

婦女與兩性學刊第十一期
頁 99—128，民 89 年 4 月
台北，台大人口與性別研究中心
婦女與性別研究組

Married Women's Labor Time on the Family Farm

Suhao Tu*

Abstract

Previous literature has shown that women's contributions to agricultural production are underestimated by the conventional theory of labor and labor statistics. The underestimation is derived from the traditional conceptualization of market/waged labor and the process of housewifization based in patriarchal gender ideology.

Recognizing the limitation of the economics theory of gender division of labor and women's perceptions of work roles in farm production as the result of the underestimation of their labor input, this paper first examines married women's labor time on the family farm from the feminist/broad conceptualization of women's labor. The examination emphasizes the interaction between farm labor and household labor over seasons. Second, this paper also examines women's perceptions of their roles in agricultural production and the relationship of their perceptions with their work performance.

The results show that women averagely spend over 8 hours on farm work. This finding is deviated from general labor statistics. Women's time allocated to housework does not decrease a lot as their time on farm work decreases from busy season to slack season. Most of the women in this study work very hard but identify themselves as farm helpers and feel their farm workload not heavy at all.

As women in this study tend to devalue their status and their contributions to agricultural production and accept overload of farm work, the author suggests that we need to pay attention to farm women's, especially those women in commercialized and commoditized agriculture, daily life combined with domestic and farm work.

Key words: Farm labor, Gender division of farm labor/household labor, Time budget

*Assistant Research Fellow, Office of Survey Research, Academia Sinica

The author wishes to thank Directorate-general of Budget, Accounting and Statistics for providing Agricultural, Forestry, Fishery and Husbandry Survey; and National Science Council for funding two research grants on farm women. The author also thanks Chin-Yun Liu and Yei-Fei Su for their collaboration on National Science Council.

Introduction

Previous studies have indicated that women make a great contribution to agriculture in terms of labor and time but are often invisible in labor theory and statistics. Two reasons explain why women are not usually recognized for their active farm labor. First, female farm labor tends to be underestimated by the narrow definition of labor in microeconomics and Marxist tradition. The activities by the narrow definition of farm labor include general fieldwork, machinery maintenance, and marketing, but exclude errands, bookkeeping and product conserving. Second, the process of housewifization based on patriarchal gender ideology rationalizes the devaluation of women's work on the farm. As a consequence, the full nature of women's involvement in agricultural production tends to be underrepresented in labor force statistics. The percentage of female labor force in agricultural production shown in official statistics tends to be smaller than that found in the empirical research. Furthermore, the traditional perception of work roles held by farm women is the result of the negligence of the possible exploitation of women's labor (Bennholdt-Thomsen 1984; Bokemeier and Garkovich 1987; Friedland 1991; Haney and Knowles 1988; Sachs 1988; Whatmore 1991).

However, another dimension of labor force participation -- working time on the farm -- requires further investigation because of the limited theoretical and empirical research work in the past. Parallel to the earlier arguments, two questions remain unexplored. First, how is women's time allocated to farm activities which include the activities in a broad definition of farm labor and are closely related to the economic viability of farm enterprises? Second, given to their time devoted to farm work, how do farm women perceive their work roles in farm production and feel about their work participation?

Recognizing that marriage plays an important role in shaping women's participation in the farm labor process, this paper uses married women as an example to answer the two questions from a broad conceptual perspective of active labor. First, women's time allocated to farm work is analyzed in four comparative forms concerning the difference between (1) official data and survey data, (2) domestic work and farm work, (3) wives and husbands, and

(4) busy season and slack season. The discussion on time budgets is to reconfirm married women's double work roles in the farm family. Second; given the understanding of women's time on the farm, this study further examines women's perceptions of their work roles and workload in farm production. In order to uncover the relationship between women's perceptions and their work performance, this paper examines women's identity with their roles in agricultural production and perception of their actual participation in farm activities through time they spend on the farm.

Literature Review

The literature review centers on the feminist criticism of active labor defined in biological, patriarchal, or economic perspective and the perceptions of work role and workload. More explicitly, the review of the previous literature is structured by the following questions. In what sense has the active labor been narrowly defined? How should the active labor be broadly defined from feminist perspective? Following the same line, in what sense should we define active labor time in a broader sense? What would be women's role identity and their attitudes toward work participation? Finally, how does the perception of work role and work participation vary with different labor time contributions?

Active Labor

Previous studies show that active labor is narrowly defined in three perspectives: biological, patriarchal and economic explanations. First, biological explanation emphasizes the effect of physical strength on gender division of labor. While men are socialized to do the work which requires great physical strength such as, hunting and market activities, women are socialized to do housework, such as childcare and food preparation (Bennholdt-Thomsen 1990). The division of labor based on biological difference was found in precapitalist/subsistence agricultural production (Boserup 1970; Burton 1984). However, as the agricultural feminization has been prevalent cross-culturally (Cheng 1992; Pfefer 1989; Blekesaune et al. 1993), the biological explanation appears unable to make full sense of the gender division of labor in contemporarily capitalist agricultural production. Women's

contributions to farm work as such turn invisible.

Second, patriarchal ideology portrays women as domestic beings who are supposed to be dedicated to unremunerative domestic tasks. In other words, gender norms in patriarchal perspective restrict women from equal access to economic opportunity. Farm women in this perspective tend to be treated as men's property and are excluded from agricultural production. If necessary, women are supposed to contribute their labor voluntarily and irregularly to farm production in addition to housework duty (Beneria 1985; Sachs 1983, 1988). It is the irregular participation in economic activities that devalues women's labor. Similar to the disadvantages of biological explanation argued earlier, it is not always the case that women's work participation in farm production is not regular in capitalist agriculture. In fact, it is common for women in commercialized production to work on the farm routinely. However, the neglect of the value of women's labor still happens in commercialized agricultural production such as flower production.

Third, exchange or market value is the key variable defining active labor in Micro-economy or Marxist perspective. The top priority in this perspective is to pursue high market value or profits for family farm production through the best utility of family labor. Family members in domestic (reproduction) sphere play a critical role in supplementing market value for farm production. Women in this case become the main source of cheap or free labor. Apparently, the dualistic definition of active labor only recognizes the labor with exchange value. The exclusion of the labor with use value is inadequate to present women's actual contribution to farm production.

The inadequacy comes from the failure of recognizing the typical nature of family farm production carried out in a continuum interlocking productive activities with reproductive activities (Sachs 1988; Redclift and Whatmore 1990). In such a continuum, active labor needs to be recaptured through bridging its productive/exchange value and reproductive/use value (Whatmore 1991). The activities women take part for either self-consumption or market exchange should all be defined as productive activities. That is, productive activities in this broad definition of active labor should include the activities directly and indirectly associated with the input and output of agricultural production. The farm activities in the direct sense should include general fieldwork, machinery management, and marketing. The

farm activities in the indirect sense include errands, bookkeeping, purchasing, price checking, and farm labor supervising (Huffman 1976; Reimer 1985; Tu 1997).

With the understanding of broad definition, previous research has shown that labor statistics (e.g., census of agriculture) indeed underestimate women's participation in farm work (Alston 1995; Reimer 1986). This underestimation is found cross-culturally (Beneria 1985). On the other hand, several studies show that women do take a wide range of agricultural activities including those usually excluded by Micro-economy or Marxist explanation (Chiang 1995; Fassinger and Schwarzweller 1982; Kao 1995; Lai 1996; Liu 1996; Rosenfeld 1985; Sachs 1983; Tu et al. 1998).

Active Labor Time

The earlier discussion of active labor focuses on broadening productive activities on the farm. Without understanding how women's time is allocated to farm work, it would be hard to present women's contributions to agricultural production sufficiently. The examination of labor time is important because of the uniqueness of family-based agricultural production and women's particular position in agricultural production and domestic production.

Following the feminist criticism of active labor from the economics perspective, farm women's labor time input in both productions defined in the dualistic framework is also hard to neatly fit into market (productive) or non-market (reproductive) activities. Four reasons can explain why. First, the productive activities are narrowly defined as argued earlier. Second, female labor is theoretically viewed as the labor supplementary to male labor. Third, women's time is considered to be allocated to farm work irregularly. Fourth, women's time devoted to agricultural work and housework is sometimes overlapped. Women might engage in both simultaneously.

The difficulty can be solved by looking into the assumption in human capital theory. In human capital theory, housework has never been treated as professional work (Becker 1991). It is due to the housework that women's human capital, time value and wages/reward from work are devalued. Therefore, the value of women's time is not equal to that of men's. Given to this, women's time spent on farm work always appears to be necessary to subsidize farm production.

Fortunately, if households are scaled along a continuum from fully waged to completely unwaged, women's time allocated to all kinds of farm activities and household tasks can be presented thoroughly. In this case, using labor time as an important measure to explore the overlapped and coexisted participation in both productions would deal with the difficulty of distinguishing women's labor allocated to farm work and housework. Following this line, women's labor time across reproductive and productive spheres would be able to be translated into reasonable exchange value (Adam 1989, 1990). As such, this way of valuing women's work (work time) would be fair for women. In other words, we can uncover time constraint and double workload which women face (Formann 1989).

As suggested by previous studies, women indeed play a crucial role in agriculture in terms of women's time spent on farm work. The broad definition of active labor time was also proved necessary for fully understanding women's contributions to farm production (Beneria 1985; Huffman 1976; Reimer 1986; Tu 1996). Some studies indicate that women spend only a bit less of their time than their husbands on farm work (Bennet and Kohl 1982; Liu, Chang, and Lee 1996; Tu 1996).

The Perception of Work Role and Workload

The incorporation of psychological dimension into the conception of work roles in agriculture needs to be examined because of two reasons. First, as discussed earlier, we are sure from the theoretical perspective that the value/time value of women's labor on the farm is overlooked. However, we are not sure, in addition to the theoretical perspective, how women themselves think about their contributions to agricultural production from their own perspective. It becomes interesting and important to know how women think of their economic roles. Second, women's perceptions of their contributions to farm work would be affected by patriarchal ideologies rooted in societies. Their attitudes would reflect gender inequality in a certain culture. Therefore, the clarification of women's self-identity and satisfaction with work participation becomes crucial.

Little literature has been concerned with self-identity and work satisfaction. Pearson (1979) first defined four types of farm women: independent producers, agricultural partners, farm helpers, and farm homemakers. Bokemeier and Garkovich (1987) in their study of farm

women further created an additional type: business managers. All together, five categories of role identity are defined as follows. Farm homemakers refer to women whose main farm activities involve running errands and traditional homemaking chores. Agricultural helpers refer to women who participate in agricultural production mainly during busy time. Business managers refer to women whose main responsibilities are bookkeeping, information gathering, and financial decision-making, but their husbands are the primary operators. Full agricultural partners refer to women who share equal work, responsibilities, or decision-making on all aspects of farm operation with their husbands. Independent agricultural producers refer to women who manage the farm largely by themselves. The categorization of work roles pretty matches the broad definition of labor suggested in the earlier section. Bokemeier and Garkovich (1987) suggest that women's self-identity significantly accounts for the variation in women's involvement in farm tasks.

The studies on women's attitudes toward participation in farm work are ever much fewer in the literature. Even though, we can still be inspired Rosenfeld's (1985) discussion of women's satisfaction with their responsibility for farm work in a section of her book. Assuming women would seek an equitable opportunity in the public/production sphere, they would be satisfied with an intermediate level of participation in farm work (Rosenfeld 1985). The previous studies show that farm women's perception of work role and workload are related to actual task participation. However, task participation is defined as women's participation in farm tasks instead of time spent in agricultural production. As time budget is suggested to be the other important dimension of uncovering women's contributions to farm work, the extent to which women's perceptions of work role and workload vary with their time on the farm becomes important and requires further exploration.

Data

Scope

This research focuses on married women whose major enterprise is growing vegetables and flowers under the following reasons. First, among all agricultural products in Taiwan, vegetable and flower production is characterized by the intensive use of labor. Both

enterprises require women to play an essential role in manual work (Boserup 1970, Rosenfeld 1985, Gasson 1988). Second, the focus of this study is the particular position of married women in family-based agricultural production under the assumption that marriage shapes women's and other family member's participation in farm production. Third, in order to explore gender relations in farming, it becomes an important issue that married couples actually work on the farm. This study is concerned about those women who are involved in farm work and whose husbands are alive and working on the farm at least on a part-time basis. Surveys conducted by Liu, Su and Tu in both 1995 and 1996 are the main source of data in the analysis of women's time investment, self-identity and workload perception. In order to examine compare the difference in time budgets between survey research and national estimation, Agricultural, Forestry, Fishery and Husbandry Survey (AFFHS) (DBAS, Execute Yuan 1999) and the findings in the previous studies are used as the supplementary reference to women's time budgets on the farm.

Liu's Survey Data

Surveys of vegetable and flower women were conducted in 1995 and 1996 (Liu, Su and Tu 1995, 1996). Considering sampling error, eligibility and completion rate for face-to-face interviews, 335 households majoring in leaf vegetable production and 350 households majoring in cut flower production were systematically selected respectively from 117 vegetable production groups⁽³⁾ and from 380 flower production groups. The lists of both vegetable and flower production groups were provided by the Provincial Department of

(3) The production group is an important basic unit of farmers' organization assisted and subsidized by Council of Agriculture in the pursuit of the development of agribusiness by integrating production input, reducing production cost, and increasing agricultural productivity at the individual (farmer) and structural (national) levels. A group of no less than 20 farmers who grow the same crop or livestock are encouraged to participate in an informal and small scale format of organization. The production group was established back in the 1980's. It was originally operated through pooling member's farm resource (labor or equipment) together under the cooperation with each other. However, this way of operation has failed and transformed to another-form of operation up until now. Currently, the purpose of the production group more focuses on marketing than production in the past. This transformation is even more welcomed by farmers than it was before, because group marketing practically increases profits for them, especially for those with small farms. Therefore, there are getting more of farmers who are willing to participate in such a production group.

Agriculture and Forestry (PDAF). 303 and 313 interviews for both samples were collected with the completion rate of around 90%.

In order to confirm the possibility of combining two samples into the final analysis, this study tests sample characteristics between vegetable and flower samples. Table 1 shows that except for the size of farms, women's age, education, farming experience, years of living on the farm, and net farm incomes are significantly different between vegetable and flower samples on a .001 significant level. On average, flower women are younger than vegetable women for about 5 years. Flower women's experience in farming and living on the farm is less than vegetable women's for around 10 years. The net farm incomes for flower households are greater than those for vegetable households for more than 140 thousands NT dollars per year. Based on the differences, women's labor time and work perception will be examined separately in two production groups.

Table 1: T-test of the Individual and Farm Characteristics in Liu's Surveys of Vegetable and Flower Women

Characteristics	Sample	N	Mean	SD	t	p
Age	Flower	312	44.5	11.1	-6.1	0
	Vegetable	303	49.8	10.4		
Farming Experience (Year)	Flower	312	22.1	15.3	-9.1	0
	Vegetable	303	32.8	13.8		
Farm Life (Year)	Flower	312	20.4	17.6	-6.5	0
	Vegetable	303	28.5	12.9		
Education (Year)	Flower	312	7.2	4.2	10.9	0
	Vegetable	303	3.8	3.5		
Farm Size (Hectare)	Flower	310	1.06	.99	2.2	0.03
	Vegetable	303	.90	.84		
Net Farm Incomes (NT\$ 10 thousands)	Flower	312	34.8	49.8	4.4	0
	Vegetable	295	21.0	21.9		

AFFHS Data

AFFHS (Agricultural, Forestry, Fishery and Husbandry Survey) was conducted by Directorate-general of Budget, Accounting and Statistics in 1995 (DBAS, Execute Yuan, 1997). In this survey, farm households were randomly selected from 14 strata based on the list of households in Census of Agriculture conducted in 1990. In order to be able to compare with Liu's surveys, the number of research subjects from AFFHS were narrowed down according to four criteria: major enterprise (leaf vegetables and cut flowers), family's farming position (full-time farming), marital status (married), and the couple's work status on the farm (at least on a part-time basis). 269 married women in vegetable production and 79 married women in flower production were finalized in the comparative data analysis.

Because sample characteristics available for comparison are limited from AFFHS, only women's age, education, and total size of farm operated were examined using T-test. Concerning the average total size of vegetable farm operated, AFFHS shows 0.6 hectare less than Liu's survey and the difference is not statistically significant on 0.05 significant level (Table 2). By contrast, women's age and education between AFFHS and Liu's Survey appears significantly different (on .01 significant level). On average, vegetable women in AFFHS are about 6 years older and more educated than their counterparts in Liu's survey.

Table 2: T-test of the Individual and Farm Characteristics in Vegetable Production between AFFHS and Liu's Survey

Characteristics	Samples	N	Mean	SD	t	p
Women's Age	AFFHS	269	55.8	13.1	6.0	0
	Liu's Survey	303	49.8	10.4		
Women's Education (Year)	AFFHS	268	4.6	3.8	2.8	0.005
	Liu's Survey	303	3.8	3.5		
Operated Farm Size (Hectare)	AFFHS	269	1.53	7.05	1.6	1.22
	Liu's Survey	303	.90	.835		

Similarly, Table 3 shows that on average, total size of flower farm operated in AFFHS is less than that in Liu’s survey for .75 hectare. The women in AFFHS, on average, are older than their counterpart in Liu’s survey for 7 years. Flower women’s education in AFFHS is less than those in Liu’s survey for 2 years of education. The differences between two sources of data on flower women are all statistically significant (on .05 significant level).

Table 3: T-test of the Individual and Farm Characteristics in Flower Production between AFFHS and Liu’s Survey

Characteristics	Samples	N	Mean	SD	t	p
Women’s Age	AFFHS	79	51.6	13.5	4.9	0
	Liu’s Survey	312	44.5	11.1		
Women’s Education (Year)	AFFHS	79	4.94	3.7	-4.7	0
	Liu’s Survey	312	7.19	4.2		
Operated Farm Size (Hectare)	AFFHS	79	1.81	4.99	2.5	0.015
	Liu’s Survey	310	1.06	.99		

Except for farm size in vegetable farming, the significant differences in the three individual and farm characteristics between AFFHS and Liu’s survey suggest that there would be significant differences in women’s time budgets on farm work. This study next is going to explore whether this is the case.

Results

As discussed earlier, under the broad definition of farm labor, women’s time budget in vegetable and flower production is examined through the comparison with their counterparts in AFFHS and with women’s time spent on domestic work over seasons in Liu’s survey. Based on women’s time spent in farm work, women’s attitudes toward their role in farm production will be further examined through different degrees of their time contributions to farm work.

Concerning time budgets, because the unit we use to measure time budget between AFFHS and Liu's survey is different, the measure of "days a year" in AFFHS is converted into "hours per day in a year" used in Liu's survey. The conversion is based on the definition applied in AFFHS that 8 hours are equal to a standardized workday including the days for labor exchange. That is, a woman's work hours per day on the farm are the days they spend on the farm multiplied by 8 hours and then divided by 365. In addition, because the time spent on the farm is measured categorically in AFFHS, time data in the continuous form in Liu's survey is categorized in order to get standardized unit base for comparison.

Women's Time on Farm Work

Vegetable Farming

More than 95 % of vegetable women in Liu's survey spend at least 4 hours a day on the farm (Table 4). Looking into the group of women who spend more than 4 hours, more than half of them work on the farm for at least 8 hours. More specifically, 16.5% of the women spend 4 to 8 hours on farm work. Around 31 percent of the women spend 8 to 10 hours in vegetable production. 23.8 percent of the women spend 10 to 12 hours on the farm. In contrast, about three-quarters (75.1%) of vegetable women in AFFHS spend less than 4 hours a day on the farm.

Table 4: Women's Time on Vegetable Farm between AFFHS and Liu's Surveys

	AFFHS	Liu's
Hours/day	%	
Less than 1	16.4	0
1-2	31.2	.6
2-4	27.5	2.9
4 and more	24.9	96.5
Total cases	79	303

Flower Farming

As shown in Table 5, more than 95 percent of the women in Liu's survey spend at least 4

hours on the flower farm. Liu’s survey also shows that about one-third of the women (32.3 %) spend 4 to 8 hours on the farm. Around 36.6 percent of the women spend 8 to 10 hours in flower production. 18.6 percent of the women spend 10 to 12 hours on the farm. In contrast, more than half of the women (54.4%) in AFFHS spend less than 4 hours on flower farms.

Table 5: Women’s Time on Flower Farm between AFFHS and Liu’s Surveys

	AFFHS	Liu’s
Hours/day	%	
Less than 1	6.3	0
1-2	14.0	.3
2-4	34.2	4.5
4 and more	45.6	95.2
Total cases	79	313

Discussion

The above-mentioned findings indicate that there is a big difference in time budgets on the farm between AFFHS and Liu’s survey. Assuming that 8-hour is the regular work time for a full-time job, more than half of the women from Liu’s survey work on a full-time or even overload basis. According to Liu’s surveys, on average during busy season, women spend more than 9 hours per day on the farm (respectively 9.5 hours in vegetable farming and 9.8 hours in flower farming). By contrast, women spend around 7 hours a day on the farm during slack season (respectively 7.6 hours in vegetable farming and 6.7 hours in flower farming) (Table 6).

However, in AFFHS, most of the vegetable women and half of the flower women work on a less than half-time basis. Although the sample for this study is reselected from AFFHS and share the same marital status, personal farm working status, and major farm enterprise, and household farming status (full-time farming) with those in Liu’s surveys, there is still a big difference in women’s time on the farm. One of the reasons for the big difference may

Table 6: Women's Time on Farm Work and Housework among Different Surveys

	Vegetable Women		Flower Women	
	Farm work	Housework	Farm work	Housework
Liu, Su and Tu (1995)	9.5 (7.6) ²	3.5 (3.8)	—	—
Liu, Su and Tu (1996)	— ³	—	9.8 (6.7)	3.9 (4.6)
Liu, Chang and Lee (1996)	9.4 (5.4)	—	8.7 (4.6)	—

1. working hours per day during busy season

2. working hours per day during slack season

3. — stands for that data is not available from those studies.

be the different nature of population. The population for Liu's surveys is from crop production groups sponsored by government (PDAF). By contrast, the population for AFFHS is all the farm households, including those who do not join the production groups. Women in Liu's surveys are a particular group of cash crop growers who are much younger and work on much smaller farms.

Assuming that young women would have more physical capability and so would spend more of their time on the farm, it is predictable that women in Liu's surveys spend more time on the farm than those in AFFHS. In addition to physical capability, time availability is another important dimension which is closely related to age and family stage. As far as time availability is concerned, young married women might be preoccupied by domestic work such as childbearing. As such, it is not necessary that younger women would spend more of their time on farm work.

In sum, because all the women in this study are in their mid-age meaning a late family life stage with much time available for farm work, it should be physical strength instead of

time availability which explains the difference in women's time in farm production. Whether this is predictable would need to be further explored in the multivariate analysis.

Farm scale indicates the need of women's labor. Concerning the availability and the cost of human capital and other resources which farm family can get access to, small farms are considered in a disadvantageous position to utilize capital such as machinery and hired labor. In order to avoid production cost, the increasing cost of hired labor and the decreasing possibility of mechanization for small farms would require women's involvement in agriculture (Bokemeier and Coughenour 1980). Therefore, it is reasonable that women in Liu's survey spend more time on farm work than those in AFFHS.

However, the earlier discussion seems still unable to sufficiently explain such a very big difference in time spent on the farm as it is between full-time and part-time working basis. Definitions of active labor between AFFHS and Liu's surveys may be more able to explain the difference. In Liu's surveys, respondents are asked to answer the hours they spend in farming which involves all activities relevant to farm production. That is, the working hours on the farm refer to a broader sense of active labor as suggested in literature review. However, in AFFHS, respondents only answer their time spend on the farm activities prior to marketing in farm production including general fieldwork and product processing and transporting. The definition of farm activities is even narrower than what is defined by neo-classical economics in which marketing is at least counted as a farm activity.

The exploration of women's labor time in a broader sense is supported by other similar studies. In a relatively small survey conducted by Liu, Chang and Lee (1996), vegetable women spend an average of 9.4 hours a day on the farm during busy season and 5.4 hours during slack season; while flower women spend an average of 8.7 hours a day on the farm during busy season and 4.6 hours a day during slack season (Table 6). Those flower women spend less of their time than those in Liu's survey for 1 hour during busy season and 2 hours during slack season.

Women's Time on Farm and Housework over Seasons

Given the fact that women in Liu's surveys are a particular group of hard workers, the

next important issue is the allocation of women's time on farm work and domestic work between two working seasons and the gender division of labor across productive and reproductive spheres.

This study shows that the women in vegetable or flower production spend, on average, at least 3.5 hours a day on housework over seasons (Table 7). In addition to 3.5 hours of housework, vegetable women spend 9.5 hours on farm work during busy seasons. Their time allocated to housework and farm work during slack season is 3.8 and 7.6 hours. Total hours in farm and domestic work decreases mostly because their time on the farm reduces for 2 hours over two seasons (13.0 vs. 11.4 hours a day). By contrast, flower women's time on housework and farm work is 3.9 to 9.8 hours during busy season and 4.6 and 6.7 hours during slack season (Table 7). Their time on domestic work increases for about 1 hour, while their time on farm work decreases for about 3 hours in slack season. However, there is 2-hour difference between two seasons in the total of women's labor time for family activities (13.7 vs. 11.4 hours a day). Comparatively speaking, flower women are more likely than vegetable women to face workload which varies from season to season.

As suggested by previous literature, although married women work outside for pay, the load of their housework does not accordingly decrease. Their husbands do not thus contribute more of their time to housework than they did before (Adam 1989). The discussion then turns to investigate whether this is also the case for farm women. As found in this study, women in vegetable and flower production spend less than 1 hour on farm work during both seasons (Table 7). In comparison with their husbands who do make a contribution to housework, women spend two hours more than their husbands on domestic work all the year round. Here, we need to note that the 2-hour difference is obtained under the condition that their husbands also help with housework. According to the data, there are only about 19 percent of married men in vegetable production indeed do housework every day all year round. Flower women seem to experience better situation than vegetable women in that many more of their husbands help with housework (around 37 percent during busy season; about half during slack season).

Table 7: Time on Farm work and Housework between the Couple in Vegetable and Flower Farming (average hours/per day)

	Busy Season				Slack Season			
	Farm work		Housework		Farm work		Housework	
	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband
Vegetable Farming Liu, Su and Tu (1995)	9.5 (2.7) ¹	10.0 (2.9)	3.5 (1.6)	1.4 (1.2)	7.6 (2.4)	8.4 (2.7)	3.8 (1.7)	1.4 (1.0)
	303 ²	296	299	56	294	295	300	59
Flower Farming Liu, Su and Tu (1996)	9.8 (3.3)	10.8 (3.2)	3.9 (2.9)	2.1 (2.0)	6.7 (2.3)	7.9 (2.3)	4.6 (2.0)	2.3 (2.3)
	311	309	301	115	305	302	307	155

1. Standard Deviation.

2. Valid cases.

In sum, it is universal that the increase of married men’s involvement in housework is limited. It suffices to say that most of the women in this study indeed face double workload in the daily life. The important issues then concern us are as follows. First, women’s time devoted to farm work and household tasks has to be visible. Second, we should find an appropriate way to reward their hard work on the farm. In Japan, there is a contract between family laborers as the reward. This way of rewarding does not necessarily work well but may provide us good references.

Women’s Perception of Work Role and Workload

So far, we are sure that at least half of the women in this study -- no matter which crop they grow -- are overload with farm work. As married women need to do domestic work without husbands’ help, those women might encounter a dilemma in allocating their time to farm work and domestic work or experience negative impact on their own health and life quality. The understanding of whether hard work affects women’s health and the quality of

family life may be based on their subjective feeling and self identity. With this concern, this study is then interested in investigating women's work roles in farming and farm workload from their own perspective in addition to from theoretical perspective already discussed in the earlier section. This study especially looks into women's perception from the extent to which their time is allocated to agricultural work.

Work role:

As shown in Table 8, more than half of the women in vegetable farming consider themselves farm helpers (53.1%). Less than one-fifths of them see themselves as homemakers. Very few of them identify themselves as farm managers or independent farm producers. The findings do not come to us as a surprise in Taiwanese society in which patriarchal ideology prevails. However, it is quite pleasant to learn that quite many of the women (almost one-fifths of the women in vegetable production) see themselves as full-time partners with their husbands.

Table 8: Vegetable Women's Perception of their Role in Agricultural

Production		Time on Farm			Total
		Production (%)			
Self Identity	Time on Farm	< 4 hours	4 - 8 hours	> 8 hours	
	Home maker		81.8	18.5	12.1
Farm helper		9.1	43.7	62.4	53.1
Farm manager		9.1	5.0	5.8	5.6
Full partner		0.0	26.1	13.9	18.2
Independent producer		0.0	6.7	5.8	5.9
Total		3.6	39.3	57.0	100
		(11) ¹	(119)	(173)	(303)

1. The number in the parenthesis is total valid cases in each category.

Among those women who allocate different amount of their time to vegetable farming,

about four-fifths of those who work on the farm for less than 4 hours view themselves as homemakers (Table 8). The figures suggest that the married women who have housework responsibility and spend less than 4 hours a day on farm work tend to identify themselves as homemakers. Those women in fact tend to be invisible farmers meaning invisible in labor statistics. Although not so many women are in this group, they still need our additional attention in the future.

For the vegetable women who work on the farm for at least 4 hours, about one half (53.1%) of them see themselves as farm helpers and about one-fifths (18.2%) of them perceive themselves as full partners. As shown in this study, among 57% of vegetable women who spend more than 8 hours on the farm, 80 % of them still devalue their work roles by identifying themselves as farm helpers (62.4%) and homemakers (12.1%). Those women need our special attention on why they feel comfortable with such a subordinate position. Women who spend 4-8 hours on the farm follow the same pattern of role-identity as those spend more than 8 hours in that. However, it is surprising to see that women in the 4-8 hour group are more conscious of their position being important for the agricultural production than their counterparts are.

The divergent findings provide different speculation of women's awareness of work roles. First, it is for sure that most of the women who spend less than 4 hours are comfortable with being a homemaker who sometimes helps farm work. Their gender role attitudes to much extent are very much affected by the deep-rooted patriarchal value orientation which reinforces domestic ideology. This effect is going unconsciously. Second, we can say that most of the women who spend more than 8 hours hold high degree of traditional gender role attitudes. This group of women need our respect in that even they spend more of their time working very hard, they are less likely to think their role should be in productive/public sphere. Comparatively, according to Table 8, much more of the women who spend 4-8 hours on the farm hold modern attitudes toward their work roles. This strikes us that this group of women tend to be more conscious of working status as working women than other women in the sample.

The women in flower production are more likely than those in vegetable production to consider themselves full partners of the farm enterprise (31% vs. 18.2%), but less likely to

consider themselves independent farm producers (2.2% vs. 5.9%) (Table 9). On the other hand, women are much less likely to consider themselves farm helpers (40.3% vs. 53.1%). Rather, they would identify themselves as homemakers (21.1% vs. 17.2%).

For the flower women who work less than 4 hours a day on the farm, it is surprising that only around 30 % of them see themselves homemakers, while 40% of them identify themselves as farm helpers. Furthermore, almost 20 % of them think of themselves full partners. 52.6 % of the women spend at least 8 hours on the farm, only 36% of them view themselves as farm helpers, while about 37% of them perceive themselves as full partners.

Table 9: Flower Women's Perception of their Role in Agricultural Production (%)

Time on Farm \ Self Identity	< 4 hours	4 – 8 hours	> 8 hours	Total
Home maker	31.8	20.6	20.1	21.7
Farm helper	40.9	46.0	36.0	40.3
Farm manager	9.1	5.6	4.3	5.4
Full partner	18.2	25.4	37.2	31.0
Independent producer	0.0	2.4	2.4	2.2
Total	7.1 (22) ¹	40.3 (126)	52.6 (164)	100 (313)

1. The number in the parenthesis is total valid cases in each category.

In contrast to vegetable women discussed earlier, concerning the women who contribute less than 4 hours on the farm, flower women seem to be more conscious of their status in agricultural production or in the farm family. This may be because in comparison with vegetable women, flower women are younger, more educated and so they are more conscious of gender roles. Despite the different patterns of attitudes in different work roles, it is still true that most of the women in either vegetable or flower production still consider themselves to be in a powerless position as farm helpers. This finding (especially for flower women) is similar to the finding on the women in Kentucky Study (Bokemeier and Garkovich 1987) in

that 37.8% of farm women identify themselves as farm helpers while 28.8 % of them consider themselves homemakers.

Workload:

As most of the farm women work very hard but are subordinate to their husbands, how they feel about their contributions to agriculture becomes another important issue. Whether women's satisfaction with their role in agricultural production is equivalent to what feminist researchers believe will be further examined in this study. Base on the findings on women's self-identity, we may say that most of the women may not consider their workload to be heavy.

According to Table 10 and 11, more than half of the women, no matter which crop they grow, feel that their workload in farming is not heavy (57.3% -- 40.4%+16.9% for vegetable women and 68.0% -- 56.1%+11.9% for flower women). Especially for the women in flower production, more than half of them feel that their workload is just all right (56.1%). In other words, most of the flower women are satisfied with their participation in agricultural production. Table 10 shows that in vegetable farming, women who work less than 4 hours are likely to think their workload is not heavy, but more than half of the women who work more than 8 hours on the farm feel that their workload is all right. For the women growing flowers, the figures in Table 11 indicate that the more time women spend on the farm, the heavier workload they have.

Table 10: Vegetable Women's Farm Workload Perception (%)

Time on Farm \ Workload Perception	< 4 hours	4 – 8 hours	> 8 hours	Total
Heavy	9.1	31.4	25.2	42.7
Just about right	45.5	44.1	65.0	40.4
Not heavy	45.5	24.6	9.8	16.9
Total	3.6 (11) ¹	39.3 (118)	51.1 (173)	100 (302)

1. The number in the parenthesis is total valid cases in each category.

Table 11: Flower Women’s Farm Workload Perception (%)

Time on Farm \ Workload Perception	< 4 hours	4 – 8 hours	> 8 hours	Total
Heavy	18.2	23.8	40.2	32.0
Just about right	72.7	64.3	47.6	56.1
Not heavy	9.0	11.9	12.2	11.9
Total	7.1 (22) ¹	40.3 (126)	52.6 (164)	100 (312)

1. The number in the parenthesis is total valid cases in each category.

However, still quite many women who work more than 8 hours in either vegetable (25.2%) or flower (40.2%) production consider their workload to be heavy. From most of the women’s perspective, they are only farm helpers and feel all right about their workload. However, from feminist perspective, most of the women in this study are not confident in the contributions of their professional skills and knowledge as the important resource for them to retain a certain degree of power in the family. The factors affecting their attitudes and behaviors require further studied. According to previous literature, patriarchal system and capitalism at the social structural level and women’s attitudes toward patriarchy, altruism, and self-actualization at the personal level are the important factors. However, to what extent those factors influence women’s perception requires further exploration.

Conclusion and Suggestions

Conclusion

This paper adequately provides a broad theoretical framework of understanding women’s labor time in the farm family. Although the comparative analysis only focuses on vegetable and flower farming, it supports that women’s role in agricultural production tends to be underestimated by the narrow definition of active labor/time as previous studies suggested.

As women commit a large amount of their time to farm work, their housework does not decrease with their hard work on the farm. There is no doubt to say that they actually undertake double workload. Given their hard work, most of the women in this study still think that they are farm helpers. From the further investigation of women's role identity from the time they spend on the farm, this paper also discovers a group of married women who are neglected easily. This group of women are those who work less than 4 hours on the farm.

Furthermore, most of the women do not think that their farm workload is heavy. This brings us to another important issue to deal with. That is, how we explain the conflicting view between feminist perspectives and women's own perspectives. This also brings us to the debate of whether the quality of those women's life degrades from their own and feminist perspectives.

Suggestions

There has never been a perfect research in reality. This study presents some disadvantages. However it provides us with better understanding and suggestions of women's role in farm production.

First, time budget approach for studying farm women should be used with caution conceptually and methodologically. It would be inadequate to show women's time input to agricultural activities defined as those are in AFFHS or Neo-classical economics theory. The results from this study already support the broad definition of agricultural activities as suggested in the previous literature. In order to visualize women's substantial labor input to agricultural production, labor statistics or farm labor surveys (e.g., census of agriculture) should follow the broad sense of active labor confirmed by this study.

Second, the way of measuring time budgets is still debatable. We can examine this issue from the measurement. Concerning questionnaire design, it is important that in addition to researchers, respondents need to be clear about farm activities defined in the broad concept of active labor. When we ask farmers "how much of time they spend on the farm?", they might answer straightly referring to the tasks in the production stage. Without clear explanation, respondents may not be able to tell us about their task participation which may

not be necessary to be done on the farm but indeed are closely related to agricultural production. Unfortunately, those tasks which women play an important role in mostly administration, supervision, or supporting jobs, are very important to the success of family farms.

On the other hand, this study measures women's time in agricultural production in a simple way asking them to recall the total hours they spend on the farm everyday in a year. However, it is still inadequate to present the complicated nature of women's time allocation among all kinds of agricultural activities between private and public spheres. That is, the irregular and coexisted time allocation does not explicitly present. Therefore, we need a better way of measuring time such as time diary and time schedule. The measurement should start with a detailed layout of farm tasks and house tasks and be followed by a detail documentation of hours and minutes they spend on those tasks. The amount of time they spend on both kinds of tasks at the same time also needs to be documented clearly. At the same time, we need to measure a general work time on those tasks by hours a week so that we can double check the validity and reliability of the data the subjects provide.

Third, this study shows that most of the women in this study identify themselves as farm helpers, although they spend very much of their time on agricultural activities. Because the definition of role in production in this study is based on work participation, there may be other dimensions of role in production. However, this study only shows women's awareness of one dimension of role which represents their physical contribution/workload.

As a consequence, the perception of the other dimension of the role in agricultural production -- the role in farm decision-making remains unexplored. Two questions left are whether farm women have fair amount of decision power in agricultural production and how they perceive their role in decision making across all agricultural tasks. In the future study, women's role identity in agricultural production combined with other dimensions of roles perception is in need.

Fourth, this study already shows the importance of realizing women's attitudes toward their roles and participation in farming. This finding could provide agricultural extension agents with good references for the design of extension/training programs for farm women. In the future, the examination of women's attitudes toward farming (task participation and

decision making), farm life, being farmers, and contributions to agriculture is necessary for the pursuit of their better working environment and training. The attitudes should be examined in comparison with farm men.

Fifth, the marginalization of women's position in agricultural production is for sure at least for a particular group of women (in two kinds of cash crop production). In addition to improving women's farming skills and knowledge by increasing their opportunities to attend training programs and revising the training programs, the reform of agricultural development policy is also needed. Under the pressure from double workload, farm women definitely need our special attention on the equity of on-job training, welfare and health services, and credit programs to enhance their quality of life.

Sixth, to extend this study, further analysis of women in other farm enterprise is necessary. We then can explore whether women's substantial participation in all farm enterprises can be generalized and to what extent their participation in terms of time and labor in the broad definition of farm activities is underestimated.

Seventh, large scale of nation-wide surveys concerning farm women is no doubt necessary. Census of Agriculture which will be carried out in 2000 should be the good chance.

References

- Adam, Barbara (1989) Feminist social theory needs time: Reflections on the relation between feminist thought, social theory and time as an important parameter in social analysis. *Sociological Review*, (II): 458-473.
- Adam, Barbara (1990) *Time and social theory*. Philadelphia: Temple University.
- Adam, Barbara (1995) *Timewatch: The social analysis of time*. Cambridge: Polity Press.
- Alston, Margaret (1995) Women and their work on Australian farms. *Rural Sociology*, 60(3): 521-532.
- Becker, Gary S. (1991) *A Treatise on the family*. Harvard University Press.
- Beneria, Lourdes (1985) Accounting for women's work (pp. 119-147). Lourdes Beneria (ed.), *Women and development: The sexual division of labor in rural societies*. New York: Praeger Publishers.

- Bennholdt-Thomsen, Veronika (1982) Towards a theory of the sexual division of labor, in Joan Smith et al. (eds.), *Households and the world-economy*. CA: Sage Publications City.
- Blekesaune, Arild, Wava G. Haney, and Marit S. Haugen (1985) On the question of the feminization of production on part-time farms: Evidence from Norway. *Rural Sociology*, 58(1): 111-129.
- Bokemeier, Janet L. and C. Milton Coughenour (1980) Men and women in four types of farm families: Work and attitudes. Paper presented at the annual meeting of the Rural Sociological Society, Cornell University, August.
- Bokemeier and Garkovich (1987) Assessing the influence of farm women's self-identity on task allocation and decision making. *Rural Sociology*, 52(1): 13-36.
- Boserup, E (1970) *Women's role in economic development*. New York: St. Martin's Press.
- Burton, Michael L. (1985) Sexual division of labor in agriculture. *American Anthropologist*, 86(3):566-583.
- Cheng, Yi-Chung (1992) *Labor allocation, feminization and efficient management on the farm*. Master Thesis. Taipei, Taiwan: National Taiwan University.
- Chiang, Sein-Gua (1995) Women's work role in the farm family. Paper presented in Farm Management and Adaptation Conference.(In Chinese).
- DBAS (Directorate-general of budget, accounting and statistics) Executive Yuan (1997) *1995 Agricultural, Forestry, Fishery, and Husbandry Survey*.
- Fassinger, Polly A. and Harry K. Schwarzweller (1982) *Work patterns of farm wives in Mid-Michigan*. In Research Report from the Michigan State University, Agricultural Experiment Station, No. 425, Home and Family Living, East Lansing.
- Friedland, William H. (1982) Women and agriculture in the United States: A state of the art assessment (pp. 315-338). In Friedland et al. (eds.), *Towards a new political economy of agriculture*. Boulder, CO: Westview Press.
- Formann, Frieda Johles (1982) Feminizing time: An introduction, in Frieda J. Formann (ed.), *Taking our time: feminist perspectives on temporality*. oronto: Pergamon Press.
- Haney, Wava G. and Knowles (eds.) (1988) *Women and farming: Changing roles, changing structures*. Boulder CO: Westview Press.
- Huffman, Wallace E. (1976) The value of the productive time of farm wives: Iowa, North

- Carolina, and Oklahoma. *American Journal of Agricultural Economics*, 58: 836-41.
- Kao, Shu-Gue (1995) *Women's decision-making participation in fishery*. Report to Council of Agriculture. (In Chinese)
- Lai, Erh-jo and Miao-Chuan Lin (1996) *Aboriginal women's decision-making participation in family farming*. Report to Council of Agriculture. (In Chinese)
- Liu, Chin-yun, Yei-fe Su, and Suhao Tu (1995) *Housewives' role for farming*. report to National Science Council. (In Chinese)
- Liu, Chin-yun, Yei-fe Su, and Suhao Tu (1996) *Women's role in farm production: Comparing flower and vegetable farming*, Report to National Science Council. (In Chinese)
- Liu, Chin-yun, Ming-yu Chang, and Ching-Sung Lee (1996) *Women's labor participation in agriculture*. Report to Council of Agriculture.
- Pearson, Jessica (1979) A note on female farmers. *Rural Sociology*, 44(2): 189-200.
- Pfeffer, Max J. (1989) The feminization of production on part-time farms in federal Republic of Germany. *Rural Sociology*, 54(1):60-73.
- Redclift, Nanneke and Sarah Whatmore (1990) Household, consumption and livelihood: Ideologies and issues in rural research. (pp. 182-194). Marsden et al. (ed.), *Rural restructuring: Global processes and their responses*. London: David Fulton Publishers.
- Reimer, Bill (1986) Women as farm labor. *Rural Sociology*, 51(2):143-155.
- Rosenfeld, Rachel Ann (1985) *Farm women: Work, farm and family in the United States*. Chapel Hill and London: The University of North Carolina Press.
- Sachs, Carolyn E. (1983) *The invisible farmers*. New Jersey: Rowman & Allanhel.
- Sachs, Carolyn E. (1988) The participation of women and girls in market and non-market activities on Pennsylvania farms (pp. 123-134). Wava G. Haney and Knowles (eds.), *Women and farming: Changing roles, changing structures*. Boulder CO: Westview Press.
- Tu, Su-hao (1996) *Taiwanese farm somen: An analysis of the agrinubial power process*. Doctoral Dissertation. East Lansing: Michigan State University.
- Tu, Su-hao (1997) Women labor on family farm – theoretical review and new conceptualization. *Journal of Women and Gender*, 8:265-286. (In Chinese)

Tu, Su-hao, Yei-fei Su and Ching-yun Liu (1998) Housewives' roles for farming. *Taiwan Bank Quarterly*, 50(1):283-310 (In Chinese)

Whatmore, Sarah (1991) *Farming women: Gender, work and family enterprise*. Houndmills, Basingstoke, Hampshire, and London: MacMillan Academic and Professional LTD.

已婚婦女在家庭農場的勞力時間

杜素豪*

中文摘要

過去的文獻顯示，婦女對農業生產的貢獻，常在傳統經濟學理論對農業勞力狹隘的定義，以及官方勞力統計資料中被低估。這種低估由父權意識型態中女性家庭主婦化（housewifization）過程中得到充分的肯定。

本文企圖走出經濟學理論對性別分工之兩分式的研究架構所呈現的有限性，瞭解農家婦女勞力被低估的情形以及其可能造成的婦女角色認同的問題。本文首先利用所建構廣義的農場勞動力，分析已婚農家婦女在自家農場之勞力時間投入。這方面的分析著重在與丈夫工作時間、季節變化、家務工作參與的變化等三方面之比較，並輔以官方調查統計資料及前人研究結果說明。其次，本文分析婦女對自己在農業生產中的角色認同與工作負荷的態度，並瞭解她們的角色認同與工作負荷的態度是否與其在農場工作上的時間投入有關。

研究結果顯示，單就蔬菜與花卉生產而言，已婚婦女在農業勞力時間投入可以與一般職業婦女相提並論。這個發現與官方統計數字有很大的差異。其次，雖然多數的婦女在農場上辛勤的工作，她們在家務勞力上投入的時間並不因為農務淡季而大量減少，而且她們有貶低自己在農業生產中扮演的地位以及農業生產貢獻的傾向。儘管如此，她們對過重的工作份量卻不會有反抗的心理。

基於以上的瞭解，作者強烈的建議特別從工作福利、酬償、生產資源取得、訓練參與機會等多方面去關心這些參與了商業化或商品化農業生產工作行列，且每天例行的必須同時在家務及農務之間努力工作的婦女。

關鍵字：農場勞力，農場勞力的性別分工，家務勞力的性別分工，時間預算

* 中央研究院調查研究工作室助研究員。

作者特別感謝行政院主計處提供民國八十四年執行之台閩地區農林漁牧業調查資料及劉清榕教授與蘇雅惠教授提供協同參與由國科會經費補助之兩年農家婦女研究計劃。最後，感謝兩位匿名審查人對本文提出寶貴的建議。