

FILIPINO WOMEN IN RICE FARMING SYSTEMS: SOME EMPIRICAL EVIDENCES*

Gelia T. Castillo**

*Department of Agricultural Education
and Rural Studies, College of Agriculture
University of the Philippines at Los Baños
College, Laguna, Philippines*

Introduction

One indisputable fact of life in this country is the primacy of rice in our diet, in our politics, in our agricultural economy. But why women in rice? Because 1985 marks the end of the International Development Decade for Women, this is a time for assessing what has been or has not been achieved by and for women of the developing world. It is probably fair to say that the past Decade has done more for professional women but not much, if any, for women in agriculture. If we are to move beyond the rhetoric of women-in-development, we need an analysis or at least a good description of what women actually do in rice farming, for example, in order to more accurately define their situation before designing strategies to improve that situation.

Since rice is so important to us, this paper puts together some available empirical evidences on the participation of women in rice farming systems so that we can identify problems, issues, and prospects for technology development, farm management, and community organization. Four aspects relevant to the general area of women in rice farming systems are presented here:

1. Participation in the physical production process
2. Decision-making role in activities relevant to rice farming
3. Significance of rice-farming systems as a source of employment and income
4. Organizational membership and leadership roles in irrigation and other farm-related projects

Because data for this analysis come from a number of different studies conducted in different areas of the country by different researchers, and partly because

*Data for the first part of this paper were made available by Mr. Bart Duff of IRRI from their project on the "The Consequences of Small Rice Farm Mechanization in the Philippines". However, the interpretations and implications from the data are the author's.

**With the assistance of Ms. Laarni Atienza, Department of Agricultural Engineering, International Rice Research Institute, Los Baños, Laguna, Philippines

of data limitations, this attempt at synthesis should be regarded as suggestive or indicative of trends but not definitive. As a matter of fact, the purpose of this paper is to sensitize us to the issues emerging from the existing evidences.

Participation in the Physical Production Process

Using data about 320 farm households from 8 villages, four from the predominantly rainfed Guimba district and four from Cabanatuan, an irrigated district relatively close to Cabanatuan City, this section examines what women do in rice production systems. The 320 farm households come not only from different levels of irrigation but also from different levels of mechanization which was the focus of IRRF's research project on "The Consequences of Small Rice Farm Mechanization in the Philippines". Data were gathered in 1979-1980. One major weakness of this data set for our analysis of female participation in rice production is the frequent occurrence of *undetermined sex* especially with respect to seasonal hired labor. Since the farmer is the respondent, he is not always aware of how many males or females work in his farm particularly for seasonal jobs like transplanting, harvesting and threshing. The male/female participation was estimated on the basis of the male/female proportion which is known.

With this caveat, an attempt is made to identify trends from Tables 1 to 17.

- 1) Irrigated farms tend to be mechanized and therefore absorb less labor contrary to what we might expect. Rainfed farms utilize more operator/family labor than the gravity-irrigated ones which use seasonal labor most. However it is also in these latter farms where average total man-hours of labor input is lowest.
- 2) Total rice crop applies more seasonal than operator and family labor. The use of permanent labor is minimal perhaps because of the tenancy right which such an arrangement could lead to. Exchange labor is only 6 percent in the dry season and 7 percent in the wet season.
- 3) The estimated female contribution to total rice crop average man-hours is 31 percent for the wet season and 24 percent for the dry season. There is higher female participation in non-mechanized than in mechanized farms; in rainfed and pump irrigated than in gravity-irrigated farms.
- 4) Land preparation is an all-male task and about two-thirds operator/family input. Transplanting is estimated to be 55 percent female in the wet season and 45 percent in the dry season. Transplanting is also about 80 percent seasonal labor which most probably includes a very high proportion of labor from landless households. However we cannot be certain about this since lower-income farm household members also work in other farms on a seasonal basis.
- 5) Rainfed farms use more operator-family labor, 57 percent (even for harvesting) than gravity-irrigated farms (11 percent) during the wet

season but during the dry season there is more operator/family labor used for gravity-irrigated than rainfed farms (40 vs. 33 percent). In the wet season 80 percent of harvesting in irrigated farms is seasonal but total average man-hours is almost half of labor input in rainfed farms. Non-mechanized farms have higher estimated female participation in harvesting (43 percent vs. 27 percent) estimated for gravity-irrigated, fully mechanized farms.

- 6) For all the farms studied the total female labor input in harvesting is estimated to be 38 percent in the wet season and 35 percent in the dry season. Relatively speaking, there is a lower female input in harvesting than in transplanting but a higher seasonal labor (80 percent) for the latter than the former (55 and 67 percents for wet and dry seasons, respectively)
- 7) About 40 percent of harvesting labor is contributed by operator/family during the wet season and 28 percent during the dry season. This is a disturbing trend which suggests that the farmer and his family are taking on the task for themselves. Is it possible that "sharing the harvest" with others has become less of a community norm and therefore the landless has even less opportunity to participate.
- 8) Comparing non-mechanized and mechanized farms; rainfed and gravity-irrigated ones, the following observations may be made:
 - a) Non-mechanized rainfed farms have higher average total labor input per hectare for rice crops. For non-rice crops, gravity-irrigated farms have higher average total labor input for both cropping seasons than rainfed farms. Non-mechanized, rainfed farms use more operator/family labor than mechanized, gravity irrigated ones. Mechanized/gravity-irrigated use more seasonal labor relatively speaking because we must not forget that total labor used is less for mechanized/gravity-irrigated farms.
 - b) Fertilizing, spraying, irrigation and drainage are practically all-male tasks. Even drying is predominantly male. Weeding for non-mechanized farms is more female for dry season, more male for wet season whether rainfed or gravity-irrigated. Non-rice crop is practically all operator/family and mainly male labor. Labor for care of draft animals is mainly operator/family and male. Some permanent labor and some seasonal labor is used by mechanized/gravity-irrigated farms for taking care of productive animals. Noteworthy is the labor input for care of productive animals which is contributed mostly by female operator/family labor which probably means the farmer's wife.

Tables 18 and 19 present in more detail the types of labor used by 320 farm households in different rice production tasks. The most obvious conclusion from these two tables is that the farmer's wife is only a minimal participant in these rice

production tasks – such as transplanting, pulling seedlings, seeding seedbed, weeding. A few are involved in top dressing fertilization. Daughters participate even less. Sons are much more the farmer's ally in rice production tasks although the major implementor particularly of input applications such as fertilizer, insecticide, herbicide, seedbed preparation, seeding seedbed is still the farmer. Permanent laborers who are all male perform some of these tasks for the farmer but there are not many of them. Male laborers are also hired but not on a permanent basis for these input applications but their major tasks are transplanting and pulling seedlings.

In general, the female contribution to the physical rice farming production system appears to be limited mostly to transplanting, harvesting, and care of productive animals. In the first two tasks, women are not even the major participants.

Much less is known about the involvement of women in rice processing distribution and utilization enterprises. D. M. Torreta *et al.* studied 16 women entrepreneurs from Laguna whose income levels are as follows:

		<i>Average Income (Annual)</i>		
		<i>No.</i>	<i>Household</i>	<i>Per Capita</i>
1.	Rice milling	2	126,000	22,909
2.	Rice retailing	2	1,524,000	277,091
3.	Rice milling and dealing	2	46,374,000	7,134,461
4.	Native rice delicacy making as hired workers in pinipig factory	5	8,478	1,766
5.	Native rice delicacy entrepreneur	1	No data	No data
6.	Native rice delicacy making and selling	4	23,986	3,423
		16		

Rice milling is a parttime involvement with wives performing a minor role in attending to customers and receiving payment, while their husbands operate the milling machine. In rice retailing, women play a very major fulltime role by doing such things as: attending to bodega delivery/inventory; cash payment of rice delivery (100% involvement); selling and receiving payment. In rice milling-dealing businesses, the wife is, also very much involved fulltime in the office attending wholesale buying and selling activities with the help of hired workers while the husband attends to paperwork and other legal matters with the aid of a fulltime secretary. Rice delicacy making and selling in small scale and in large entrepreneurial scale are also full-time work. Five women work as hired workers in a pinipig factory for five or six days a week. Sundays are rest days generally for all of them except the rice retailers who work seven days a week. Makers and sellers of rice delicacy appear to have less sleep time compared to the other women.

As far as income is concerned, rice milling and dealing seems to bring the highest income but also needs the most capital. This is followed by rice retailing and small rice milling. Lowest income accrues to the hired workers.

The owner/operator/seller activities in the rice utilization enterprise consists of preparing and cooking; transporting to market; selling; and buying ingredients. The wife is the major actor in all of these activities with minor participation of husband and children except for transporting of goods to the market which is shared equally among husband, wife, and children. Buying ingredients is 100 percent the wife's task.¹

Decision-making Role in Activities Relevant to Rice Farming

The preceding discussion tells us that woman's role in the physical production process is a limited one. But does this mean she is not involved in the management of the farm? Since the Filipino woman is the usual family treasurer and household manager, resources for the farm are most likely part of the overall household budget. One would therefore expect the wife to have at least some influence over how these resources are allocated.

Although many studies have established the wife's participation in farm-related decisions, Bascug's research in Baybay, Leyte examines the problem in greater and more specific detail. Table 20 shows the following:

- 1) Wives are very much involved in decisions pertinent to allotment of money for farm activities such as land preparation; purchase of planting materials, inputs, farm equipment; and hiring of laborers. About a third of the wives "alone" allocate money for this purpose and another third do so with their husbands. Procurement of budget for farm activities is decided in much the same way. But handling the budget for the different farm activities is a task which predominantly belongs to the wife.
- 2) Although decisions on land preparation (who, and when), selection of planting materials (what and where to purchase); weeding the farm (which tools to use and when); fertilization of the farm and application of chemicals (use, kind, amount, and when to apply); harvesting of produce (when, who to hire and sharing arrangements); transportation of farm produce (place, arrangements, persons to hire); marketing of produce (where, contact outlets and price) are more *husband alone* (40 percent or more) than *wife alone*, about a fifth to a fourth are *wife alone* and another fifth or fourth are both *husband and wife* decisions. This means that more than half of the wives participate even in these more "technical" decisions. The question is: "*Are the wives sufficiently*

¹D. M. Torreta, M. J. Tubelleja, M. U. Garcia, R. G. Piadozo, C. B. Colanta and V. B. Fernandez, Rural Women in Rice Enterprise: A Case Study, a part of the FAO-NEDA project on "Linking Rural Women's Production, Enterprise to Family Benefits and to Country Programmes". College of Human Ecology, UP at Los Baños.

knowledgeable as to be able to contribute effectively to these decisions?"

- 3) Although a third of the farm households studied did not borrow money for farming operations. Among those who did, the decision was more *joint husband and wife* rather than *husband alone* particularly with respect to amount to be borrowed. About a fifth said it's a wife alone decision. Again, the question is: "*How much do the wives understand the intricacies of the loan procedures and requirements and the productive application of such loans?*" Twenty percent of them for example, did not bother to list farm expenses. The use of credit for productive purposes is a sophisticated management undertaking. In general, the farmers' wives are not a deliberate target audience of agricultural credit programs.
- 4) Membership in organizations is very much a *wife alone* decision although holding of positions in the organization includes some joint endeavour. For the 27 percent who did not belong to any organization, is it possible that the husbands yielded the veto power? Only 17 percent belonged to the Samahang Nasyon. Participation in community projects with respect to number of projects and initiation of their implementation is mostly a *wife alone* decision and so is participation in nutrition programs. However, production and family planning programs tend to have more husband participation although more than half say they are *wife alone* decisions. The more important observation is the very small proportion of households who participate in these programs — 21 percent for nutrition; 18 percent for production; and 30 percent for family planning programs.
- 5) Table 21 indicates the characteristics of farm wives and the decision-making patterns. There is a tendency for women in agricultural occupations; with higher incomes; who have been married for a longer time; have smaller household size; and are older to make more independent decisions (*wife alone*) with respect to procurement of budget for farm activities, harvesting period; and amount to borrow. Wives with high school and college education are more joint in their decisions, and so are those engaged in non-agricultural occupations with respect to deciding on amount to borrow for the farm. *Husband alone* decision-making pattern tends to be associated more with lower family income; shorter married life; younger and lower education of wife.²

Perhaps wife's exposure to and experience in farm-related matters contributed to greater wife participation in decision-making.

²Marilyn N. Bascug, *Decision-Making and Leadership Patterns of Rural Women in Two Leyte Villages, Philippines*. (Unpublished M.S. Thesis, UPLB, Nov. 1981).

Significance of Rice-Farming Systems as a Source of Employment and Income

Data from the May 1968 Bureau of Census and Statistics Survey of Households reported that:

"Of the total number of persons employed in agriculture, hunting and fishing, 68 percent of 7.2 million are in rice and corn farming. Of the total males in agriculture (5,339,000) as of 1968, about 66.3 percent are engaged in rice and corn farming and of the total females (1,863,000) in agriculture, 73.1 percent are in the same category.

Seventeen years ago, agricultural and residential landlessness was not yet an issue. The share tenant then was regarded as landless because he did not own the land he was tilling. Nowadays, he is not considered landless because he has access to land. The truly landless of today are those who have no land to till let alone own. His major source of income is the "sale" of his labor to those who have land either as share tenant, lessee, CLT holder or owner. If we had manufacturing industries, agro-industrial enterprises and other agricultural pursuits galore, employment for the agriculturally landless, the underemployed member of the farm household and the general overflow of the rural labor force would quickly find a niche for themselves. But such is not the current state of affairs.

Although we have not yet found the 1980 or 1985 statistics equivalent to the 1968 figure cited as to the number of females in agriculture and in rice and corn farming, we know that there are about 54 million Filipinos at the moment. In 1968, our population was about 36 million. In the absence of the neat national figures, we present a micro view of the employment, and income situation from rice farming systems from several studies conducted in Bicol, Central Luzon, Laguna, Negros Occidental, and Iloilo.

In assessing the labor participation of working wives, it is necessary to differentiate farm from landless households. Illo's study shows a higher proportion of working wives engaged in wage jobs from 40 to 54 percent at different times of the year for landless households and only about 21 percent for farmers' wives. Furthermore, there is a difference in the contribution of the wives' labor earnings as a proportion of total weekly family income. Table 22 shows that working wives from Gatbo contribute from 26 to 31 percent as against only 14 to 18 percent from working wives in Ayugan.

Illo explains this difference in the role of market production activities in the 2 villages:

"At the same time that village wives continuously kept house for their families and looked after the welfare of their spouse and children, they also engaged in an array of activities which would either produce marketable commodities or earn them some income. The percentage of women with non-zero market production time varied from one period of the year to another, but never did the figure fall below 64 percent in Ayugan and 86 percent in Gatbo. And in at least 5 percent of the sample families, the wife was in the labor

force while the man was either ill or could not find work in the village. The more common arrangement, however, had both the woman and her spouse involved in market production. This was particularly true in Gatbo where at least 8 of every 10 sample families had a working man and wife team; in Ayugan, the proportion was about 6 of every 10 sample cases.

The preponderance of working-wife cases in Gatbo appears to be associated with the generally lower family earnings in the area. The average annualized earnings of Gatbo families stood at ₱5,951, which was but 61 percent of that estimated for Ayugan families (₱9,683). With annual minimum food requirements in 1979 valued at about ₱8,000 for a family of six, about 81 percent of Gatbo families as compared with 57 percent in Ayugan, may be considered 'absolutely poor'.

Access to riceland	Average annual family earnings (1979)			
	Ayugan	N	Gatbo	N
Farming	₱11,394	(69)	₱6,655	(68)
Landless	₱ 5,875	(31)	₱4,454	(32)

The variation in average family earnings between the two villages and among families within each community may be partly traced to the access which families have to productive resources. In Ayugan, farming families generally had irrigated land where crop turn around could be facilitated with the use of farm machines. Consequently, the divergence between the earnings of farming families and those of landless households had been dramatic; the latter's average earnings were only about half of the former's. In contrast, a majority of farming families in Gatbo were either operating non-irrigated land or cultivating irrigated farms without sufficient resources to maximize returns to rice farming. Probably because of the minimal advantage which farming households enjoyed over landless households in this village, annual earnings did not vary significantly with families' access to riceland. In Gatbo, more than in Ayugan, therefore, families seemed to differ in economic status very minimally: most were poor, a few were a little less poor."

What is the significance of rice farming in these market production activities? Seventy-four percent of total reported activities during the eight-month research period are in rice production (transplanting, weeding, harvesting and threshing); 16 percent are in stripping of abaca, sugarcane harvesting, and other agricultural activities; 10 percent are in non-farming activities such as teaching, dressmaking, and doing laundry.

"Of the possible market activities, unpaid work in agricultural enterprises of the household other than rice farming accounted for the largest proportion of married female workers in Ayugan and Gatbo. Probably because of the low time requirement of these activities, working wives had sometimes combined their backyard gardening and livestock or poultry

raising with wage employment. At other times, married women from farming households actively engaged in rice-farming activities while keeping their gardens and a brood of chicken or one pig.

Meanwhile the 20 or so wives who worked for wages during the research period were found to be involved in different tasks in rice farms, stripping of abaca or harvesting sugarcane. However, there tended to be a concentration of female workers in harvesting and threshing of rice crops in March and April, and again in September and October; in June, a number of working wives joined transplanting teams. A comparison of the wage employment of married women in Ayugan and Gatbo underscored two points. One, overlaps in rice-farming activities seemed to occur in a community like Ayugan where farms have access to irrigation facilities, realize at least two crops in a year, and planting schedules are staggered rather than uniform for all. And two, shortfalls in labor demand from rice farms could be covered by other crop farms' demand. This would tend to obtain when a semi-upland village like Gatbo had diversified cropping system, thus wage employment opportunities particularly for landless workers would not depend exclusively on low-cropping intensity rice farms.

Although the village economy might dictate the degree of involvement of women in the formal labor market, family circumstances like poverty appear to unveil strategies and mechanisms through which women could help support their family. Production activities which are commonly referred to as petty gainful occupations provide the meat of such strategies. The higher participation of women from a poorer village like Gatbo in growing vegetables and fruit trees, and in tending pigs which could be sold later presents itself as a refutable evidence of informal market work as a response to poverty.³

In an analysis of labor allocation patterns of women in rainfed rice farm households, Res noted the effect of the household's developmental cycle and its wealth status on labor allocation of its members. Only in the low income households do women engage in farm wage labor. In addition, those women also contribute more labor to rice production in their own farm because they cannot afford to hire labor. Furthermore, during the second phase of the household developmental cycle, when children are growing up, women increase their contribution to rice production, because they are freed from housework and child care and because of the necessity to meet family needs. Their participation in rice production occurs mainly during peak period. They contribute on the average about 11 percent of the total family labor in rice production, against 20 percent in other crop production. Women, however, grow vegetables at any phase of the life cycle and at any income level. Her labor input in non-rice crops is spread throughout the year. Small areas of vegetables are grown under continuous care for a few hours per week, allowing a

³Jeanne Frances I. Ilo, *Wives at Work: Patterns of Labor Force Participation in Two Rice-Farming Villages in the Philippines*, Paper presented at the Conference on Women in Rice Farming Systems, IRRI September 26-30, 1983.

steady market income. In households with higher wealth status women spent more time in pig raising.

Changes in female labor use in rice production in the village over a period of 15 years were traced to the following: 1) Replacement of the *Kayog* (small harvesting knife) by the sickle as harvesting tool for women, caused by the introduction of the relatively short-statured variety (BE-3) started in the sixties; in 1974 the sickle, which is a labor saving device, was used by all female harvesters.

- 1) Since 1970 the modern varieties were gradually introduced in the village. Direct seeding of pre-germinated seeds on puddled fields (wet-seeding) became a viable establishment technique with these varieties. By skipping the laborious transplanting operation, much hired labor was saved.
- 2) Through the introduction of the non-photoperiod sensitive varieties double rice cropping was made possible. At this same time this meant an expansion of the harvesting period from 13 to 21 weeks, levelling off harvesting labor peaks. Extra labor was needed, but was spread over as a longer time span.
- 3) The use of the dry seeding method in the end of the seventies had the same labor-saving effect as wet seeding had had earlier.
- 4) In 1977 the portable mechanical thresher was introduced. Since then threshing labor use started to decline. Almost all the village rice harvest could be threshed by three new mechanical threshers with blower which came into the village in 1979.

As a consequence of the above-mentioned changes in rice production, the decade 1970-80 shows a decrease of 9 percent in total labor use even though the crop area increased by 36 percent during the same period. This decrease in labor use was mainly due to the direct seeding method and in a lesser degree to the introduction of the mechanical thresher.

In the first period from 1970 to 1978, the decreases in labor use are well counter-balanced by the increasing crop area. However, the population which increased by 13 percent during this period could not be absorbed.

A decrease of female labor use over the period 1970 to 1980 occurred as a consequence of decreasing labor use requirements of operations in which women participate i.e. transplanting, harvesting, and threshing. Women's contribution to rice production absolutely and relatively. While men, due to double-cropping, increased their labor use in typically male activities, such as land preparation and fertilizing, which increased with the crop area, which largely made up for the decrease in male labor use in other operations women only saw their labor use reduced. Furthermore, the spreading of harvesting labor over a longer time span allowed male labor to be substituted for female labor. Both female family and hired labor declined as demonstrated by three years labor data. Total female contribution to rice production was 18 percent in 1978; 16 percent in 1979; and decreased to 13 percent in 1980. The decrease in the latter year was mainly due to a decrease in hired labor.

However, the displacement of female labor in rice production does not mean that all women reduced their labor input in this enterprise. Only women of the higher income households who could afford it retreated from rice production work. Women of low income households remained heavily involved in rice farm labor. Like female-headed households, they remain dependent on the income-earning opportunities rice production gives them.⁴

The contribution of rice harvesting opportunities to non-rice workers is illustrated in Rutten's account of subsidiary activities in a sugarcane plantation:

"When at the end of the off season the rice harvests start, in the "poor" months of August and September, all people of the hacienda are eager to participate. Women and men, old and young, harvest rice not only on the three hectares of riceland of Hacienda Milagros and on the planter's upland hacienda, but also on other haciendas and some tenanted rice farms close to Hacienda Milagros. Whereas all are allowed to join the harvest on their own hacienda (at least in 1977), personal introductions are needed to gain access to rice harvests on tenanted land or on land of other haciendas. These introductions are obtained through kin, ritual kin, or neighbors -- either women or men. When the rice was harvested on the nearby land of a tenant farmer whose son lives and works on Hacienda Milagros, twenty-six people from Hacienda Milagros participated -- women, men, and children. They were the neighbors of the tenant's son, the tenant's ritual kin, or just 'friends'. During the rice harvest at the neighboring Hacienda Maria, some women and men from Hacienda Milagros were able to participate through an introduction by a truck driver of Hacienda Maria, who lives with his wife on Hacienda Milagros in the house of his wife's parents.

Because of the limited harvesting opportunities in the area close to Hacienda Milagros, some people also move in more distant haciendas to participate in the harvests there. They choose haciendas where some of their close relatives are living, through whom they are able to gain permission to participate. For example, one woman went with her husband and two eldest daughters to a hacienda in the municipality of La Carlota where her sister's married daughter lives. And a young man went to harvest rice on the hacienda where his father lives, in the uplands of Murcia.

Usually, wife, husband, and other daughters and sons harvest together; on the hacienda itself, young children participate as well. In the off season of 1977 some households harvested a total of 4 to 8 *cavans* of palay (about 190 to 380 kilos of unmilled rice), good for four to ten weeks of rice consumption depending on the specific household size. The rice harvests are thus very important in supplementing the small cash income during the off season. All the rice is used for home consumption. The rice stock, stored in sacks in a

⁴Lyda Res, Changing Labor Allocation Patterns of Women in Rice Farm Households -- A Reinforced Rice Village, Iloilo Province, Philippines, Paper prepared for the Conference on Women in Rice Farming Systems, IRRI Sept. 26-30, 1983.

corner of the house, is controlled by the wife; she decides how much rice to prepare for each meal, and she sees to it that rice is bought in time before the stock is exhausted."⁵

Given the present distressed situation of the sugar industry, there is no doubt that the opportunity to participate in rice harvesting is a much-coveted one among sugar workers, who are at the moment, probably unemployed in the sugar area. From the Illo study in Bicol some landless women in rice-growing villages engage in sugarcane harvesting. Now, this is less likely to occur and perhaps the pressure on labor absorption in rice farming will increase.

The Ebron *et al.* study of 46 landless households in Nueva Ecija (Cabanatuan City and Guimba) showed that 68 percent of all household members are non-working. Seventy-eight percent of spouses; 65 percent of males (10 years and over) and 72 percent of females (10 years and over) are non-working. For all the households, 69 percent of working household members are males and 31 percent are females. The study also points out that there is very little seasonal or permanent outmigration by landless household members. Only 12 or 4 percent had left permanently since the introduction and all these left to get married. This latter reason does not necessarily mean that better occupational opportunities were available to them.

On household employment and income, Ebron *et al.* found the following:

"In both wet and dry seasons, almost all landless households derived their income exclusively from agriculture. Only two had income from both agricultural and non-agricultural employment. Average employment per household was 122 mandays in the wet season, 121 in the dry season or a total of about 243 for the whole year. By village, average employment in rainfed villages was higher than in irrigated villages in both seasons.

Not surprisingly the average household income in the wet season was thus higher in rainfed than in irrigated villages (₱1,325 vs. ₱1,136). In the dry season, however, average income in irrigated villages was higher than in rainfed villages (₱1,347 vs. ₱1,085), despite the average mandays worked in the rainfed villages being a slightly higher. Combining the two seasons, the average annual household income was a little over ₱2,400.

In general, the male household head made the greatest contribution in terms of employment and income. In the wet season, male household heads accounted for about 55 percent of the household labor, and 64 percent of household income. In the dry season their contribution was about 46 and 52 percents, respectively. Male adults (10 years and over) accounted for the second largest source of household labor and income, contributing about 19 percent each to labor and income in the wet season and 30 percent to

⁵Rosanne Rutten, *Women Workers of Hacienda Milagros Wage Labor and Household Subsistence on a Philippine Sugarcane Plantation*, No. 3 Publikatreserie Zuid en Zuidoost-Agice Antropologisch-Sociologisch Centrum Universiteit Van Amsterdam pp. 107-108.

labor and 27 percent to income in the dry season. Contributions by female household heads were 81 percent and 12.6 percent for income and labor in the wet season and about 3 percent and 5 percent in the dry season. Contributions by spouses were less than 5 percent in the wet season and 12 percent in the dry season. The minimal contribution of female household heads and spouses can be explained by mothers and wives allocating a major share of their time to housekeeping and child-rearing. Since nearly a third of the landless households' population consisted of children below 10 years, female household heads and wives could not contribute significantly to the household labor pool.⁵

Because a major portion (about 75 percent) of the landless workers' income is derived from crop shares and wages in the harvesting and threshing tasks, changes in these tasks have substantial impact on their incomes. Sixty-four landless workers (44 from the irrigated and 20 from rainfed areas) reported that 77.7 percent of them derived income from harvesting jobs before the introduction of mechanized threshing. At present only 66.3 percent derive income from these jobs. Among those in the rainfed areas the corresponding percentages reporting *Before* and *Present* deriving income from harvesting-threshing are: 79.5 to 76.0. Fifty-five percent from irrigated and 40 percent from rainfed areas reported decrease in income; 11 and 55 percents respectively report increase in income; 34 and 5 percents report no change. Among the reasons cited for the decrease are: less farms to work on; other farm jobs taken; machines displace them; nonfarm employment; and old age. The reasons for increase in income are: increased yields; more farms to work on; additional family labor, etc.

While 75 percent of those in irrigated and 35 percent of those in rainfed areas consider their present better than 5 years before, 46 and 55 percents respectively perceive that their condition five years ahead will be worse. Reasons cited are: more people and fewer jobs; machine will displace labor and harvesting rates will decrease.⁶

This pessimism about the future is rather disturbing because findings of many other studies in the past have constantly displayed *optimistic fatalism* i.e. the past may be bad, the present worse but the future is always bright. Their reasons for the pessimistic assessment of the future are also very perceptive. Can we stop or even reverse these disturbing developments?

The landless households make up an average of 14 percent of total farm households in 8 villages. The proportions are as follows: Cabanatuan, San Isidro, 15.5; Lagare, 18.3; Kalikid Sur, 5.5; Caalibangbangan, 17.1; Guimba, Galvan, 14.2; Narvacan, 7.9; San Andres, 11.2; and Bunol, 17.3. Although there is a slight tendency for more landless to be present in irrigated areas, this is not always the

⁶L. Z. Ebron, G. Castillo, and P. M. Karser, Changes in Harvesting-Threshing Arrangements and Landless Laborers, Working Paper No. 90, The Consequences of Small Rice Farm Mechanization Project, International Rice Research Institute, December 1983.

case. Hence a better explanation has to be found for the greater or lesser presence of the landless in a particular locality.

To those who would argue that alternative employment opportunities are available or could be made available, the most potent retort could be: "*Like what???*"

The following evidences deserve serious thought:

- 1) The IRRI data show that 53 percent of farm household members have no work outside their own farm and 25 percent who do, are also engaged in agriculture jobs. Sixteen percent are in services. Ninety-eight percent of the landless workers in the sample indicated that their first job at present is in agriculture. Ninety-four percent reported no second job and 100 percent have no third job.
- 2) Malabuyoc's data on work opportunities for farm households indicate that about two-thirds do not have other sources of household income. The situation has not changed much in this regard from 1977 to 1984, Table 23. Non-agricultural sources dropped from 25 to 3 percent of the reporting households with a corresponding shift toward more households receiving income from children who have left the household - 6 to 24 percent. Eighty-three percent work in their own farms and in addition, 31 percent work in other farms.⁷

The results of the 5 studies cited here suggest the following:

- 1) Employment in and income from rice production is more important to landless than to farm households; to low-income than higher-income farm households; and to farm households with less access to resources.
- 2) The household's developmental cycle affects the labor allocation of its members. During the second stage when children are growing up, women increase their contribution to rice production.
- 3) Introduction of certain technologies such as change from small harvesting knife to the sickle, direct seeding, dry seeding and the mechanical thresher contributes to a reduction in total labor use, particularly in terms of hired labor. Despite the decline in female labor, however, women of low-income households remained heavily involved in rice farm labor.
- 4) Rice production tasks, particularly harvesting is an important source of rice for home consumption of sugar workers. On the other hand, sugarcane harvesting is a supplementary source of income for households in rice-growing areas. The distressed state of the sugar industry makes this opportunity to participate in rice-harvesting even more crucial. On the other hand, sugarcane harvesting is less likely to be available to rice production workers now.
- 5) For landless households a major portion of their income is derived from crop shares and wages in harvesting and threshing hence any changes which affect

⁷Merlyne M. Malabuyoc, Farm Labor Patterns of Rice Farmers in Selected Areas in Laguna, (Unpublished M.S. Thesis, UPLB, April 1985).

these tasks affect their livelihood. Population pressure and changes in technology which displace labor make them pessimistic about the future.

- 6) Employment outside agriculture is limited for farm households and almost non-existent for the landless.

Organizational Membership and Leadership Roles in Irrigation and other Farm-Related Matters

Ilo makes a significant contribution to our understanding of female participation in organizational and leadership activities in her intensive analysis of experiences in two irrigation projects, Aslong and Zona Cuatro located in Southern Luzon. She concludes that her data belie the general impression that women leave involvement in development projects to their menfolk as evidenced by the following observations:

- 1) "In both the areas studied, *a number of women, married or widowed, displayed considerable interest in the irrigation project, attended meetings and joined field inspections of proposed location of irrigation facilities.* Together with the men, women engaged in discussions which would determine the canal layout in their area, attributing their interest to their desire to ensure that water would reach their farms with the minimum loss of land to canals. Even among households which would not benefit from the projects, women tended to register concern as to how the construction of project facilities would affect their property. While in the majority of cases the men were more actively involved in working the land, ownership of the land or the right to cultivate it and management of the farm were shared by women with their spouses. Moreover, while care of the children and management of the home remained the dominant occupations of women in the two project sites, a number of these women attended to association or project matters either on their own behalf or of their spouses'. *It appeared that when women were adequately informed about the project and their interest sufficiently aroused, they could accommodate project demands on their time.* Furthermore, where the organization allowed more than one member from each household, the proportion of female to total membership rose. In Aslong, where the "one household, one member" rule was observed, women accounted for but 10 percent of the total membership. In contrast, in Zona Cuatro, where multiple membership of households was possible, the proportion of female members rose to about 20 percent.
- 2) *While a number of women became active participants in the irrigation projects in Aslong and Zona Cuatro, the majority of women in the two areas shied away from direct involvement.* One reason which these female non-participants shared with the less active male members was preoccupation with family matters. . . *This, however, does not necessarily imply that they totally withdraw from project, or organizational affair.* A number of these female

nonmembers attended meetings and sometimes engaged in or on-site negotiations over canal routes. They deemed themselves nonparticipants primarily because they are not registered members of rotational-area groups or of the irrigators' association.

- 3) The Aslong and Zona Cuatro experiences underscore the fact that; *beyond what formal records often showed, women were interested in programs and projects affecting the household's economy. When allowed or encouraged to participate, they had considerable impact. They served as leaders, improved attendance during meetings and other activities, helped to finalize the location of irrigation facilities, and lent firmer support to the contributions which their respective households had to make to the irrigators' association.* Female leaders assisted in the negotiations for rights of way, record keeping, and management of association finances. The employment of female community organizers provided the farmers immediate role models of active female participants in the project. The experience in Zona Cuatro indicated that *when organizers initially chose some female contact leaders, and subsequently arranged membership rules to open up membership to women, these seemed to stimulate greater female participation.*
- 4) The effect of fielding community organizers, however, needed to be reinforced by the organizers' overt or covert efforts to encourage female participation in the project. This might mean, as in Zona Cuatro, going along with the community's initial predisposition to involve women in the project. *But in areas where sex-based prejudices inhibit women's participation, discussing the project with both men and women could constitute the first step. A second move could be opening up the association membership to households, with husband and wife as alternate representatives.* These two-step opening moves present attractive starting points for rousing women's interest in the project and for allowing them to directly engage in project activities."

Illo points out that although women in the Philippines are not as intimately associated with agriculture as women in Africa, *preoccupation with their households' economy governs their interest in projects like irrigation in Aslong and Zona Cuatro. The focus is on the likely effects which these projects would have on their farm and by extension on their family's chances of survival.*⁸

Rebanco's report on women's participation in upland barangays shows some interesting insights on the subject. Their attitudes toward participation in community activities and projects of the Buhi-Lalo Upland Development Pilot Project are reflected in the following:

- 1) By participating in community activities 73 percent of 132 women members of the community organization think they can gain more knowledge than by doing any household work. (The association deliberately recruited not only

⁸Jeanne Frances I. Illo, Women's Participation in Two Irrigation Projects in the Philippines, November, 1984, Development Academy of the Philippines.

men but also women). Women believe they are able to learn more about agricultural production when they participated in the project. They likewise attach a great deal of value to new experience/knowledge in the use of new technology. This value given to gaining new knowledge about agriculture comes despite the fact that 65 percent of them reported devoting only 3 hours or less per day in physical farm activities.

- 2) Of even greater interest is their reaction to this statement: "If my husband wants me to stay at home for household affairs rather than participate in community activities, then I shall prefer to stay at home". Fifty-seven percent of the women respondents disagreed and strongly disagreed with the statement. In other words, the husband's word does not seem to be the "law" on this matter although 32 percent still chose the traditional "wife is for the home" response.⁹

All these experiences point out the untapped potentials of women not always as laborers but as farm managers, entrepreneurs, organizers and leaders. What do we need to do to allow these potentials to blossom?

Implications

These empirical evidences leave us four major issues to think about: *First*, since women's involvement in rice farming systems is mainly in transplanting and harvesting as seasonal labor and since earnings from these tasks performed by women from lower-income, less resource-endowed farm families and landless households are a substantial contribution to family income, any technologies or institutional arrangements which take these tasks away from them will have adverse consequences on their welfare. Studies on impact of technology should focus not just on farmers but also on the landless. Are the increases in productivity attributed to such technologies sufficient to offset the social costs to other sectors of the community? It is also worth noting that many farm households seem to be undertaking for themselves these production tasks which they used to leave for the landless or poor farm households. Has the "ethic of sharing" with the less privileged people of the community diminished? *Second*, it is obvious that non-agricultural jobs are limited for farm household members and almost non-existent for the landless who, in general, are less qualified for alternative jobs. During these hard times, can we consider institutional mechanisms such as deliberate labor recruitment during season of peak labor as one alternative or complement to inventing machines to break labor "bottlenecks"? Furthermore, when we develop technologies to relieve people of drudgery we must consider the possibility that *one woman's drudgery may be another woman's livelihood*. *Third*, although women from farm households do not do as much work in the physical production process, farmers' wives are very much involved in the decisions concerning resource allocation in

⁹Carmelita Rebanco, Women's Participation in Selected Upland Barangays in Buhí, Camarines Sur, (Unpublished M.S. Thesis, UPLB, November 1984).

farm management. Can we provide these women exposure to the science, technology, economics and even welfare considerations of rice farming systems to improve the quality of their farm management decisions? They must be deliberate recruits into relevant training programs including those which deal with livestock production since farm women are actively engaged in this. The present realities require greater sophistication in the intricacies of farm management because resources are limited and costs are high. *Fourth*, in our organizational efforts for agricultural projects, the door must be left wide open for the entry of women not necessarily as laborers but as leaders, organizers, and trainers.

As scientists and technology developers, we can no longer be cavalier and say: "My responsibility is to develop technology; it is not my task to increase employment and worry about the landless". If we cannot create new jobs, we must at least try to protect those that exist especially for people whose alternatives in life are limited.

There are two illustrations of available technologies which have direct implications for women's employment and income-earning opportunities. Coxhead's study in 4 barangays of Gapan found that by 1984 there was almost 100 percent adoption of *wet seeding* which started in 1975. The change from transplanting to wet seeding also meant a shift from hired to family labor. Fully two-thirds of the workforce for wet seeding is provided by the farmer and his family with contributions from exchange labor especially in the broadcasting of seeds. Wet seeding increased the use of herbicides and fertilizers by 23 percent each and seeds by 70 percent but yield difference between transplanted and wet seeded plots is only 8.5 percent. However the use of family labor has reduced the real cost of rice production for the farmer. Interviews with *Kabesilyas* (Transplanting contractors) indicate that "amount of labor available for transplanters and weeders has fallen by half in the last five years. The size of the transplanting gang has reduced from 70 regular members to just more than 30. Less than 10 percent of them cultivate their own rice farms. Two-thirds to three-fourth of members are women for whom opportunities to travel in search of alternative employment were limited. None of the gang members had non-farm jobs. After transplanting most simply waited for the harvest."¹⁰

And if the harvesting task is also taken over by some other technology, then there is little or nothing to wait for.

The second illustration is that of the *mechanical reaper (harvester)* which has just come into the Philippine scene in rice farming. Linda Crissman's IRRI Seminar Paper (June 1985 on "Livelihood Among Landless Laborers After Introduction of Mechanical Reapers") makes the following observations in her preliminary report which are very relevant to the theme of this paper:

¹⁰Ian A. Coxhead, *The Economics of Wet Seeding: Inducements to and Consequences of Some Recent Changes in Philippine Rice Cultivation* (Master of Agriculture Development Economics, Australian National University, Sept. 1984).

1. *Origin of and doubts about the appropriateness of the reaper:*

"An IRRI design and a comparable design by the Kubota Company of Japan were both introduced in 1982. The IRRI design was the result of collaborative efforts between the Chinese Academy of Agricultural Mechanization Sciences and the Agricultural Engineering Department at IRRI. The IRRI blueprint was made available to local producers, the four major producers being located in the provinces of Pampanga, Bulacan and Rizal. Between three to four hundred local reapers are estimated to have been sold between late 1982 and June of 1984.

In 1981, the Economics Department and the then separate economics section of Agricultural Engineering at IRRI decided to collaborate on an analysis of the impact of the mechanical reaper. This was prompted by doubts as to the appropriateness of reaper use in a situation such as we have in the Philippines. In the as yet unpublished collaborative analysis of the reaper, the problem is referred to as 'the potential of this machine for substantial displacement of . . . hired labor.' Our economists have already been able to calculate the amount of labor that is displaced per hectare when the reaper is used so there is no need to discuss whether displacement exists. The appropriateness of the reaper is called into question because it displaces labor in areas where it has been introduced in the Philippines, a country which has a large rural labor force and in which harvesting provides a significant share of hired labor's income. In other words, this may be a case of the right machine being in the wrong place. The question is - When the reaper 'frees' this labor, what does labor do instead?"

2. Some of Crissman's findings from Barangay General Lim in Orion, Bataan:
- a) "Harvesters do not only fieldwork but a variety of other income-generating activities all of which are important to them.
 - b) Some laborers have access to land (mostly as squatters on marginal areas) which they cultivate and some do not, but only a few are technically termed 'farmers' and therefore eligible for government assistance such as productive loans.
 - c) People who do or have done harvesting agree that there are far fewer harvesting jobs available now because of reaper use. The harvest season, for them, has become far shorter in terms of employment opportunities. (Some employment in harvesting is still available especially in the wet season when the mechanical reapers bog down in the fields, but overall; people indicate that the duration of the harvest season has been halved and that employment is difficult to obtain. Consequently more people vie for the jobs that do exist. Since payment for harvesting is pakyawan - a set price for a given area - the more people who harvest, the lower the pay.)
 - d) Seasonal in-migration of rice harvesters from other provinces has more or less ceased due to reaper use.

- e) A large percentage (67%) of offspring who establish their own households do so outside the barangay.
- f) Unemployment for adult offspring in the sample households is 43 percent for those who stay in the barangay and 31 percent for those who leave the barangay.
- g) Most non-agricultural types of income generation within the barrio are illegal or environmentally degrading.
- h) Employment outside the barrio is difficult to obtain. . ."¹¹

Given the apparent "negative" indications of impact from these two technologies with respect to employment opportunities for the agricultural landless and lower-income farm households including women, can we look to developments in the cropping/farming systems to open new potentials not only for output growth but also for labor absorption?

An early statement from IRRI describing cropping pattern testing says that "a pattern *fits* if it produces more food and farmers accept it". A more recent description of IRRI's Rice-Based Farming Systems Program (1984) states that "Evaluation of farming system changes through introduction of new technology is made not only in *terms of impact on income, but also in terms of effects on family and hired labor, and nutritional and social factors.*" A further elaboration is made by the IRRI Director-General (November 28, 1984) with regard to the aim of the internetwork coordination (International Rice Testing Programme, International Soil Fertility and Fertilizer Evaluation Programme and the Asian Rice Farming Systems Network): "To generate a vast pool of knowledge and material to tailor rice farming systems for diverse growing environments based on sound *principles of ecology, economics, energy conservation and employment generation.*"

In other words, wet seeding and the mechanical reaper are probably best regarded as components of the farming system and their impact will have to be viewed in terms of the total system. The role of women in the total farming system must therefore be identified and defined if we are to monitor the impact of changes in the system or in any of its components on women's welfare.

¹¹Linda Crissman, *Livelihood Among Landless Laborers After Introduction of Mechanical Reapers*, IRRI Seminar, June 1985.

Table 2. Mean man-hours and percent of labor input by sex, water source and level of mechanization

<i>Total Rice Crop</i>				<i>Wet Season 1979</i>									
<i>Sex</i>	<i>Non-mechanized</i>			<i>Partially Mechanized</i>				<i>Fully Mechanized</i>		<i>Water Source</i>			
	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Gravity irrigated</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>
<i>Total</i>	514.80	567.22	825.55	537.51	333.68	500.42	245.45	303.11	371.60	458.49	545.70	323.71	413.23
<i>Undetermined</i>	54.31	47.88	295.41	62.27	33.09	44.03	82.98	61.14	173.07	47.42	46.62	131.10	82.18
<i>Male</i>	302.60	337.78	323.05	310.54	225.13	303.64	132.95	183.40	139.93	279.11	326.61	143.41	228.51
<i>Female</i>	157.89	182.05	207.08	164.69	75.44	149.11	29.50	58.18	58.52	131.95	171.27	49.16	102.37
	<i>- Percent -</i>												
<i>Undetermined</i>	11	8	36	11	11	9	34	20	47	10	8	40	20
<i>Male</i>	59	60	39	58	67	61	54	61	37	61	61	44	55
<i>Female</i>	30	32	25	31	22	30	12	19	16	29	32	16	25
<i>Total</i>	100	100	100	100	100	100	100	100	100	100	100	100	100
<i>Estimated Female</i>	34	35	39	35	25	33	18	24	30	32	34	27	31
<i>Estimated Male</i>	66	65	61	65	75	67	82	76	70	68	66	73	69

Table 2. (Continued)

<i>Total Rice Crop</i>				<i>Wet Season 1979</i>									
<i>Sex</i>	<i>Non-mechanized</i>			<i>Partially Mechanized</i>				<i>Fully Mechanized</i>		<i>Water Source</i>			
	<i>Pump Rainfed</i>	<i>Gravity irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Pump Rainfed</i>	<i>Gravity irrigated</i>	<i>Gravity irrigated</i>	<i>Total irrigated</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	
<i>Dry Season 1980</i>													
<i>Total</i>	776.10	819.80	736.37	788.39	650.82	710.09	224.56	344.04	252.54	734.38	780.83	247.76	417.86
<i>Undetermined</i>	192.99	268.01	73.97	209.34	98.92	254.93	113.13	125.31	110.30	154.06	263.36	110.36	140.44
<i>Male</i>	420.28	408.04	483.72	422.53	448.73	299.10	99.51	176.56	98.21	429.62	364.21	113.67	212.21
<i>Female</i>	162.77	143.53	174.46	156.73	102.69	156.03	9.15	39.59	22.63	146.53	147.97	22.66	64.75
<i>- Percent -</i>													
<i>Undetermined</i>	25	33	10	26	15	36	50	36	47	21	34	44	33
<i>Male</i>	54	50	66	54	69	42	44	52	42	59	47	46	51
<i>Female</i>	21	17	24	20	16	22	6	12	11	20	19	10	16
<i>Total</i>	100	100	100	100	100	100	100	100	100	100	100	100	100
<i>Estimated</i>													
<i>Female</i>	28	25	27	27	19	34	12	19	21	25	29	18	24
<i>Estimated</i>													
<i>Male</i>	72	75	73	73	81	66	88	81	79	75	71	82	76
<i>Total N</i>	100	100	100	100	100	100	100	100	100	100	100	100	100
<i>Total N</i>	78	40	7	125	46	15	79	140	54	125	55	140	320

Table 3. Percent of labor input* in land preparation by type of labor, source of water and level of mechanization

<i>Wet Season 1979</i>														
<i>Type of Labor</i>	<i>Non-mechanized</i>				<i>Partially Mechanized</i>				<i>Fully Mechanized</i>			<i>Water Source</i>		
	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>
Operator	53	58	80	54	35	30	56	43	55	58	49	51	58	52
Family	13	12	18	13	15	9	17	14	19	16	14	11	17	14
Permanent	—	1	—	—	—	7	5	4	10	10	—	2	8	1
Seasonal	21	22	—	22	32	49	18	27	16	16	24	29	14	22
Exchange	13	7	2	11	18	5	4	12	—	—	13	7	3	11
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total mean man hours	109.92	119.86	105.60	111.77	66.92	75.67	36.11	51.18	30.91	31.23	96.24	105.40	36.45	72.48
<i>Dry Season 1980</i>														
Operator	55	75	63	63	76	54	54	62	34	37	62	69	47	59
Family	6	1	32	7	5	25	21	16	13	13	5	7	19	10
Permanent	1	2	—	2	—	—	6	4	13	13	1	2	8	10
Seasonal	27	16	—	20	18	17	14	15	12	12	24	17	11	4
Exchange	11	6	5	8	1	4	5	3	28	25	8	5	15	17
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total mean man hours	188.99	170.02	176.25	180.41	119.90	110.10	33.28	55.25	37.51	38.57	161.83	148.73	40.65	79.60

*The labor input is all male.

Table 4. Percent of labor input by labor type, by water source, and level of mechanization

Type of Labor	Wet Season 1979												
	Transplanting				Water Source								
	Non-mechanized				Partially Mechanized				Fully Mechanized				
	Rainfed	Pump irrigated	Gravity irrigated	Total	Rainfed	Pump irrigated	Gravity irrigated	Total	Gravity irrigated	Rainfed	Pump irrigated	Gravity irrigated	Total
Operator	9	9	22	10	18	8	6	9	3	11	8	5	8
Family	3	1	20	4	9	3	2	4	1	5	2	2	4
Permanent	—	—	18	1	—	—	—	—	—	—	—	2	1
Seasonal	77	68	39	72	64	74	88	79	95	74	70	88	79
Exchange	11	22	1	13	9	15	4	8	1	10	20	3	8
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Total mean	182.24		287.96		98.26		125.52		202.33		203.58		165.78
man hours		218.54		193.68		172.85		120.60		155.44		165.83	
Female				45				29	17	43	50	21	35
Male				33				32	21	34	32	23	28
Undetermined				22				39	62	23	18	56	37
				100				100	100	100	100	100	100
Estimated female				58				48	43	55	61	49	55
Estimated male				42				52	57	45	39	51	45

Table 4. (Continued)

<i>Type of Labor</i>	<i>Transplanting</i>												
	<i>Wet Season 1979</i>												
	<i>Non-mechanized</i>				<i>Partially Mechanized</i>				<i>Fully Mechanized</i>		<i>Water Source</i>		
	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total irrigated</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	
	<i>Dry Season 1980</i>												
Operator	13	10	23	13	17	7	7	9	3	14	9	6	9
Family	11	3	34	10	12	4	2	5	1	11	4	4	6
Permanent	—	—	—	—	—	—	1	—	1	—	—	1	—
Seasonal	70	85	35	72	70	87	80	83	90	70	85	85	81
Exchange	6	2	8	5	1	2	3	3	5	5	2	4	4
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Total mean man hours	328.87	295.74	283.27	311.33	235.37	323.22	122.48	160.88	149.10	292.17	305.93	140.19	193.12
Female				33				18	11	37	28	10	22
Male				33				26	18	36	25	22	27
Undetermined				34				56	71	27	47	68	51
Estimated female				50				41	38	51	53	31	45
Estimated male				50				59	62	49	47	69	55

Table 5. Percent of labor input by labor type, by water source and level of mechanization

<i>Type of Labor</i>	<i>Harvesting Wet Season 1979</i>												
	<i>Non-mechanized</i>				<i>Partially Mechanized</i>				<i>Fully Mechanized</i>		<i>Water Source</i>		
	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Gravity irrigated</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>
Operator	29	17	18	26	31	7	2	18	2	30	14	5	21
Family	24	15	27	23	32	5	5	19	—	27	11	6	19
Permanent	1	—	—	—	—	—	—	—	—	—	—	—	—
Seasonal	40	65	55	46	33	88	93	61	83	38	73	80	55
Exchange	6	3	—	5	4	—	—	2	15	5	2	9	5
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Total mean		155.16		183.03		176.43		88.35		166.17		80.51	
man hours	180.76		375.15		130.25		43.88		97.89		162.12		129.98
Female				38				22	14	31	40	16	31
Male				51				61	37	58	54	38	52
Undetermined				11				17	49	11	6	46	17
				100				100	100	100	100	100	100
Estimated female				43				26	27	35	42	30	38
Estimated male				57				74	73	65	58	70	62

Table 5. (Continued)

<i>Harvesting</i>		<i>Wet Season 1979</i>											
		<i>Non-mechanized</i>				<i>Partially Mechanized</i>				<i>Fully Mechanized</i>		<i>Water Source</i>	
<i>Type of Labor</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>	<i>Gravity irrigated</i>	<i>Rainfed</i>	<i>Pump irrigated</i>	<i>Gravity irrigated</i>	<i>Total</i>
Operator	13	10	21	13	31	4	3	16	14	21	8	11	14
Family	7	10	78	15	8	3	-	5	29	12	8	29	14
Permanent	-	-	-	-	-	-	-	-	-	-	-	-	-
Seasonal	76	77	1	69	48	89	97	71	57	60	80	60	67
Exchange	4	3	-	3	13	4	-	8	-	7	4	-	5
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Total mean man hours	182.17		206.21	222.35	217.47		30.38		7.58		257.33		94.44
		281.08				214.24		80.68		204.64		27.61	
Female				23				13	27	18	23	10	19
Male				31				41	50	45	31	30	36
Undetermined				46				46	23	37	46	60	45
				100				100	100	100	100	100	100
Estimated female				43				24	35	29	43	25	35
Estimated male				57				76	65	71	57	75	65

Table 6. Average labor input per hectare in various crop activities by farm type, source of labor and sex, Nueva Ecija, Philippines, dry season, 1979-80

<i>CROPS AND LABOR SOURCE</i>	<i>NON-MECHANIZED</i>	<i>MECHANIZED</i>
	<i>Per Hectare</i>	
<i>RICE CROP</i> (m-hours)	903	395
of which: (Percent)		
Operator	(31)	(16)
Family	(12)	(8)
Permanent	(1)	(4)
Exchange	(5)	(9)
Seasonal	(51)	(63)
<i>NON-RICE CROP</i> (m-hours)	132	—
of which: (Percent)		
Operator	(75)	
Family	(25)	
Permanent	—	
Exchange	—	
Seasonal	—	
Male	69	
Female	31	
<i>ALL-CROPS</i> (m-hours)	1,035	395
of which: (Percent)		
Operator	(37)	(16)
Family	(14)	(8)
Permanent	(1)	(4)
Exchange	(4)	(9)
Seasonal	(44)	(63)
<i>FERTILIZING</i> (m-hours)	11	11
of which: (Percent)		
Male	(99)	(100)
Female	(1)	—

Table 6. (Continued)

<i>ACTIVITIES AND LABOR SEX</i>	<i>NON-MECHANIZED</i>	<i>MECHANIZED</i>
	<i>Per Hectare</i>	
<i>SPRAYING</i> (m-hours)	19	12
of which: (Percent)		
Children	—	—
Male	(100)	(100)
Female	—	—
<i>WEEDING</i> (m-hours)	5	1
of which: (Percent)		
Children	—	—
Male	(38)	(55)
Female	(62)	(45)
<i>IRRIGATION AND DRAINAGE</i> (m-hours)	26	nil
of which: (Percent)		
Children	—	—
Male	(100)	(100)
Female	—	—
<i>DRYING</i> (m-hours)	3	nil
of which: (Percent)		
Male	(93)	(88)
Female	(7)	(12)

Table 7. Average labor input per hectare in various rice crop activities by farm type, source of labor and sex, Nueva Ecija, Philippines, dry season, 1979-80

<i>CROPS AND LABOR SOURCE</i>	<i>RAINFED</i>	<i>GRAVITY-IRRIGATED</i>
	<i>Per Hectare</i>	
<i>RICE CROP</i> (m-hours)	873	421
of which: (Percent)		
Operator	(34)	(19)
Family	(10)	(12)
Permanent	nil	(3)
Exchange	(6)	(7)
Seasonal	(50)	(59)
<i>NON-RICE CROP</i> (m-hours)	2	47
of which: (Percent)		
Operator	(24)	(75)
Family	(26)	(25)
Permanent	—	—
Exchange	(50)	nil
Seasonal	—	—
Male	100	69
Female	—	31
<i>ALL CROPS</i> (m-hours)	875	468
of which: (Percent)		
Operator	(47)	(20)
Family	(15)	(14)
Permanent	(1)	(3)
Exchange	(8)	(6)
Seasonal	(29)	(49)
<i>FERTILIZING</i> (m-hours)	10	12
of which: (Percent)		
Male	(100)	(100)
Female	—	—

Table 7. (Continued)

<i>ACTIVITIES AND LABOR SEX</i>	<i>RAINFED</i>	<i>GRAVITY-IRRIGATED</i>
	<i>Per Hectare</i>	
<i>SPRAYING</i> (m-hours)	15	13
of which: (Percent)		
Male	(100)	(100)
Female	—	—
<i>WEEDING</i> (m-hours)	6	1
of which: (Percent)		
Male	(64)	(57)
Female	(36)	(43)
<i>IRRIGATION AND DRAINAGE</i> (m-hours)	30	nil
of which: (Percent)		
Male	(100)	(100)
Female	—	—
<i>DRYING</i> (m-hours)	3	1
of which: (Percent)		
Male	(95)	(98)
Female	(5)	(2)

Table 8. Average labor requirement *per hectare* in the care of livestock, by farm type, source of labor and livestock group, Nueva Ecija, Philippines, dry season 1979-80

<i>LIVESTOCK CLASS AND LABOR SOURCE</i>	<i>NON-MECHANIZED</i>	<i>MECHANIZED</i>
	<i>Per Hectare</i>	
<i>LABOR FOR CARE OF DRAFT ANIMALS</i> (m-hours)	268	7
of which: (Percent)		
Operator	(70)	(64)
Family	(28)	-
Permanent	(1)	(36)
Exchange	(1)	-
Seasonal		-
<i>LABOR FOR CARE OF PRODUCTIVE ANIMALS</i> (m-hours)	200	98
of which: (Percent)		
Operator	(78)	(60)
Family	(21)	(3)
Permanent	-	-
Exchange	-	-
Seasonal	-	(37)
<i>TOTAL LABOR</i> (Livestock)	467	105
of which: (Percent)		
Operator	(74)	(60)
Family	(25)	(3)
Permanent	(1)	(2)
Exchange	-	-
Seasonal	-	(35)

Table 9. Average labor requirement *per hectare* in the care of livestock by farm type, labor sex and livestock group, Nueva Ecija, Philippines, dry season 1979-80

<i>LIVESTOCK CLASS AND LABOR SEX</i>	<i>NON-MECHANIZED</i>	<i>MECHANIZED</i>
	<i>Per Hectare</i>	
<i>LABOR FOR CARE OF DRAFT</i>	267	7
<i>ANIMALS</i> (m-hours)		
of which: (Percent)		
Male	(100)	(100)
Female	-	-
<i>LABOR FOR CARE OF PRODUCTIVE</i>	200	98
<i>ANIMALS</i> (m-hours)		
of which: (Percent)		
Male	(48)	(54)
Female	(52)	(46)
<i>TOTAL LABOR</i> (Livestock)	467	105
of which: (Percent)		
Male	(78)	(57)
Female	(22)	(43)

Table 10. Average labor requirement *per hectare* in the care of livestock, by farm type, source of labor and livestock group, Nueva Ecija, Philippines, dry season 1979-80

<i>LIVESTOCK CLASS AND LABOR SOURCE</i>	<i>RAINFED</i>	<i>GRAVITY-IRRIGATED</i>
	<i>Per Hectare</i>	
<i>LABOR FOR CARE OF DRAFT</i>	211	76
<i>ANIMALS</i> (m-hours)		
of which: (Percent)		
Operator	(60)	(70)
Family	(39)	(23)
Permanent	-	(7)
Exchange	(1)	-
Seasonal	-	-
<i>LABOR FOR CARE OF PRODUCTIVE</i>	234	69
<i>ANIMALS</i> (m-hours)		
of which: (Percent)		
Operator	(83)	(69)
Family	(17)	(5)
Permanent	-	(2)
Exchange	-	-
Seasonal	-	(24)
<i>TOTAL LABOR</i> (Livestock)	445	144
of which: (Percent)		
Operator	(72)	(69)
Family	(28)	(15)
Permanent	-	(5)
Exchange	-	-
Seasonal	-	(11)

Table 11. Average labor requirement *per hectare* in the care of livestock by farm type, labor sex and livestock group, Nueva Ecija, Philippines, dry season 1979-80

<i>LIVESTOCK CLASS AND LABOR SEX</i>	<i>RAINFED</i>	<i>GRAVITY-IRRIGATED</i>
		<i>Per Hectare</i>
<i>LABOR FOR CARE OF DRAFT</i>	211	76
<i>ANIMALS</i> (m-hours)		
of which: (Percent)		
Male	(93)	(100)
Female	(7)	—
<i>LABOR FOR CARE OF PRODUCTIVE</i>	234	69
<i>ANIMALS</i> (m-hours)		
of which: (Percent)		
Male	(37)	(41)
Female	(63)	(59)
<i>TOTAL LABOR</i> (Livestock)	445	144
of which: (Percent)		
Male	(63)	(72)
Female	(36)	(28)

Table 12. Average labor input per hectare in various crop activities by farm type, source of labor and sex, Nueva Ecija, Philippines, wet season, 1979

<i>CROPS AND LABOR SOURCE</i>	<i>NON-MECHANIZED</i>	<i>MECHANIZED</i>
	<i>Per Hectare</i>	
<i>RICE CROP</i> (m-hours)	603	481
of which: (Percent)		
Operator	(29)	(13)
Family	(14)	(5)
Permanent	(1)	(1)
Exchange	(9)	(5)
Seasonal	(47)	(76)
<i>NON-RICE CROP</i> (m-hours)	24	—
of which: (Percent)		
Operator	(48)	
Family	(48)	
Permanent	—	
Exchange	(4)	
Seasonal	—	
<i>ALL CROPS</i> (m-hours)	627	481
of which: (Percent)		
Operator	(30)	(13)
Family	(16)	(5)
Permanent	(1)	(1)
Exchange	(9)	(5)
Seasonal	(44)	(76)
<i>FERTILIZING</i> (m-hours)	6	8
of which: (Percent)		
Male	(93)	(100)
Female	(7)	—

Table 12. (Continued)

<i>ACTIVITIES AND LABOR SEX</i>	<i>NON-MECHANIZED</i>	<i>MECHANIZED</i>
	<i>Per Hectare</i>	
<i>SPRAYING</i> (m-hours)	9	11
of which: (Percent)		
Male	(98)	(100)
Female	(2)	—
<i>WEEDING</i> (m-hours)	16	2
of which: (Percent)		
Male	(69)	(64)
Female	(31)	(36)
<i>IRRIGATION AND DRAINAGE</i> (m-hours)	4	1
of which: (Percent)		
Male	(100)	(100)
Female	—	—
<i>DRYING</i> (m-hours)	1	2
of which: (Percent)		
Male	(70)	(96)
Female	(30)	(4)

Table 13. Average labor input per hectare in various crop activities by farm type, source of labor and sex, Nueva Ecija, Philippines, wet season, 1979

<i>CROPS AND LABOR SOURCE</i>	<i>RAINFED</i>	<i>GRAVITY-IRRIGATED</i>
	<i>Per Hectare</i>	
<i>RICE CROP</i> (m-hours)	532	466
of which: (Percent)		
Operator	(30)	(17)
Family	(16)	(7)
Permanent	nil	(2)
Exchange	(9)	(4)
Seasonal	(45)	(70)
<i>NON-RICE CROP</i> (m-hours)	nil	35
of which: (Percent)		
Operator	(.03)	(57)
Family	(.04)	(36)
Permanent	—	—
Exchange	—	(7)
Seasonal	—	nil
Male	—	(64)
Female	—	(36)
<i>ALL CROPS</i> (m-hours)	532	501
of which: (Percent)		
Operator	(30)	(20)
Family	(16)	(10)
Permanent	nil	(2)
Exchange	(9)	(5)
Seasonal	(45)	(63)
<i>FERTILIZING</i> (m-hours)	5	8
of which: (Percent)		
Male	(94)	(99)
Female	(6)	(1)

Table 13. (Continued)

<i>ACTIVITIES AND LABOR SEX</i>	<i>RAINFED</i>	<i>GRAVITY-IRRIGATED</i>
		<i>Per Hectare</i>
<i>SPRAYING</i> (m-hours)	7	12
of which: (Percent)		
Male	(97)	(99)
Female	(3)	(1)
<i>WEEDING</i> (m-hours)	16	4
of which: (Percent)		
Undetermined	—	(7)
Male	(66)	(82)
Female	(34)	(10)
<i>IRRIGATION AND DRAINAGE</i> (m-hours)	1	nil
of which: (Percent)		
Male	(100)	(100)
Female	—	—
<i>DRYING</i> (m-hours)	1	1
of which: (Percent)		
Male	(67)	(90)
Female	(33)	(10)

Table 14. Average labor requirement per hectare in the care of livestock, by farm type, source of labor and livestock group, Nueva Ecija, Philippines, wet season 1979

<i>LIVESTOCK CLASS AND LABOR SOURCE</i>	<i>NON-MECHANIZED</i>	<i>MECHANIZED</i>
	<i>Per Hectare</i>	
<i>LABOR FOR CARE OF DRAFT</i>	132	5
<i>ANIMALS (m-hours)</i>		
of which: (Percent)		
Operator	(85)	(72)
Family	(13)	(23)
Permanent	(2)	(5)
Exchange	(1)	—
<i>LABOR FOR CARE OF PRODUCTIVE</i>	80	23
<i>ANIMALS (m-hours)</i>		
of which: (Percent)		
Operator	(87)	(87)
Family	(13)	(3)
Permanent	—	(10)
Exchange	—	—
<i>TOTAL LABOR (Livestock)</i>	215	30
of which: (Percent)		
Operator	(85)	(82)
Family	(13)	(8)
Permanent	(2)	(10)
Exchange	—	—

Table 15. Average labor requirement *per hectare* in the care of livestock by farm type, labor sex and livestock group, Nueva Ecija, Philippines, wet season 1979

<i>LIVESTOCK CLASS AND LABOR SEX</i>	<i>NON-MECHANIZED</i>	<i>MECHANIZED</i>
	<i>Per Hectare</i>	
<i>LABOR FOR CARE OF DRAFT ANIMALS</i> (m-hours)	132	8
of which: (Percent)		
Male	(100)	(97)
Female	-	(3)
<i>LABOR FOR CARE OF PRODUCTIVE ANIMALS</i> (m-hours)	80	23
of which: (Percent)		
Male	(25)	(12)
Female	(75)	(88)
<i>TOTAL LABOR</i> (livestock)	213	30
of which: (Percent)		
Male	(72)	(34)
Female	(28)	(66)

Table 16. Average labor requirement *per hectare* in the care of livestock, by farm type, source of labor and livestock group, Nueva Ecija, Philippines, wet season 1979

<i>LIVESTOCK CLASS AND LABOR SOURCE</i>	<i>RAINFED</i>	<i>GRAVITY-IRRIGATED</i>
	<i>Per Hectare</i>	
<i>LABOR FOR CARE OF DRAFT ANIMALS</i> (m-hours)	99	82
of which: (Percent)		
Operator	(80)	(91)
Family	(17)	(6)
Permanent	(3)	(3)
Exchange	-	-
Seasonal	-	-
<i>LABOR FOR CARE OF PRODUCTIVE ANIMALS</i> (m-hours)	77	32
of which: (Percent)		
Operator	(88)	(88)
Family	(12)	(9)
Permanent	-	(3)
Exchange	-	-
Seasonal	-	-
<i>TOTAL LABOR</i> (livestock)	176	144
of which: (Percent)		
Operator	(82)	(90)
Family	(8)	(7)
Permanent	(9)	(3)
Exchange	-	-
Seasonal	-	-

Table 17. Average labor requirement *per hectare* in the care of livestock by farm type, labor sex and livestock group, Nueva Ecija, Philippines, wet season 1979

<i>LIVESTOCK CLASS AND LABOR SEX</i>	<i>RAINFED</i>	<i>GRAVITY-IRRIGATED</i>
		<i>Per Hectare</i>
<i>LABOR FOR CARE OF DRAFT ANIMALS</i> (m-hours)	99	82
of which: (Percent)		
Male	100	100
Female	—	—
<i>LABOR FOR CARE OF PRODUCTIVE ANIMALS</i> (m-hours)	77	32
of which: (Percent)		
Male	(25)	(14)
Female	(75)	(86)
<i>TOTAL LABOR</i> (Livestock)	176	114
of which: (Percent)		
Male	(67)	(76)
Female	(33)	(24)

Table 19. Types of labor used by 320 farm households in different rice production tasks, dry season 1979

Activity	Farmer	Spouse	Male member more than 10 yrs	Female member more than 10 yrs	Male permanent labor	Under-terminated hired	Child hired	Male hired	Female hired	Under-terminated exchange	Male exchange	Female exchange	Under-terminated contractual	Male contractual	Female contractual
1. Land preparation															
2. Plowing	1							1			1			2	
3. Land clearing	4		1												
4. Harrowing	2		1					1						1	
5. Basal fertilizer application	18		3		4			2			3				
6. Direct seeding	18	1	2		5			2			8				
7. Transplanting	6	23	14	17		108	3	40	36	2	5	1	49	3	1
8. Seedbed preparation	36	2	8		5			3			5			1	
9. Levelling	1				1			1			1				
10. Pulling seedlings	18	24	10	5	3	6		13	23		15	8	26	26	20
11. Draining of parcels	1														
12. Repair-clear levee	2														
13. Rudging															
14. Seeding seedbed	171	8	40		15		1	7			21			1	
15. Seed preparation	171	2	15	1	11			1			2				
16. Replanting	1														
17. Puddling												1			
18. Seed transport	1														
19. Weeding	8	3	4	1											
20. Herbicide application	81		39		18			12			7				
21. Top dressing fertilizer	151	2	52		22			14			15				
22. Insecticide application	132		53		23			22			9			1	
23. Rodenticide application	1														
24. Fertilizer-pest application	1														

Table 20. Decision-maker on Different Farm-Related Activities (141 Farmers' Wives in two barangays of Baybay, Leyte, 1981)

Decision-Maker

<i>AREAS FOR DECISION-MAKING</i>	<i>HUSBAND ALONE</i>	<i>WIFE ALONE</i>	<i>BOTH HUSBAND AND WIFE</i>	<i>OTHERS: RELATIVES, LANDOWNER, CHILDREN, TENANTS, PARENTS</i>	<i>TOTAL</i>
- PERCENT -					
1. Allotment of money for farm activities					
a. Land preparation	20	37	33	10	100
b. Purchase of planting materials	22	34	33	11	100
c. Purchase of farm inputs	23	35	33	10	100
d. Purchase of farm equipment	20	37	34	10	100
e. Hiring of laborers	17	42	34	7	100
2. Procurement of budget for farm activities	32	32	30	6	100
3. Handling the budget for different farm activities					
a. Land preparation	4	79	8	9	100
b. Purchase of planting materials	4	79	8	9	100
c. Purchase of farm inputs	3	81	6	10	100
d. Purchase of farm equipment	1	85	4	10	100
e. Hiring of laborers	5	79	9	7	100
f. Listing of farm expenses	3	68	4	5	20 Did not list farm expenses
4. Land preparation decisions					
a. Decides the persons who will prepare the land	39	27	23	11	100
b. Decides the period when land will be prepared	43	25	23	9	100

Table 20. (Continued)

<i>AREAS FOR DECISION-MAKING</i>	<i>Decision-Maker</i>				<i>TOTAL</i>
	<i>HUSBAND ALONE</i>	<i>WIFE ALONE</i>	<i>BOTH HUSBAND AND WIFE</i>	<i>OTHERS: RELATIVES, LANDOWNER, CHILDREN, TENANTS, PARENTS</i>	
5. Selection of planting materials					
a. Selects the variety or materials to plant	41	22	20	17	100
b. Decides the place to purchase planting materials	42	23	19	16	100
6. Weeding the farm					
a. Decides the tools to use in the farm	43	25	24	8	100
b. Decides the period to weed the farm	45	27	22	6	100
7. Fertilization of the farm					
a. Decides use of fertilizer	45	20	21	14	100
b. Chooses the kind and amount of fertilizer to apply	47	20	18	15	100
c. Decides the period to apply fertilizer	47	22	18	13	100
8. Application of chemicals on the farm					
a. Decides the use of chemicals	45	20	21	14	100
b. Chooses the kind and amount of chemicals to apply	50	20	15	15	100
c. Decides the period for application of chemicals	48	22	18	12	100

Table 20. (Continued)

AREAS FOR DECISION-MAKING	Decision-Maker				TOTAL
	HUSBAND ALONE	WIFE ALONE	BOTH HUSBAND AND WIFE	OTHERS: RELATIVES, LANDOWNER, CHILDREN, TENANTS, PARENTS	
9. Harvesting of farm produce					
a. Decides time to harvest	41	24	27	8	100
b. Decides persons to hire or help in the harvesting	42	26	22	10	100
c. Decides the sharing arrangements	34	23	23	20	100
10. Transportation of farm produce					
a. Decides the place to transport farm produce	44	27	25	4	100
b. Makes necessary arrangements in transporting	48	28	19	5	100
c. Chooses the persons to hire or help in transporting	46	26	20	8	100
11. Marketing of farm produce N = 104	(26 percent did not market farm produce)				
a. Decides place to market	28	25	44	3	100
b. Selects kind of market, contact, outlets	32	24	40	4	100
c. Decides the price of farm produce	11	13	10	66	100
12. Borrowing of money for farm activities N = 74	(48 percent did not borrow)				
a. Initiates loaning/borrowing for the farm	34	20	40	6	100

Table 20. (Continued)

AREAS FOR DECISION-MAKING	Decision-Maker				TOTAL
	HUSBAND ALONE	WIFE ALONE	BOTH HUSBAND AND WIFE	OTHERS: RELATIVES, LANDOWNER, CHILDREN, TENANTS, PARENTS	
b. Decides the loaning/borrowing system	31	20	45	4	100
c. Decides the amount to be borrowed	19	24	54	3	100
d. Processes the credit papers	37	20	15	28	100
13. Membership in Organizations	(27 percent did not belong to organizations)				
a. Number of organizations affiliated with	4	72	14	10	100 N = 103
b. Holding of positions in the organization	8	54	30	8	100 N = 13
17 percent of 141 respondents belonged to the Samahang Nayon					
14. Participation of wives in community projects					
a. Number of projects involved in N = 129	4	78	13	5	100
b. Initiates implementation of community projects N = 106	3	65	8	24	100
15. Participation in rural development projects					
a. Nutrition program N = 30	—	83	10	7	100
b. Production program N = 26	4	54	23	19	100
c. Family planning program N = 42	—	59	36	5	100

Source: Marilyn Natividad Bascug, *Decision-making and Leadership Patterns of Rural Women in Two Leyte Villages, Philippines*. (Unpublished M.S. Thesis, University of the Philippines at Los Banos), November 1981.

Table 21. Decision-making Patterns on Farm-Related Activities by Selected Characteristics of Farm Wives

	<i>HUSBAND ALONE</i>	<i>WIFE ALONE</i>	<i>BOTH HUSBAND & WIFE</i>	<i>OTHERS</i>	<i>TOTAL</i>
- PERCENT -					
1. PROCUREMENT OF BUDGET FOR FARM ACTIVITIES					
a. Occupation of Wife					
Agriculture	17	42	37	4	100
Non-agriculture	39	28	27	6	100
b. Family Income					
Low (P405 and below per month)	38	26	29	7	100
High (Above P405 per month)	19	46	33	2	100
c. Household Size					
Small (5 or less members)	25	40	27	8	100
Big (more than 5 members)	41	22	35	2	100
d. Number of years married					
Short (Less than 22 years)	40	22	32	6	100
Long (More than 22 years)	23	44	29	4	100
2. HARVESTING PERIOD OF FARM PRODUCE					
a. Age of Wife					
Young (Below 44 years)	52	11	33	4	100
Old (Above 44 years)	30	37	20	13	100
b. Education of Wife					
Low (Grade 1 - 6)	44	25	22	9	100
High (High school and college)	24	19	52	5	100

Table 21. (Continued)

	<i>HUSBAND ALONE</i>	<i>WIFE ALONE</i>	<i>BOTH HUSBAND & WIFE</i>	<i>OTHERS</i>	<i>TOTAL</i>
c. Occupation of Wife					
Agricultural	14	51	25	10	100
Non-Agricultural	55	10	28	7	100
d. Family Income					
Low (P405 and below per month)	50	19	20	11	100
High (Above P405 per month)	25	33	40	2	100
3. AMOUNT TO BORROW FOR FARM ACTIVITIES					
a. Occupation of Wife					
Agricultural	16	48	36	—	100
Non-Agricultural	21	12	63	4	100
4. NUMBER OF PROJECTS TO BE INVOLVED IN					
a. Length of marriage					
Short (Less than 22 years)	4	70	20	6	100
Long (More than 22 years)	3	88	3	6	100

Source, Marily N. Bascug, *op. cit.*

Table 22. Estimates of working wives' contribution to weekly family earnings (1979)

<i>SURVEY ROUND AND VILLAGE</i>	<i>AVERAGE HOURS WORKED</i>	<i>TOTAL LABOR PAYMENT FOR THE WEEK</i>	<i>TOTAL WEEKLY FAMILY EARNINGS</i>	<i>PERCENT OF TOTAL LABOR PAYMENT WHICH COMES FROM WIVES' LABOR EARNINGS</i>
<i>MARCH-APRIL</i>				
Ayugan	18	₱13	₱240	14
Gatbo	30	45	147	31
OVERALL	25	₱41	₱187	22
<i>JUNE</i>				
Ayugan	32	₱41	₱230	18
Gatbo	27	38	145	26
OVERALL	28	₱38	₱177	21
<i>SEPTEMBER-OCTOBER</i>				
Ayugan	22	₱34	₱232	15
Gatbo	25	42	147	29
OVERALL	23	₱38	₱186	20

Source: Jeanne Frances I. Ilo, *Wives at Work: Patterns of Labor Force Participation in Two Rice-Farming Villages in the Philippines*, Paper presented at the conference on Women in Rice Farming Systems, IRRI, September 26 - 30, 1983.

Note: *Ayugan* is the irrigated village using power tillers and threshing machines.
Gatbo has farms irrigated from a nearby spring but irrigated area contracts by about half during the dry season. Plowing is by carabao and threshing is manual.

Table 23. Work opportunities of farm household

	1977 <i>N</i> = 83	1984 <i>N</i> = 72
	– Percent –	
1. Other sources of household income		
Non agricultural	25	3
Miscellaneous	2	11
Income from children separated from household	6	24
None	<u>67</u>	<u>62</u>
	100	100
2. Household size	7.9	6.3
3. Do family members work in their own farms?	N	Percent
Yes	60*	83
No	<u>12</u>	<u>17</u>
Total	72	100
* Son 45 Daughter 1		
Wife 11 Others 3		
Son-in-law		
4. Do family members work in other farms?	N	Percent
No	50	00
Yes	<u>22*</u>	<u>31</u>
	72	100
* Son 12 Wife 2 <i>Nature of work done</i>		
Household head 5		
Daughter 3		
	Weeding 12	
	Land preparation 5	
	Harvesting 2	
	Clearing of dikes 1	
	Planting 2	

Source: Merlyne M. Malabuyoc, Farm Labor Patterns of Rice Farmers in Selected Areas in Laguna, M.S. Thesis, UPLB, April 1985. (Study was done in 11 barangays in Biñan, Calauan, Pagsanjan, San Pablo City and Victoria)