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Agricultural Extension for Women

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Abstract. Agriculture is the major source of employment for both men and women in Turkey. Although the share of labor engaged in agriculture has declined since 1950, the sector still employs almost half of the labor force. Over 45% of income in rural areas is earned directly from agriculture.

Women have long had an important role in Turkish agriculture. According to the 1985 Population Census, women accounted for around half of the agricultural labor force. However, their contribution is not well recognized to the extent that society, and women themselves, perceive their work as wifely duty rather than as an economic contribution. The geo-climatic diversity of Turkey leads to significant regional variation in agriculture, which in turn leads to a differential involvement of women in the sector. Since 1970 the participation of women in production increased around 3% due mainly to male migration, changes in cropping patterns, and labor intensity. In the regions where specialized agriculture is carried out, women's involvement is changing depending on the level of mechanization. Generally, there is no rigorous gender distinction in terms of agricultural tasks; however, considerable variation is found by region and by crop.

The extension service of the Ministry of Agriculture is organized at provincial, county and village level. Extension activities are mainly carried out by the Farmers' Training and Extension Division of the Provincial Directorate of Agriculture under which subject matter specialists are responsible for transferring information on eight main areas, of which home economics is one area. Although there are some individual attempts in some provinces to include women farmers in the annual extension programs, generally there is no policy that provides systematic contact with them, except for the visits of home economists. The existing programs that address women are primarily in the context of traditional housewifely duties like handicrafts, food preservation, childcare, etc. The Ministry of Agriculture has recently introduced a pilot women farmers' extension program under a World Bank supported 'Agricultural Extension and Applied Research Project'. In this program, home economics technicians are being trained to be able: i) to undertake technical advice; ii) to develop methods of training; iii) to plan appropriate media material; iv) to work with groups of women farmers to allow and stimulate the diffusion of innovations. The program covers 23 villages in 3 provinces and involves 37 home economists.

Some international agencies estimate that women account for 70-80% of household food production in Sub-Saharan Africa, 65% in Asia and 45% in Latin America and the Caribbean (FAO, 1984). They perform many key agricultural tasks in all regions of the world. The extent of their participation has been greatly under-estimated. Since greater support for women's activities constitutes a crucial step towards increased production as well as improved equity, it is important that women's present contributions to the agricultural labor force be fully recognized (FAO, 1985). Since their importance to agricultural production is significant and critical, this need for change merits special attention and effort.

Key words. Agriculture – Extension – Turkey – Woman.

I – Women in Turkish Agriculture

In Turkey, women have always had vital role in agriculture. However, their contribution is not well recognized. Except for a few studies carried out mainly by the universities, there is no comprehensive report that provides a broad analysis of women in agriculture (World Bank, 1993).

Although there are regional differences, females constitute at least half of the agricultural population. According to 1985 Population Census, the average ratio of females in Turkish agriculture is 53% (*Table 1*).

Table 1. Percentage of females in agricultural population (as an economic activity)* in 1985

Aegean	51.21
Black Sea	58.12
Marmara-Thrace	50.53
Mediterranean	51.03
Southeastern Anatolia	51.07
Central Anatolia	54.42
Eastern Anatolia	53.96
Average	52.91

* Employed population or population who continue having a job since 12 years or more.

Source: Turkey, WID Report, 1993.

However, observations in the country indicate that the actual participation is higher. Since society and even the rural women themselves perceive their work more as a wifely duty than as an economic contribution, statistics fail to capture the true extent of their participation. The 1985 Census data also indicate that in every region of the country agriculture is the main sector for women for both active and employed populations.

In the regions where industry and services sectors have not been developed yet, the average ratio is around 95%. In developed regions—either industrially or agriculturally—female participation in agriculture is getting lower; around 65%. For 1970-85, the ratio of females in agriculture changed toward different directions mainly due to two reasons: i) changes in cropping pattern and increase in labor-intensive crops; ii) extent of seasonal and/or temporary migration of males to urban areas, and/or abroad women undertake the agricultural work. Data from three different regions (Eastern/Southeastern Anatolia, Mediterranean and Thrace) are analyzed to illustrate these circumstances.

i) Eastern/Southeastern Anatolia. Data obtained from 3 provinces indicated that remarkable changes occurred in cropping pattern in 1970–85 (*table 2*).

Table 2. Changes in cropping pattern and agricultural population in less developed regions in 1970–85 (increase in %)

	Erzurum	Kars	Diyarbakir
Area sown to sugarbeet (ha)	166.5	212	-
Area sown to sunflower (ha)	705.0	-	-
Area sown to cotton (ha)	-	-	789
Area sown to vegetables (ha)	-	-	255
No. of females in agr. population	22.0	16.45	52.00
Total agricultural population	11.58	13.66	41.2

Source: Turkey, WID Report, 1993

However, agriculture in these regions has been suffering from very slow development in mechanization. In spite of increase in agricultural machinery use, the level of mechanization is still far from satisfying the needs of the region's traditional crops like wheat, barley and forages. Therefore, with the increasing cash crop production, the gap become more severe and more female labor force is needed.

ii) Mediterranean. In 1970–85, significant changes were recorded in Adana, a province located in the most fertile agricultural land of the country. New crops like maize and soybean have been introduced, traditional crops have become more market-oriented. Since, appropriate production technology has not been fully developed yet, manual operations maintained their role in production. Mechanization has been improved significantly but it has not been reached to the level of eliminating the labor need (*Table 3*).

Table 3. Changes in cropping pattern and agricultural population in Adana (% of increase in 1970–85)

Area sown to cotton	8.2
Area sown to vegetable	31.2
No. of females in agr. population	31.0
Total agricultural population	36.0

(In addition to these major crops soybean was introduced. In 1970 no soybean was produced in the region, in 1985 the area sown was 46,527 ha.)

Source: Turkey, WID Report, 1993.

iii) Thrace. Within 15 years, fallow-wheat rotation which has been the traditional cropping pattern of Thrace was replaced by the sunflower-wheat sequence. Due to high perspectives, educated farmers and developed infrastructure, mechanization needed for the new rotation system was developed in a very short period of time. The number of tractors with the equipment behind increased significantly, and the demand for labor greatly reduced (*Table 4*).

Table 4. Changes in the cropping pattern, mechanization and agricultural population in Tekirdag (increase in % in 1970–85)

Area sown to sunflower	12.0
Area sown to vegetable	4.9
No. of females in agr. population	–1.3
Total agricultural population	–4.9
No. of tractors	327
No. of cultivators	1,232
No. of seed drills	3,118

Source: Turkey, WID Report, 1993.

Some Characteristics of Women in Turkish Agriculture

i) Age Groups. The age profiles indicate that, among various sectors, agriculture employs the youngest population (*Table 5*).

Table 5. Employment rate* (in percentage) in Agriculture, by age and gender, in 1990

Age Groups	Males	Females
12–14	4.60	5.83
15–19	13.28	18.25
20–24	10.18	11.86
25–29	9.63	9.98
30–34	8.43	9.12
35–39	8.51	9.01
40–44	7.33	7.53
45–49	7.40	7.69
50–5	8.10	7.56
55–59	8.75	6.93
60–64	7.36	3.94
65+	6.44	2.30
Total	100.00	100.00

* employed population, branch of economic activity.

Source: 1990 Household Labor Force Survey, October, DIE.

With respect to age, *Table 5* indicates that, compared to men, women in agriculture start to work at earlier ages.

In the age group 12–14, 97% of females and 86% of males are engaged in agriculture. For other sectors, the corresponding figures are 3% and 14% for females and males, respectively. In the older age groups, the situation again differs by gender. After 50 years of age, fewer women are engaged in agriculture. As

they get older, women are not able to carry out heavy agricultural work like seeding, weeding, hoeing, hand harvesting and milking. However, since men are dealing more with the mechanized operations, even as they get older women continue to work in the field.

ii) Education status. Compared to other sectors agriculture employs a higher proportion of illiterate workers. Although the situation is changing, on the average three quarters of the illiterate males and almost all illiterate females constituting the labor force are engaged in agriculture (*Table 6*).

Table 6. Literacy status in sectors by sex and by years (1970–1985)

	Male (%)				Female (%)			
	Agricultural sector		Other sectors		Agricultural sector		Other sectors	
	1970	1985	1970	1985	1970	1985	1970	1985
Illiterate	77.95	73.70	22.05	26.30	95.26	97.19	4.74	2.81
Literate without diploma	94.64	68.63	35.06	31.37	87.51	94.51	12.49	5.49
Primary school graduates	43.20	41.40	56.80	58.60	81.63	88.47	18.37	11.53
High school graduates*	7.34	14.09	92.66	85.91	5.69	16.75	94.13	83.25
Higher education	2.95	2.01	97.05	97.99	29.59	1.66	70.41	98.34
School of graduation	40.21	5.22	59.79	94.78	53.57	3.60	46.43	96.40
Unknown other**	-	42.75	-	57.25	-	83.50	-	16.50

* Including junior high school, high school and equivalent vocational schools.

** Covers the unknown literacy and educational attainment.

Source: Turkey, WID Report, 1993.

Table 6 also shows that as the education level increases, both genders prefer to work in other sectors. The educational level of women in agriculture, however, has increased rapidly as shown by the reduction in gender illiteracy rates (*Table 7*).

Table 7. Literacy level (in percentage) of agricultural population by gender and year (1970–1985)

	Male		Female	
	1970	1985	1970	1985
Illiterate	43.16	20.41	74.61	43.57
Literate without diploma	18.01	11.67	6.32	8.96
Primary school graduates	37.14	61.50	18.00	35.01
High school graduates*	1.04	6.17	0.18	1.57
Higher education	0.10	0.23	0.29	0.05
School of graduation on unknown	0.55	0.00	0.60	0.00
Other**	-	0.02	-	10.84
Total	100.00	100.00	100.00	100.00

* Including junior high school, high school and equivalent vocational schools.

** Covers the unknown literacy and educational attainment.

Source: Turkey, WID Report, 1993.

II – Division of Work by Gender

There is no rigorous gender in terms of agricultural tasks. Overall, considerable variation is found by region and by crop. However, there are some operations handled only by men, such as pruning, grafting, chemical spraying. Shortage of skilled labor in these activities are met by involving kin, friends and/or employing an outsider, rather than women in the family. 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 during the cropping season. Women usually, together with children, provide intensive non-mechanized labor and labor assistance required by most mechanical operations. Women provide regular labor input during the cropping season (weeding,

hoeing) and increase their contributions in peak seasons. Recently, however, men's monopoly of mechanical operations had began to be challenged. Women, in increasing numbers, are enrolling in training courses on mechanization and tractor driving organized by the Ministry of Agriculture. For example, in Manisa, almost 100 women completed the courses and received certificates and driving licenses in 1991. Also, in a village in Bolu in 1988, where the husbands mostly work as truck drivers on international routes, the women who take care of the potato crop came together and applied to the Provincial Directorate of Agriculture for driving licenses for tractors (TOK, 1988). After completing a three-week training course on maintenance and operation of tractors and other machines and equipment, they were licensed.

III – Involvement of Women in Crop Production

Small Grains. In large-scale production women's involvement is very limited. Production is highly mechanized and almost every component of the crop management package is handled by men. However, in the smaller farms women are involved in harvesting. Where land size and topography is not suitable for combined harvester, crops are harvested by men and women using sickles. This is particularly common in Eastern Anatolia, Eastern Black Sea, and parts of the Central Anatolian Plateau.

Rice. Women's involvement in rice production varies by region. For example, in Thrace (one of the main production areas) where most of the operations are mechanized, female involvement is negligible. However, elsewhere women are extensively involved.

Pulses. In small fields, lentil and chickpea production is highly labor intensive. Weeding and harvesting are done by hand and almost entirely by women. However, in case of labor shortages, men are involved. With the introduction of food legumes into crop rotation under dryland conditions of Central Anatolia, seasonal job opportunities have arisen. During harvest time, women migrate from the southeastern provinces. This is particularly common for market-oriented holdings; elsewhere this operation is performed by village women. Hand harvested crops are carried to the village and threshed and cleaned by men and women in communal areas. In Southeastern Anatolia where production is market-oriented and large-scale, women do not participate.

Cotton. It presents a special case. Seasonal wage labor is employed by the large landholders. Every year thousands of families come to Adana in April and October for hoeing and harvesting. A study (Soysal, 1986) conducted in the region indicated that females account for over 50% of labor in hoeing and harvesting.

Sunflower. Its production used to employ a lot of female labor; however, rapid mechanization ended women's involvement in the main production areas (Thrace and Marmara). In some areas of the country where mechanization is limited, like Eastern Anatolia, women are extensively involved in hoeing, weeding and harvesting.

Potatoes. Women's involvement is very high. Men using tractors prepare the soil, apply chemicals and, during harvesting, uproot the crop by tractor-drawn equipment. The rest of the operations, like preparation of seed, planting, hoeing and harvesting are done by women.

Sugarbeet. The mechanized operations (soil preparation, seeding, spraying and fertilization are handled by men) and manual operations (weeding, hoeing) are carried out by women. At harvest, the men uproot the crop which is then collected and prepared for the market by the women. Transportation and marketing are the men's responsibility.

Tobacco. It is primarily produced on holdings of less than 10 ha. All the family members contribute to the production. The soil is prepared by men and women plant, weed and hoe. Harvesting is a shared operation, all members of the family working together. The leaves are carried to the village by men, the women string and make them ready for drying. However, handling the processing (drying, baling) and marketing are men's concern.

Corn. In the Mediterranean and Aegean regions, production is semi-mechanized. Mechanized operations like tilling, seeding, spraying and harvesting are done by men, but manual work (hoeing, weeding) is performed

med by women. In the Black Sea where the rough topography does not allow mechanization, all the operations (including soil preparation and seeding) are done by hand with tools and all the components of crop management package are handled by women. In the plains, where corn production is highly mechanized, most operations are carried by men.

Tea. Is produced only in the Eastern part of the Black Sea Coast, where women's involvement is very high in almost all agricultural activities. Women perform almost all operations, except processing and marketing, which remain a male prerogative. In the case of the establishment of new tea plantations (which requires Government approval), men together with women prepare the soil and plant the crop.

Hazelnut. Usually all the members of the family work together for their production. Planting and pruning is men's work, and fertilization and harvesting women's work. However, since the crop has to be collected within a very short period of the time, men also get involved and labor may also have to be hired from other production areas because of migration.

Vegetable production. It is considered primarily as women's work. Except for spraying and soil preparation in large plots and greenhouses in the coastal areas, women's participation in vegetable production has increased remarkably. This is also the case in cut flower and ornamental plant production. In the Mediterranean and South Marmara regions, production is market-oriented and handled by large companies for export. In large greenhouses, women are employed to carry out almost all tasks, except spraying.

Fruit production. In modern orchards, most operations are carried out by men although for harvesting, sorting and packing, women are preferred. In packing houses, women are employed in large numbers. In Eastern Anatolia, drying of apricots is handled by women. In small-scale productions, women are involved in all operations including marketing of the surplus productions. In the Mediterranean region, planting is generally shared but harvesting and packing are carried out mostly by women. In viticulture, some operations are highly specialized (like pruning) and these are performed generally by men. Hoeing is usually shared. Harvesting is done mainly by women.

IV – Involvement of Women in Livestock Production

Sheep/Cattle/Poultry. In the homesteads, women take care of poultry, sheep, goats and cattle. Milking is invariably women's work, as is cleaning of the stalls and animals. Women are usually responsible for the intensive care of young stock, pregnant and lactating females. The contribution of men increases with distance from the homestead. Women are responsible for the feeding and grazing of animals near their household and close to the village. Children also assist with the animals. However, grazing in rangelands and meadows located further from the village (2–3 km) is men's responsibility. In small-scale poultry production, women carry out all operations. But in market-oriented, higher technology farms, men assume responsibility, women being sometimes hired for manual tasks (filling the feeders and watering the birds).

Sericulture. This is considered as women's work. Men's involvement is limited to the « fifth in-star stage » which is the peak period in term of reeling (feeding) the worms. At this stage, men help women in collecting and shredding the leaves. Marketing is the men's job although in some areas, e.g. Bursa, the income is given to the women. Following 3–4 months of drying, women do the reeling, twisting and dying.

Apiculture. Women's involvement in production is traditionally limited. However, an increasing number of women is involved, this including mobile apiculture.

V – Involvement of Women in Marketing

In many regions, and particularly in the priority regions, due to socio-cultural factors, women's involvement in marketing is considered as improper. However, in the central and western parts of the country women

are involved locally in small-scale marketing of vegetables and fruits. In the marketing of livestock and their products, there is a marked gender division of labor. Animals or meat are marketed by men, and women sell poultry products and processed milk products (cheese, butter and milk) in small-scale markets. In market-oriented large holdings, these are also marketed by men. In large-scale marketing, women's involvement varies depending on the region.

VI – Information Need of Women in Agriculture

Information is an essential production factor in agriculture. Male and female farmers need relevant and timely information to improve their production techniques and increase their income. Unless agricultural extension is supported by inputs, credit, land, labor, market and appropriate pricing policies, alone it will not guarantee an increase in production. Many constraints on agricultural productivity are common to men and women; in other words, are gender neutral. However, in many parts of the world, women in agriculture operate under greater constraints than men. Since any extension system must target particular categories of clients to meet their needs, gender specific problems of the clients need gender specific solutions: women in agriculture need special help (Saito & Weidemann, 1990; Saito & Spurling, 1992; World Bank, 1992; World Bank, 1993). However, worldwide extension systems reach more men than women. The reason is given explaining why extension services do not reach women farmers: most extension agents and the « lead farmers » they target are men. Male extension agents are generally unaware of the need to communicate differently with women and view rural women as « farmers' wives », not « farmers » in their own right. On the other hand, development planners assume that information given to male farmers will be passed along to other farming members of the household. Experience indicates that agricultural knowledge acquired by men, unless they themselves are the beneficiaries, often does not « trickle across » effectively to women in the family. Men are less likely to pass information along to women when crops or tasks are gender-specific. We all know that extension messages are effective only if they reach the client—and they tend not to reach women farmers (Saito & Spurling, 1992).

VII – Constraints Women in Agriculture Face

To design extension programs and to provide effective services for women, it is essential to understand men's and women's roles in production process, their information needs, the nature of the special constraints females face, and the implications of these constraints for extension.

The common constraints that women in agriculture face are the following:

- time
- limited access to credit and inputs
- lack of education
- land availability and tenure
- lack of suitable farm and household technology

(It should be noted that the magnitude and the extent of these vary largely according to the regions.)

Time. Rural women have less available time and mobility due to their dual domestic and agricultural roles. In Turkey, in addition to childcare and daily housework, rural women also work as unpaid family worker in agricultural production or, if possible, get a job as seasonal worker outside the family farm or engaged in handicrafts, mainly carpet weaving. Time spent in these activities depends on the following: size of the household, size of the farm, cropping pattern, agricultural potential of the region, age and health status of the women and income level of the family. Data collected from the Çukurova region in Turkey reveal that 69% of the women allocate at least one hour per day for livestock throughout the year (*table 8*). During peak seasons, 69% of the women work on their own holdings for 5 hours *per day* and 9% on other holdings for at least 7 hours *per day*.

Table 8. Average number of hours worked in a year, Cukurova, 1990

Activities	Women	Days p.a	Av. hours/day
Housework	100	360	3.8
Agricultural work in the family farm	69	15	4.9
Agricultural work outside the family farm	9	44	7.4
Animal husbandry	69	340	1.1

Source: Turkey, WID Report, 1993.

Actual working hours in agriculture vary depending on various factors, such as: ecological conditions, cropping patterns, technology, size of holding, number of plots owned, distance between plots, time of year, level of skill of the individuals, number of persons working and the type of operation. Data on actual hours worked within the agricultural sector indicate that for females the most common category is 17-35 hours/week followed by 50/59 hours/week (*Table 9*).

Table 9. Actual hours (in %) worked in agriculture, by gender, in 1990

Actual hours worked	Males	Females
1-16	2.51	4.62
17-35	17.84	29.79
36-39	1.25	0.74
40	10.40	11.51
41-49	11.78	12.06
50-59	20.66	19.77
60-71	25.91	16.94
72+	6.78	2.66
Persons not at work	2.87	1.91
Total	100.00	100.00

Source: Turkey WID Report, 1993.

As is seen from these data, rural women have less available time and mobility due to their dual domestic and agricultural roles.

Limited access to credit and inputs. In many rural places, authority in agriculture is transferred to women due to seasonal migration of men—for a wage employment in urban areas or to go abroad as immigrant workers—or loss of husbands. These are placing even greater burdens on women. As the head of the household they have to handle the family and the farm. These women have limited access to credit and inputs because of formal laws, and lack of collaterals. In Turkey's agricultural sector, the Law of Succession which, in the case of the partition of agricultural land gives priority to male heirs, disadvantages women, especially in the context of collateral (usually land title) for credit. However, a review of credit facilities offered by the formal financial institutions suggested that few institutions offer lines of credit suited to small entrepreneurs, which could account for the small number of Turkish women in the self-employed or entrepreneurial ranks. Although the laws relating to banking and credit regulations appear essentially gender neutral, a recently carried out survey clearly supports the view that women's access to credit in Turkey is severely limited due to lack of collateral (World Bank, 1993). Yet women are generally a better credit risk than men. Data indicated that throughout the world women have higher repayment rates than men. Without credit, women are less likely to be able to afford the inputs recommended by extension agents (Saito & Weidemann, 1990).

Lack of education. Women's access to agricultural extension and their ability to comprehend and use technical information is compromised when they lack basic education. Illiteracy makes rural women less responsive to written extension messages. Lower educational level and limited contact with the outside world makes women shy in communicating with extension agents. Studies supported by the World Bank have demonstrated the critical link between farmer efficiency and farmer education. The impact of education on efficiency is likely to be particularly strong when modern, as opposed to traditional agricultural tech-

niques, are being introduced (Saito & Weidemann, 1990). Data collected in Turkey indicates that although there is a significant improvement, still an educational gap exists between men and women in rural areas (*tables 6 and 7*). It is observed that demand for primary school diploma increases with the increasing tendency to work in other sectors. However, while men with diploma tend to leave agriculture, women even with diploma usually continue to work in the sector.

Land availability and tenure. In most countries land title is in the name of the male head of the household. Many constitutions legally support gender equality and women are becoming more aware of their rights, but social customs change slowly. The *de facto* situation in many countries is that women do not have land tenure or title (Saito & Spurling, 1992). In Turkey the Law of Succession does not distinguish female and male heirs. However, in order to avoid partition of agricultural land, the court will grant ownership to the heir most able to manage the land and, not surprisingly, the heir is the male in the majority of the cases. On the other hand, the Law of Property accords women equal right to hold title, convey land and ability to record property ownership. Although in many countries women rarely have title to land, they commonly have rights to its use. Often the land women are allocated consists of smaller, fragmented plots; and extension agents may be reluctant to work with such scattered plots. Women's relatively less favorable access to land and less secure tenure can be a strong disincentive to adopting new techniques or investing in the land (Saito & Spurling, 1992).

Lack of suitable farm and household technology. This impairs women's efficiency, restricts their time, and saps their energy for participating in extension and other development programs. Technologies to improve production are also lacking among small holders in general and women in particular (Saito & Weidemann, 1990; Saito & Spurling, 1992).

Cultural norms. In most countries, cultural norms affect interactions between male agents and women farmers and between male and female farmers. Although these norms may or may not be codified into Law still circumscribe male-female interaction (Saito & Spurling, 1992). In Turkey, if use of male agents to communicate with women farmers have been tested widely, it would have been seen that, in spite of the common prejudice, the gender of the agent is irrelevant in many parts of the country. Male veterinarians interacting with rural women in the absence of a male head of household is an indication of this attitude. Currently, female extension agents and research scientists are working with male farmers without any problem. The author of this paper has the same positive personal experience throughout her twenty-year professional life. As long as the extension agents provide relevant useful information, they are accepted by all farmers whether men or women. Farmers always value relevant recommendation.

VIII – Current Situation in Agricultural Extension for Women

In many countries of the world, extension messages do not reach the majority of the women in agriculture. Although there is a growing awareness to reach women farmers, agricultural extension services are generally geared toward male farmers. Like in many other countries, extension programs in Turkey also focus on male farmers leaving the women outside the mainstream of information even when they are engaged in the activity covered. The neglect and economic invisibility of women reflect the dominance of men in policy setting and management and often leads to a male orientation in agricultural extension (World Bank, 1992).

Extension activities are mainly carried out by the Farmers Training and Extension Section which is one of the six sections under the Provincial Directorate of Agriculture. In this section, subject matter specialists are responsible for transferring information on eight main areas of which home economics is one area. In provinces there are substantially more male extension agents and these are not assigned to contact rural women. Even existing female extension agents (recruited at provincial and country centers not at village level), although their number is disproportionately less compared to male agents, tend to work with male farmers. However, in some countries female agents' contact with male farmers tends to be restricted (FAO, 1984). Only home economists interact with rural women and focus mostly on women's domestic and reproductive roles like food processing, home management, family planning, childcare, family health and handicrafts. Although these topics are supplemented by production information like kitchen gardening, poultry, livestock and mushroom production, the extent and quality of information is far from satisfying the needs of rural women who are involved in a wide range of production activities.

Even home economists, who are supposed to know better the role of women in rural society and to understand gender-related barriers confronting women, often put emphasis on women's domestic roles and ignore their dual role.

Many badly designed programs do not take special consideration of the needs of women in agriculture. For example, public discussion meetings are often held at times convenient to men but when women are unable to attend, information is released through channels such as pamphlets, or posters pinned up in banks, or coffee-shops which are largely inaccessible to women; farmer training is held at centers which provide no separate facilities for women and which do not cater for small infants; courses are long, too long for women to leave their families. Demonstrations are given to men as heads of farming families; even if the activities shown are in fact carried out by women (FAO, 1984). Sensitivity to gender relations in agriculture has increased in recent years particularly in international organizations like UN, World Bank, FAO. As well as international organizations, national governments in the world are well-intentioned to include women in development programs and extension projects. In spite of all the effort, women's involvement and integration into development process has been remarkably slow in many countries including Turkey.

IX – A Pilot Women Farmers' Extension Program

The first serious and organized attempt in Turkey toward including women farmer in extension program has been started in 1990 with a World Bank supported 'Agricultural Extension and Applied Research Project'. Under this project there is a component to assist the Ministry of Agriculture to establish, monitor and evaluate a pilot program to train women in improved methods of agricultural production. In the first phase, three provinces from different regions were included in the program and a total of 23 villages were selected in these provinces. The selection criteria for project villages were:

- the main source of income,
- the extent of women's involvement in agricultural production,
- the level of interest in market-oriented production rather than subsistence.

Therefore, the villages where agriculture is the main source of income, where women are actively involved in agriculture and production is market-oriented, were chosen rather than subsistence markets (highly commercialized and mechanized areas were excluded). Production area in which women predominantly carry out the activities were defined and included in the project (Ediz, 1992). These are:

- vegetable production
- fruit production
- viticulture
- livestock production
- field crops (mainly potato and watermelon)

In selecting the women farmers' group, certain criteria were set. According to these, the women farmers forming a group should:

- be actively involved in farming and especially in the specific commodity production,
- have similar background in terms of social and economic status,
- preferably have a similar educational background although, when actually forming the groups, some flexibility was allowed so that illiterate women might participate.

In order to design an effective and efficient extension program for women farmers, several aspects of training were taken into consideration. These aspects concerned:

- **gender patterns in work activities.** The gender roles and participation in production as a whole or in certain activities will be taken into account while planning the training.
- **time allocation.** The visits and training sessions have to take place at appropriate time for women farmers. Activities that are important for women, even if they are not viewed as economic—like childcare and household work—should be considered in planning the timing for training sessions.

- **activity location.** The training session or demonstration should be held in a location that would avail mobility and encourage participation.
- **resources.** The level of technology used by women farmers and their access to inputs should be taken into account when designing the training programmes.
- **literacy level.** Although the majority of the women farmers in three provinces are literate, emphasis should be given to audio-visual aids rather than written material. Demonstrations must take place with support of written material (Ediz, 1992).

For this pilot activity, home economics technicians were given the responsibility to carry the following roles in dealing with women farmers:

- act as promoter/facilitators rather than change agents; the farmers will participate in the process and decide with the assistance of the technicians;
- accompany the development groups and help them in decision-making by informing them about the available technology.

Since the roles allotted to home economics technicians require training, an in-service training program was organized.

1. Short courses on technical aspects: 2–3 weeks

- Vegetable production, field and covered vegetable farming, glasshouses. Use of fertilizers and insecticides, soil analysis and diseases.
- Livestock production with special emphasis on dairy cattle husbandry. Feeding, hygiene, diseases and artificial insemination.
- Fruit production. Pruning, orchard design, diseases and use of fertilizers and pesticides.
- Potato production. Special emphasis on crop rotation and harvesting techniques.
- Viticulture. Vineyard diseases, establishing new vineyards, soil analysis quality control.

2. Short courses on aspects of extension: 2–3 weeks

- Communication and extension methods.
- Rural society and role of women.
- Media planning in extension.
- Working with groups.
- Marketing systems for rural production.

These training courses are expected to facilitate the following (Ediz, 1992):

- Supply technical advice on farming methods in which women in villages are predominantly involved.
- Develop methods for training for women farmers allowing them to develop the necessary skills and gain knowledge in advanced farming methods.
- Understand the project in order to be able to assist in the monitoring, evaluation and diagnostic of surveys.
- Plan appropriate media material specifically designed for women farmers.
- Work efficiently with women farmers' groups to allow and stimulate the diffusion of innovations both horizontally and vertically for the benefit of the farming community.

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