

Female Labor Situation in Rural Shandong Province : A Study Based on the First Rural Census of Shandong Province

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Abstract

By utilizing *The First Rural Household Census*¹⁾ data from Shandong Province, female's roles in the rural labor market are examined in this paper. By doing that, it is found that more females work on farm, more females work longer hours on farm than males, and therefore rural females are the main agricultural labor force. The reasons for the phenomenon of "Feminization of Agriculture" are also analyzed in this paper. More rural females work on farm while males take on off-farm work in part due to gender divisions of labor in the household, which is also shown in the data. Females have fewer off-farm job opportunities than males partially due to gender educational gap between rural females and males. In other words, generally speaking, rural males are more educated than females. In addition, younger rural

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1) This nation-wide census was conducted in early 1997.

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females are more educated than old females, as a result, rural males, and younger females have more off-farm job opportunities than older females. Equally, this paper also discusses rural females' status in the family. Finally, this paper ends with conclusions.

Keywords : China, female labor, rural Shandong, Feminization of Agriculture, gender division of labor

1 Introduction

The introduction of the Household Responsibility System (HRS) in Chinese agriculture in the late 1970s and early 1980s re-established the household farm as the basic production unit in Chinese rural areas. HRS is a family-based contract system. The essence of this system is that the household has to sign a contract with the local government in order to undertake the cultivation of a plot of land. The household is held responsible for handing over a certain amount of output to the government, and owns or freely manages the remaining output. This new rural economic policy effectively motivated farmers to work harder. However, as the nationwide cultivated land area per capita for rural households averages only 2.17 *mu* (or 0.15 hectare), much of the labor force, perhaps even the majority, simply cannot be absorbed into agriculture. To maximize their incomes, except for farming, rural households also engage in multiple economic activities. Some farmers undertake sideline or private businesses; others work for township and village enterprises (TVEs) or migrate to cities for job opportunities.

Since then great changes have happened in the rural labor market. During the past reform period, rural females' status has been studied by many researchers. It is argued that there are more barriers for females in the rural areas to participate in off-farm work than males in the early 1990s, leaving females do farm-related work.

This phenomenon is called “Feminization of Agriculture” (Yang 1997 and Zhao 1999). Given that the marginal product of labor on farm is reported to be much lower than prevailing wage rates (Cook, 1999), some scholars see it clearly as a disadvantage of rural females, while others seem to hold a more optimistic view and further argue that women’s power in the family could be actually increased through controlling a larger portion of agricultural production and household management. In contrast, this paper focuses on the female labor situation in rural Shandong Province. Two major issues are also being raised: Is the “Feminization of Agriculture” occurring in Shandong? and what are the important factors in female’s off-farm work? To answer these questions, the females’ roles in the rural labor market are examined by utilizing *The First Rural Household Census*²⁾ from Shandong Province.

Shandong Province is located in eastern China, situated opposite the Korean Peninsula and the Japanese Archipelago across the sea. The Shandong Peninsula covers a land area of 156,700 square kilometers with a population of 90 million people (March 2001). Shandong has a warm-temperate monsoonal climate, with hot, rainy summers and dry, sunny winters. Shandong Province has maintained a sustained and high-speed economic growth since 1980. The GDP has been growing annually at an average of above 10 percent, which is higher than the national average rate. Shandong is one of the leading producers of grain, cotton, peanuts, soybeans, vegetables and fruit, meat and aquatic products in China. While no single province can be considered “representative” of conditions throughout China, however, as one of the major agricultural provinces in China, Shandong could be a good case to be studied.

2) This nation-wide census was conducted in early 1997.

2 The Data Set : the First Rural Census of Shandong Province

As mentioned above, the household is the basic unit of production. Thus the household is a useful starting point for analyzing female labor participation. In the census, the entire rural households are first divided into two groups according to their main income source : Agricultural households and Non-agricultural households (Table 1).

Table 1 Household categorizations

All Households		
Agricultural households		which participate in agriculture full-time or part-time
	Full-time agricultural households	which participate in agriculture on a full-time base
	Part-time agricultural households	which participate mainly in agriculture, but not full-time
	Part-time non-agricultural households	which participate mainly in non-agricultural activities, but not full-time
Non-agricultural households		which do not participate in agriculture

Of the entire rural households in Shandong, 61.77 percent are full-time agricultural households, the percentage for part-time agricultural households, part-time non-agricultural households and non-agricultural households are 18.24 percent, 12.25 percent and 7.74 percent respectively (Table 2).

Table 2 Household percentage in Shandong and the average size of household

All Households		
Agricultural households	Percentage	Average labor force in each household
	Full-time agricultural households	61.77
	Part-time agricultural households	18.24
	Part-time non-agricultural households	12.25
Non-agricultural households	7.74	1.99
Total	100	2.48

Source : A materials compilation of Shandong Province from the first agricultural census of China, pp.2-4.

At the household member level, 58.42 percent of the labor force is in the full-time agricultural households, the percentage of labor force in the part-time agricultural households, part-time non-agricultural households and non-agricultural households are 21.98 percent, 13.42 percent and 6.74 percent respectively (Table 3). From the data, we can see that there is more labor force in the part-time non-agricultural households than others, then the part-time agricultural households while the non-agricultural households have the least labor force. Table 4 shows that the males consist of 51.5 percent of the labor force while females consist of 48.5 percent.

Table 3 Rural labor force in different households

	Percent	Million
Agricultural households	93.26	42.58
Full-time agricultural households	58.42	26.52
Part-time agricultural households	21.98	9.97
Part-time non-agricultural households	13.42	6.09
Non-agricultural households	6.74	2.80
All households in Shandong	100	45.38

Source : A materials compilation of Shandong Province from the first agricultural census of China, pp.2-4.

Table 4 Rural labor force and farm workers by gender

	Rural labor force		Farm workers	
	Number	Percentage	Number	Percentage
Males	23.38 million	52%	16.22 million	46%
Females	22.01 million	48%	19.04 million	54%
Total	45.38 million	100%	35.26 million	100%

Source : A materials compilation of Shandong Province from the first agricultural census of China, p. 10.

3 Female Employment Situation

Since the land rental market is underdeveloped in China, farmers must fulfill grain obligations to the state and guarantee a basic level for home consumption.³⁾ At the same time, land provides a relatively secure source of at least a minimum level of income; even though higher returns may be obtained in other activities, households may choose to retain labor in agriculture as part of a risk diversification strategy. All these mean someone in the household must do the farm work. There must be labor allocation in the household with regard to farm work, side line business, and self-employment, wage earning activities in TVEs or migration to remote areas.

From Table 4, Table 5 and Table 6 we can see that rural females are the main agricultural force, especially in the part-time agricultural households and part-time non-agricultural households. “Feminization of Agriculture” is observed in Shandong.

Table 5 Employment Occupations, by gender

(Percent)

	Total	Agricultural household			
			Full-time agricultural households	Part-time agricultural households	Part-time non-agricultural households
Male (Total)	100	100	100	100	100
Farm work	69.38	74.32	100	44.45	11.33
Off-farm work	30.36	25.69	na	55.56	88.67
Female (Total)	100	100	100	100	100
Farm work	86.52	91.76	100	81.51	72.69
Off-farm work	13.47	8.23	na	18.48	27.3

Source : A materials compilation of Shandong Province from the first agricultural census of China, p. 10.

3) Under the HRS, farm families have land-use rights but not rights of alienation. If permanently leaving agriculture, farmers must return the land to local authorities and consequently give up a stream of potential land earnings in the future (Yang, 1997).

Table 6 Hours spent on farm work, by gender

(Percent)

	Total	Agricultural households				Non-Agricultural households
All			Full-time agricultural households	Part-time agricultural households	Part-time non-agricultural households	
Less than 1 month	3.58	2.93	0.73	4.84	10.9	17.34
1 - 2 months	9.32	7.63	2.09	13.24	26.46	45.07
2 - 4 months	10.91	9.88	4.92	16.18	24.55	32.85
4 - 6 months	9.17	9.37	9.06	10.43	9.22	4.74
More than 6 months	67.03	70.19	83.2	55.3	28.86	na
Total	100	100	100	100	100	100
Male						
Less than 1 month	4.32	3.6	0.43	6.47	15.8	18.58
1 - 2 months	11.21	9.47	1.16	18.87	38.29	45.46
2 - 4 months	11.54	10.53	3.4	21.49	30.41	31.51
4 - 6 months	8.48	8.69	8.84	9.76	6.04	4.44
More than 6 months	64.44	67.72	86.17	43.42	9.47	na
Total	100	100	100	100	100	100
Female						
Less than 1 month	2.82	2.25	1.06	3.28	6.31	15.84
1 - 2 months	7.37	5.76	3.06	7.82	15.36	44.6
2 - 4 months	10.26	9.22	6.53	11.07	19.06	34.45
4 - 6 months	9.87	10.07	9.28	11.08	12.21	5.1
More than 6 months	69.68	72.69	80.07	66.75	47.06	na
Total	100	100	100	100	100	100

Source : A materials compilation of Shandong Province from the first agricultural census of China, p. 12.

And the other side of the coin is that females have less off-farm employment opportunities than the males.

Table 4 shows females consist of 54 percent of farm labor force, and it is 5.5 percent higher than the female's percentage in the total labor force (which is 48.5 percent).

Table 5 shows that women are more likely to work on farm than men. 86.52 percent of the females (19.04 million) are working on farm whereas only 69.38 percent of males (16.22 million) work on farm. Furthermore, Table 6 shows that more women spend longer hours on farm than men do. 64.44 percent men work more than 6 months a year on farm while 69.68 percent of women work more than 6 months a year, 5 points higher than men.

For the full-time agricultural households, there is more male farm labor (13.59 million) than female farm labor (12.91 million). And more men (86.17 percent) spending more than 6 months a year on farm work than the percentage of women (80.07 percent) (Table 6). Even though the difference is slight, we can observe that farming activities are almost shared jointly by men and women in the full-time agricultural households. However, for the part-time agricultural households, the data indicates that there are gender divisions of labor. Men take on off-farm work while women take on farm work. Among the part-time agricultural households, 81.51 percent of women work on farm while only 44.45 percent of men work on farm. This type of labor division is much clearer for part-time non-agricultural households whereas 11.33 percent of men work on farm while 72.69 percent of women work on farm. Among the part-time agricultural households, 66.75 percent of women work more than 6 months a year while only 43.42 percent of men do. In part-time non-agricultural households whereas 47.06 percent of women work on farm more than 6 months a year while only 9.47 percent of men do.

The data clearly indicates that rural females are the main agricultural force, especially in the part-time agricultural households and part-time non-agricultural households.

Another finding for this study is that the females have less off-farm job opportunities than the males. Only 13.47 percent of the females (2.97 million) are working off-farm whereas 30.62 percent of men (7.16 million) are working off-farm

(Table 5). It becomes obvious that male farmers are more likely to be employed when jobs are created by local township enterprises.

The reasons might be found on the both sides of labor supply and labor demand. On the labor demand side, it might have to do with employment practices. When non-agricultural job opportunities come up, such as working in local township enterprises, priority for employment is given to the male farmers. This favoritism is partly due to women's lower education and partly due to a traditional notion being that women should spend more time taking care of their families and doing housework, and also they are generally considered to be less capable than men. According to a field research conducted in Zouping County (in Shandong Province) by Cook, she found that in Zouping County, recruitment for formal wage employment is undertaken largely by enterprise managers. Managers expressed clear preferences for certain types of labor. First, employees typically come from within the township or village in which the enterprise is located. In most enterprises visited, 80-90 percent of employees were local. New recruits are generally aged 18 years or older (the legal minimum age of employment is 16 years) with at least a junior high school education. Female employment in this sector has increased, but remains substantially lower than male employment, and employers expressed reluctance to employ women over the age of 21 or 22 years, those who are expected to quit one or two years later after they get married (Cook, 1998).

Alternatively, it is also pointed out that in the context of limited off-farm employment opportunities, this may reveal household preferences for ensuring that male (and therefore permanent) family members should have priority in undertaking such work (Cook, 1998). From Table 1 we can observe that part-time agricultural households and part-time non-agricultural households are engaged in both farm work and non-farm work, there are more labor force in these two types of households

than the other two, suggesting that families will have to either concentrate on farm work or give up farm work totally if there are not enough labor force in their households.

4 What are the Important Factors in Female's Off-Farm Work ?

When females are engaged in non-agricultural employment, their labor location is much closer to the places where they live than that of males (Table 7). 77.17 percent of females work in the same town where they live, which is 10 points higher than males. This can be explained in the way that family and housework burdens restrain women's job location. In rural areas 90 percent to 100 percent domestic chores are performed by women (IFAD, 1995). After work, women have to go back quickly to do the housework, this housework responsibility set limits on their labor locations.

There is gender segmentation among off-farm occupations. Females (87 percent) are concentrated in industry. The construction and transportation jobs are dominated by male labor because those are considered unsuitable to females (Table 8).

Among the female group, there are some differences. Younger females have more off-farm employment opportunities than older females. This trend is revealed in the participation rate by different age groups in the non-agricultural employment (Table 9). Younger women are more productive, obedient and easy to be managed. It is also possible that there is inter-generational division of labor between mother (or mother-in-law) and daughter (or daughter-in-law). The younger women are the ones who go to work in factories and the elder women stay at home to take care of children, to do household chores, or to combine them with the more flexible and lighter sideline activities such as gardening. Thus, the division of labor between the generations may also be regarded as a family strategy based upon the

Table 7 Employment locations by gender

Male							(Percent)
	Total	Agricultural households				Non-Agricultural households	
			Full-time agricultural households	Part-time agricultural households	Part-time non-agricultural households		
Locations	100	100	100	100	100	100	
Local town	85.84	87.07	99.28	69.51	62.64	68.5	
Local prefecture	7.9	6.82	0.32	14.24	23.01	23	
Local province	4.37	4.21	0.22	10.72	10.94	6.55	
Other province	1.9	1.9	0.18	5.53	3.42	1.95	

Female						Non-Agricultural households
	Total	Agricultural households				
			Full-time agricultural households	Part-time agricultural households	Part-time non-agricultural households	
Locations	100	100	100	100	100	100
Local town	94.62	95.67	99.84	89.35	87.92	77.17
Local prefecture	3.35	2.45	0.1	5.3	8.01	18.24
Local province	1.53	1.41	0.04	3.99	3.15	3.42
Other province	0.5	0.46	0.02	1.36	0.91	1.17

Source : A materials compilation of Shandong Province from the first agricultural census of China, p. 20.

needs of the family and relative resources of each family member.

Another factor for a female to get a job is education. Gender percentage of off-farm employees with different educational levels shows that the better education females have the higher percentage they are in the off-farm labor force (Table 10). This finding is also consistent with the conclusion drawn by other researchers that education increases the likelihood that individuals work off-farm (Zhang, Huang and Rozelle, 2002).

Table 8 The Occupational structure of employee in Township and Village enterprises, by gender

(Percent)

Occupation	Male	Female	Sex ratio
Industry	66.4	87	1.66
Construction	29	7.5	8.86
Transportation	1.2	0.4	8.6
Wholesale, retail sale and food-service	2.3	4.4	6.13
Social service	0.2	0.4	1.3
Others	0.8	0.9	0.94
Total	100	100	2.02

Source : A materials compilation of Shandong Province from the first agricultural census of China, pp. 540-550, compiled and calculated by the author.

Table 9 Non-agricultural employment, by gender and age group

(Percent)

Age group	Males	Females
Age 18-25	5.3	4.52
Age 26-35	8.55	8.01
Age 36-45	8.26	7.5
Age 46-50	5.38	3.95
Age 51-55	4.61	2.32
Age 56-60	4.14	1.51
Total	6.62	5.71

Source : A materials compilation of Shandong province from the first agricultural census of China, p. 4, calculated by the author.

Table 10 Non-agricultural employment with the same educational levels, by gender

(Percent)

Educational Levels	Males	Females
Illiteracy or semi-illiteracy	2.72	1.48
Primary school (1-6 years)	4.64	3.52
Junior high school (7-9 years)	7.54	8.87
Senior high school (10-12 years)	11.3	19.01
Technical school	12.46	21.05
University	21.65	32.84
Total	6.62	5.71

Source : A materials compilation of Shandong Province from the first agricultural census of China, p. 6, calculated by the author.

5 Female Educational Level

We have shown that education is more important for a female than a male to be employed in off-farm work. So what are the levels of female's education ?

In Table 11, it clearly indicates that there is an education gap between rural men and women in Shandong. And the rate of illiteracy for women is 12.84 percent, against 6.94 percent for men (Table 11). The higher education level it is, the smaller percentage of women is (Table 12). From the data of labor participation

Table 11 Educational Levels of males and females

(Percent)

Educational Level	Males	Females
Illiteracy or semi-illiteracy	6.94	12.84
Primary school (1-6 years)	33.15	48.62
Junior high school (7-9 years)	50.80	34.90
Senior high school (10-12 years)	7.97	3.15
Technical school	0.89	0.43
University	0.25	0.06
Total	100	100

Source : A materials compilation of Shandong Province from the first agricultural census of China, p. 7.

Table 12 The percentage of female labor force in different levels of education

(Percent)

Educational Level	Males	Females
Illiteracy or semi-illiteracy	36.48	63.52
Primary school (1-6 years)	42	58
Junior high school (7-9 years)	60.72	39.28
Senior high school (10-12 years)	72.87	27.13
Technical school	68.88	31.12
University	81.66	18.34
Total	51.51	48.5

Source : A materials compilation of Shandong Province from the first agricultural census of China, p. 6, calculated by the author.

rate by age, it can be found that the percentage of young girls in the 7-15 age group⁴⁾ who work on the farm is much larger than that of boys of the same age cohort (Table 13). In other words, this means that more young girls at school age are participating in farm work instead of attending to schools than boys. Without education, their employment opportunities would be further limited.

There are also obvious disparities in the gender percentage of professional technicians in agricultural production units (Table 14).

There are several factors (such as parents' preference for education of male children over female, family financial difficulties, assisting work at home etc.) that restrict women's access to education. The underlying reason for this preference for sons in rural area is that sons actually increase their labor resources, while, according to the tradition, daughters are supposed to move out eventually and join

Table 13 Girls percentage in child labor
(Percent)

	Males	Females
Age 7 - 15	33.76	66.24
Age 16 - 17	45.05	54.49

Sources : A materials compilation of Shandong Province from the first agricultural census of China, p. 4, calculated by the author.

Table 14 The percentage of females in professional technician in agricultural production units
(Percent)

	Males	Females
Primary level	83.33	16.67
Middle level	88.83	11.17
High level	85.48	14.52
Total	85.14	14.86

Source : A materials compilation of Shandong Province from the first agricultural census of China, pp. 134-135, compiled calculated by the author.

4) This age group is considered to be child labor.

their husbands' families after they get married. As a result, most rural families have less incentive to invest in their daughters' education. For centuries, families have been considered to support the elderly people in the Chinese society. As farmers are not covered by the social pension system, thus men are supposed to take care of their parents when they are old. That also leads to the preference for sons. Especially when parents have to make a choice to send their children to school, usually they prefer to send their sons to school rather than their daughters.

6 Conclusions

The data shows that more females work on farm and more females work longer hours on the farm than males. Rural females are the main agricultural force. Food security now is one of the major concerns in China. Given the important roles of women are playing in the farm work, in order to increase the agricultural productivity and increase female incomes, it is necessary to upgrade female education level and their scientific, technical knowledge.

On the other side of the coin, females have fewer off-farm job opportunities than males. But some females, who are younger and better-educated, have more off-farm job probabilities. Most of the females work near their homes. Thus to increase women's participation in rural industry, it is necessary to further develop local town and village enterprises. And it is also equally important to provide good education for rural females.

Due to the lack of data related to the incomes of females in the rural areas in Shandong Province,⁵⁾ this study could not possibly prove that the "Feminization of Agriculture" leads to the increase or decrease of women's power in the family. However, from the limited data we find that traditional norms being that women

5) The information for rural China is harder to analyze because much income is earned by the family as a unit and cannot be accounted for by individuals.

should do more household chores than men prevents women from doing off-farm work. As a result, while men take off-farm work, women gradually become the major labor force in the farming sector. As rural women have lower education, more burdens of household chores than men, usually they have few choices to choose their own jobs. Even though they have the chance to be hired in the township or village enterprises, usually they are treated as cheap labor. Although women's roles may be highly valued in the society or in the family, however, their work is not equally rewarded in economic terms. Therefore without economic equality between men and women in rural areas, it is difficult to conclude that the "Feminization of Agriculture" could increase the women's power in the family.

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