75	1.22
Vegetable harvest	20.90	Calving	144.70	0.40
Potato hoeing	12.13			
Potato harvest	9.88			
Cotton picking	20.89			

CONCLUSION

Women's role in the economic life was not recognized well until recently. It is now clearly understood that a country's development level is on par with women's status and development. The role of Turkish women varies among the different sectors of the national economy. Studies, however, show that women, who are more numerous in the agricultural sector than the other sectors, have least benefited from the fruit of development. Due to social-cultural reasons Turkish women in agriculture are in disparity with men. Measures for the advancement of women, therefore, are of utmost importance in progressing the society as a whole.

Irrigation in Turkey is considered to be a men's job since it requires heavy physical strength, therefore women are thought to be unfit. Policy makers especially in the water management agencies such as WUA's should develop policies based on sound understanding of gender issues and encourage women to be more active. They also should include women in every step of the irrigation and drainage schemes, right from planning and implementation of the project to the management.

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