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SPECIAL STUDIES 7**

**WOMEN IN AGRICULTURE: A SOCIAL
ACCOUNTING OF FEMALE WORKSHARE**

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Women in Development Special Studies 7

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CHAPTER I

INTRODUCTION

1.1 The Problem

Genuine development is simply the sustained improvement of people's well-being (Anderson, 1978). By people it meant to include all the people. It is a total process which involves both the poor and the rich, the young and the old, and the female and the male. Development, therefore, does not discriminate between societal classes, age groups, and sexes as well. Development, however, is sex-neutral; there are contentions that majority of government programs are male-oriented, hardly integrating the women. The 1975 UN conference on Women showed that women generally are disregarded or underutilized in the rural-improvement strategies of developing countries.

The truth that women, particularly women in agriculture, are an economic resource has been established in the developed and developing countries as well. Women in all rural regions perform a variety of roles which are of great economic significance (ADC, 1974). Women are food producers, processors, and marketers. Most of them participate in family economic decisions, and many are engaged in wage labor or ^{or} self-employed or work as unremunerated family labor. In the Philippines, women are regarded as manpower even if she is only a third of the official labor force (Castillo, 1976). As a member of the labor force, trend from 1956 to 1974 showed that 37 percent of the

female Filipinas 10 years old and above was engaged in agricultural endeavor. ^{for the period 1960-1964} Of that proportion, about 77 percent of females in agriculture was employed in rice and corn farming, 8 percent in coconut farming, 6.8 percent in other crops, livestock, and poultry production, and 4 percent in sugarcane farming.

However, many of the economic activities of rural women fail to be included in traditional measure of GNP (ADC, 1974). This contributes to failure to recognize their importance as an economic resource, at least at the national level of planning. Thus, increased opportunities for women's formal and non-formal education and training, income-generating work, credit, etc., are viewed as necessarily reducing opportunities for men. As a result, women have generally had less access than men to opportunities to realize their full potential, both as persons and as contributors to national development. They have had less access than men to the means of increasing the productivity of their work and in a modernizing society have often lost their traditional economic roles as a result of this exclusion. Efforts to speed up rural development cannot afford to overlook the remaining 50% of the country's abundant resource if the objective, in particular, is full utilization of existing resources.

Indeed, a number of researches in recent years have supported the claim that women's economic functions are substantial. To define these functions more precisely and to analyze their implications to agricultural development, however, demand ample hard data on women's

economic activities. This knowledge gap on the economic roles of Filipino women in agriculture is the benchmark from which this study departs. This study, therefore, is an attempt to bridge the knowledge gap via investigation and accounting of the agricultural female workshare by time allocation of activities, work load, type of work, effects of cropping patterns, level of technology, introduction of new crops or varieties upon women's role and activities.

1.2 Objectives of the Study

The study is designed to achieve the general objective of generating information which would shed light on the women's situation in agriculture in terms of workshare, roles, and activities. Specific objectives of the study include:

1. To determine the relative contribution of women in agriculture to the family productivity
2. To identify the constraints on women's productivity, the sources of such constraints and possible measures to eliminate these constraints
3. To assess the impact of technology to women's role/status in agriculture
4. To evaluate the impact of food production and related program to the role/status of women in agriculture
5. To come up with indicators on the different variables affecting women's participation in agricultural development

1.3 Hypotheses of the Study

A number of hypotheses regarding the determinants of women's workshare in agriculture and some of their economic functions were formulated and tested in this study.

These are as follows:

- 1. Women's workshare is negatively related with farm income or farm productivity.

This hypothesis is equivalent to saying that there is a backward sloping supply curve for women's labor. As cited by Guino (1978), empirical exploration of hours of work in the U.S. by Finegan (1962) found evidence of some negative association between weekly hours and hourly earnings which is an income effect. This finding implies that, ceteris paribus, a permanent increase in the hourly earnings will result in the reduction of hours worked. Boulier (1976) found that this held among Philippine mothers and fathers although, in some cases, the substitution effect may become predominant, that is, as income increases worked hours increases. King (1977) found in the Laguna study that given a peso increase in his wage the father increases his daily market time by an hour, but the mother decreases her time when her wage increases. Guino's study (1978) of rice farmers in Central Luzon revealed that the relationship between family income level and total family hours employed was not significant although lower income farm families have a lower total level of employment in two study towns.

2. Women's workshare is positively related with family size and farm size.

Considering other factors constant, it is hypothesized that participation of women in farming increases as prompted by the dire need to meet the rising cost of living of a growing family. This phenomenon can be triggered by the need for additional income as affected by saving on hired labor.

Guino (1978) disclosed that family labor devoted to rice farming does vary by farm size measured by effective crop area. The foregoing finding, however, is silent on the time devoted by women in farming as farm size varies. The study contends that women participation correspondingly increases as farm size increases and vice versa.

3. Women's workshare is negatively related to the age of family.

Studies on the labor force participation of married women, Mangahas and Ho (1976) found a negative correlation between labor force participation of Philippine married women and the presence in the family of children below four years of age. Using U.S. data, Gronau (1976) found that the number of young children has a negative effect on mother's market time. Conversely, Navera (1977) in her study on the allocation of household time of rural households associated with children in Laguna argued that as children enter the labor market, they shift out of the role of recipients of welfare and become important contributors to family income, and therefore the market time of the

parents is displaced by work of the children. Guino (1978) found that the number of children, particularly children over nine years of age, positively affected family labor in rice production.

4. Women's workshare is negatively related with level of mechanization.

In ^{the} study of eight rice producing provinces in the Philippines with high degree of mechanisation, Antiporta and Deomampo (1979) concluded that mechanization has reduced labor input to land preparation and has cut back to a larger extent the employment of family labor due to hired labor. The study further revealed that in operations where more labor was employed, the use of family labor has not expanded as rapidly as hired labor.

In this study it is suggested that women labor supply responds negatively to the level of mechanization. That is, mechanization displaces and saves on labor, at least in some farm activities, especially in harvesting since the male runs the machine.

5. Women's workshare is related with tenure status and cropping system.

As discussed by Jedlicka (1975), male farming, where farming is done principally by men, is more common in heavily cultivated areas where permanent fields and plowing are used (male-farming areas include the developed countries, some of Latin America, and much of Asia). Female farming (practices primarily among tribal societies in Africa) occurs more in temporary cultivation where plows are not used and permanent lands are not held by families. It was further mentioned that in female agriculture, men will prepare the soil and help harvest

while in male agriculture, women will help cultivate and harvest. The same study pointed out that when temporary farming systems are replaced with fixed farm lands and permanent fields, farming systems are generally more egalitarian, which means that both sexes must put long and hard hours into a small plot of land to provide subsistence for the family. Subscribing to the abovementioned findings, it is hypothesized that under local condition, women's workshare in farming is affected by tenure status.

It is further hypothesized that the type of cropping system practice be it a monoculture, multiple cropping or diversified farming will have a direct bearing on the extent of women's involvement in agricultural production. The nature of volume of their work and roles can be influenced by cropping pattern adopted. Furthermore, the cropping system variable can affect the division of labor by sex and the productivity by all members of the family.

6. That ~~male~~^{AA} male-female wage differentials do not exist in agricultural employment.

Based on Labor Force Survey data from 1971 to 1974, within each major industry or major occupation group, the average weekly cash earnings of fulltime wage and salary worker in the government and for private employees are consistently lower for females than for males over a three-year period. Castillo (1977) related in her study of the Filipino woman as a member of the labor force, that there are more unpaid family workers among females (31.6%) than males (18.5%).

Almost ninety percent of all female unpaid family workers in 1975 is in the rural area engaged in agricultural work. ~~Vis-a-vis~~ these findings, we still maintain that ~~labor factors price~~ does not vary between that of the male and the female.

1.4 Definition of Terms

Household farm income - refers to either one or any combination of the product of the crop share and its unit price, product ahead of livestock/poultry sold and its unit price, and pure labor wage.

Farm size - is defined here either as the physical crop area which is the actual measurement of the land planted to a crop or crops or as the effective crop area which is the total area planted to a temporary crop during the crop year including the area interplanted and area planted to succession crops.

Household size - is the number of persons living together and sharing the same housekeeping, kitchen, and eating arrangements.

Age of household - is equivalent to the number of years the couple has been living together, maintaining a household.

Mechanization - is defined here as the use of any motor-driven farm tool, equipment, or machinery in farm operations.

Tenure - refers to the rights or arrangement under which the holding or farm is operated.

Farming system - is defined as the production and consumption activities of the farm used to derive benefits from a given farm level resource base and specific environmental conditions. It comprises

other enterprises than just the crop production enterprise, such as animal production, cottage industry, and the farm family as a production consumption enterprise.

Cropping system - is the crop production enterprise used to derive benefits from a given resource base and specific environmental conditions.

Plot - has been defined as a contiguous area of land planted in a homogeneous manner during a defined period.

Cropping pattern - is then defined as spatial and temporal combination of cultivars in any one plots.

Multiple cropping - growing more than one crop in the same plot in one year.

Double cropping - growing two cultivars in sequence, planting one after the harvest of the former.

Pure hired labor - these are landless laborers who depend on hired farm work as a major source of income. They have no access to land whether owned, leased or share-cropped which they could cultivate and manage themselves.

On-farm activities - refers to activities directly related to farm production which range from land preparation to post-harvest activities.

Off-farm activities - refers to purely non-agricultural wage or salary activities. These include self-employment activities such as operating sari-sari store and other related non-farm activities.

CHAPTER 2

SAMPLING PROCEDURE

2.1 Choice of Study Area

The study areas were the provinces of Bulacan in Region III and Batangas in Region IV. The primary basis for the selection of the two provinces is that both Bulacan and Batangas are predominantly rural. As a matter of fact, rural population in 1975 in the two provinces was observed to increase. Urban population on the other hand exhibited a decline. Based on absolute terms, the same trend was noted for the female population.

Another consideration in the choice of study sites is the size of farming community. Based on the 1975 statistics, farmers, fishermen, loggers, and related workers group comprised the biggest (47.9%) and the ^{second} ~~next to the~~ biggest (27%) gainful occupational group in Batangas and Bulacan, respectively.

Both Bulacan and Batangas are well-known producers of various agricultural products for the local and export markets. The two provinces exhibit diversity in terms of cropping system, type of livestock grown, general topography/as to source of income/and proximity to major consumption centers. However, Batangas farms are observed to practice ^{more} diversified farming ~~more~~ than those in Bulacan. The latter is predominantly a rice farming area. Figures 2.1 and 2.2 are ~~respectively~~ showing the study areas.

2.2 Description of Study Areas

Bulacan

Bulacan is one of the provinces comprising the Central Plain of Luzon. It lies northeast of Manila Bay between 14°14 and 15°0 North Latitude and 120°36 and 121°8 East Longitude. It is bounded by Nueva Ecija in the North and Northeast, Quezon province in the east, Rizal province in the South, Pampanga in the west, and Manila Bay in the South and Southwest. The southern tip of the province is only 10 kilometers from Manila.

The climate in Bulacan consists of two seasons: the wet and the dry. The wet season starts around the month of May and ends around November.

The potential area of the province is approximately 2,672.03 sq.km. consisting of commercial forest, non-commercial forest, open land, marshes and swamps, and cultivated lands.^{1/} About 44.78 percent of the total area is cultivated land planted to annual and/or perennial crops, industrial sites, and residential areas. Generally flat in terrain, the landscape of the province is broken by a dozen mountains situated near the boundaries fronting the provinces of Nueva Ecija, Quezon, and Rizal. From these elevated areas flow the numerous rivers which drain the province.

^{1/} The Provincial Development Staff, Socio-Economic Profile: Province of Bulacan, 1975.

Commerce and traffic movement in the province is highly developed. This is made easily possible by good roads, railroads, waterways, telephone wires, and telegraph lines. Roads are either first, second, or third class roads, which connect the various towns to the Main Manila North Road.

Total number of farms in 1971 was 28,644. Area farmed was 65,085.01 hectares.^{2/} Of the total number of farms, 11.2% were of a size less than 1.0 hectare; 64%, 1.0 hectare to less than 3.0 hectares; 19.6%, 3.0 hectares to less than 5 hectares and 5.2%, 5.0 hectares and over. Small farms (farms less than 5.0 hectares) which comprised 94.8% of the total farms composed 81.1% of the total farm area while the remaining 5.2% large farms or farm 5.0 hectares and over accounted for 18.9% of the total farm area of the province.

About all farms in Bulacan or roughly 92 percent are palay farms. These palay farms constitute 92.1 percent of the total farm area in the province. Next to palay are chicken and hog farms which account for 2.0 and 1.9 percent, respectively.

Majority of farms which consist of 16,576 operators or 57.6 percent are tenants; 4,667 or 16.3 percent are part-owners; 49 or 0.2 percent are managers; and 1,121 or 3.9 percent are under other forms of tenure.

The rural economy of the province is primarily agricultural, supplemented with extensive household industries. Among farm operators in 1971, crops and livestock were the main source of income. About

^{2/}Census of Agriculture, 1971.

81.6 percent of all farm operators derived their income entirely from their holdings. Only 12.6 percent depended mostly on their holdings and ^{on} an additional sources of income. The remaining number of operators or 5.8 percent had other holdings and off-farm employment as their sources of income. Of these off-farm employment, 1,823 or 34.4 percent were craftsmen, production process workers and laborers and 1,204 or 22.8 percent were sales workers.

The seven leading agricultural crops of the province arranged in the order of value are rice, mangoes, sugarcane, bananao, corn, tomatoes and sweet potatoes. The minor crops arranged in similar manner are chichos, peanuts, coconuts, papayas, and samploc.^{3/}

The study covered four towns of the province namely, Angat, San Ildefonso, San Miguel, and San Rafael. These are the northernmost towns of Bulacan which thrived primarily on rice farming. A considerable portion of these towns are upland.

Angat has a total land area of 175,28 sq.km. which is the fifth largest among Bulacan towns. In 1975, its area planted to palay was 16,127 ^{hectares} sq. km. or 1,612.70 ^{hectares} hectares of which 1,049.80 ^{hectares} was irrigated. Average production per hectare of palay then in the area was 67 cavans for irrigated lands and 69 for rainfed areas. Angat was ^{had} a population of 23,181 people in 1975. Its two barangays, Sulucan and Banaban, were included in the list of barangays which served as survey area of the study.

^{1/} Bulacan Integrated Census of Population and Its Economic Activities, 1975.

San Ildefonso on the other hand, is the sixth largest town of Bulacan having a land area of 129 sq. km. About 28.32 sq. km. or 2,802 hectares was planted to paly in 1975. Irrigated and rainfed areas were 1,029.50 hectares and 1,772 hectares, respectively. Average production of paly then was 75 cavans per hectare for irrigated farms and 80 cavans for rainfed areas. In the same year, the population of the town was 39,389. Included in the study were its three barangays namely, Sta. Catalina, Bubulong Malinao, and Bubulong Manti.

About 75 km. away from Manila in San Miguel, the biggest town of Bulacan in terms of land area measuring 726.70 sq. km. Total area devoted to rice production in 1975 was 39,455 sq. km. or 3,945.50 hectares, 4,415.95 of which was irrigated. Average production in the same year of San Miguel was 70 and 75 cavans per hectare for irrigated and rainfed areas, respectively. San Miguel population size in 1975 was 44,526. Surveyed barangays of the town were San Agustin, Baritan, and Limnansyang Kabayo.

San Rafael having a land area of 266.70 sq. km. is the third largest municipality of Bulacan. A total land area of 33,637.5 sq. km. or 3,363.75 hectares was planted to rice in 1975. Irrigated areas totalled to 1,640.50 hectares. In that year, the town average production of paly per hectare was 78 cavans for irrigated areas and 74 for rainfed farms. San Rafael had a total population size of 31,937 in 1975. The town barangays of Marcosquillo and Pantubig were covered in the study.

Batangas

The province of Batangas is located in the southwestern part of Luzon, bounded on the north by Cavite and Laguna, on the east by Laguna and Quezon. The China sea defines its western and southern boundaries, with the Verde Island Passage separating the southern part of the province from the northern tip of Mindoro.

The province has a land area of 3,165.8 square kilometers. The entire province is elevated sloping down towards Cavite in the North and towards the West, South and Southwest coasts. Batangas Bay which is well protected by mountains and hills in the east and west, provides the country with one of its finest natural harbors. Taal volcano has endowed the province with rice volcanic soil.

Like Bulacan, the climate of Batangas has two distinct seasons: rainy and dry seasons. Dry season in the province, however, is shorter than in Bulacan. The onset of rainy season is May and ends up in November while dry season period starts from November and winds up in April.

All parts of the province (except northwestern Batangas) are endowed with a network of good highways. Batangas had a total of 1,419.11 kms. of roads of all types in 1976. Although Batangas has only one percent of the total area of the country, it had 2.4 percent of the total existing roads in the country. The province therefore has more kilometers of road (4.47 kms. per thousand hectares of land area) than the national average of 2.01 kilometers per thousand hectares.^{4/}

^{4/} Filipinas Foundation, Inc. General Development Framework for the Province of Batangas, 1976.

The source of
 Family income in the province can come either from wages and salaries, entrepreneurial activities and others. A large number of workers has been observed in the province, which implies that more and more people are willing to subject themselves to organized establishments which are more potent sources of improved production techniques and economies of scale. It is said that in this respect, Batangas is more entrepreneurial than Cavite, Laguna, Rizal and even the region with 34 percent of family income coming from entrepreneurial activities.

Embroidery is the most common home industry in the province, employing more than 10,000 workers in 1972. This is followed by bamboo-craft, weaving, and sawali-making. Bakeries and rice mills ~~likewise~~ dot the entire province. Among the NACIDA - registered industries, piggery takes the biggest slice at 47.4 percent of all cottage industries. This is followed by poultry, close to 18 percent and garment manufacture, 13 percent.

In 1971, out of the 58,140 farm households, 50,163 or a little more than 86.3 percent depended entirely upon their holdings for their source of income, while 9.3 percent were dependent mostly on their holdings, supplemented by income from other sources. The rest or 4.4 percent relied from other holdings and various off-farm employment as draftsman and production process workers.^{5/}

Over the years, Batangas has remained basically agricultural. ~~As of 1971, there has been a total of 58,159 farms in the province.~~

^{5/} Census of Agriculture, 1971.

It is one of the leading rice producers of the country as a big portion of the farms in the province or more than 46.6 percent are palay farms. These palay farms constitute 35.9 percent of the area of farms in the province. Next to palay farms are the other farms which consist of 18.4 percent; sugarcane farms, 16.4 percent; coconut farms, 7.9 percent; corn farms, 1.5 percent; chicken farms, 1.2 percent and coffee farms, 1.1 percent. The rest of the farms comprising 2.4 percent of the total farms in the province are: citrus, vegetables, tubers, root and bulb crops, banana and bog farms. Although the area harvested for palay is comparatively small, it tops the Southern Luzon region and even the Central Luzon in the average yield per hectare. During crop year 1973-1974, Batangas yielded 92 cavans per hectare of Masagana 99 on irrigated area and 64 cavans on rainfed area, an average yield of 90 cavans per hectare.

Sugar is one of the larger contributions to the total income of Batangas. Two sugar central operate in the province. Combined, the two centrals utilize some 26,000 hectares for sugar and cane production, an area which accounts for 24 percent of sugar and cane area in Luzon and 6 percent in the Philippines.

Next to palay and sugarcane, coconut is the third major crop of Batangas. It is likewise a corn-producing area devoting a larger area for this purpose than for other secondary crops.

Among feed crops, rice remains to be the main contributor of value of Batangas, putting in 18% of total peso value in crop year

1969-1970. Among the commercial crop, centrifugal sugar took the biggest slice at almost 34% of total value. The sugar industry together with petroleum, contributed the main bulk of the fixed assets of the province. Among fruits and nuts, bananas, mangoes, and lanzones are the main contributors of value; while among vegetables, calabasa puts in more than one-fourth of total value followed way behind by tomatoes and gourds (upo).

The study involved four towns of the province particularly, Santo Tomas, Malvar, San Jose, and Padre Garcia. These are the inland agricultural towns of Batangas surrounding Lips, a city of the province.

From Manila, Santo Tomas is the first town of Batangas to be reached. Its total population in 1975 was 37,452. Total number of farms in 1971 in the town was 1,631. Farmed area totalled to 4,741.8 hectares. Total physical crop area planted was 1,392 hectares which was almost 100 percent without irrigation. Covered by the study were its three barangays: San Pablo, San Antonio, and San Vicente.

Bordering Santo Tomas in the southeast is the town of Malvar. In 1975, Malvar had about 15,584 residents. The town had 816 farms using 1971 figures. The total area of the farms of the town was put at 2,433.3 hectares, 100% of which was the total physical crop area planted. The entire town had no irrigation water supply. San Pedro I and San Gregorio were the two barangays of the town included in the list of ^{studied} ~~studied~~ barangays in the study.

The two remaining study towns of the province, Padre Garcia and San Jose are separated from the first two study towns maintained by Lipa City. Padre Garcia is ~~towards~~ the southeast of Lipa while San Jose is situated ~~more towards~~ the southwest boundary of the city. In 1975, Padre Garcia and San Jose had population sizes of 17,541 and 25,757, respectively. The total number of farms in 1971 in Padre Garcia was 1,199 while that of San Jose was 1,871. Total farmed area for Padre Garcia was 2,316.8 hectares and 3,214.5 hectares for San Jose. About 1378.7 and 1715.7 hectares were the physical crop areas planted in Padre Garcia and San Jose, respectively. Irrigated farms of Padre Garcia was approximately 1 percent of the total physical crop area while that of San Jose was almost negligible. Included in the study were the barangays of Bukal and Banaban in Padre Garcia and barangays of Balagtasin, Tugtug, and Taysan in San Jose.

2.3 Selection of Sample Women Respondents

The study utilized a primary data set gathered through personal interviews with the respondents in the provinces of Bulacan and Batangas. The respondents included wives of farmers and women who were farm business operators. For purposes of comparison, however, both husband and wife were contacted. The responses of the interviewers were recorded in prepared questionnaires, pre-tested in Tarlac before the actual survey.

The study employed a two-stage sampling design per study area with the barangays as the first stage sampling unit and the household as the secondary or ultimate sampling unit.

From the two provinces, sample towns with a comparatively large number of farming populace based on the listing of the 1975 Integrated Census of the Population and Its Economic Activities were selected. Proportional allocation with respect to the number of barangays per study town was done using stratified random sampling. The usual sampling fraction in stratifying barangay units of 25% of the sum of the number of barangays for all the preselected agricultural towns were applied. The number of barangays chosen per town selected was determined using the formula for proportional allocation in stratified random sampling as follows:

$$b_i = \frac{bB_i}{B}$$

where:

B = total number of barangays for all towns selected

B_i = number of barangays per town selected

b = 25% of the total number of barangays for all the pre-selected towns

b_i = number of barangays chosen per town selected

After computing the b_i 's, simple random sampling was employed to determine the desired b_i 's, from each study town.

The number of households per barangay was determined in the second stage sampling where the farm households served as the

ultimate sampling units. This was accomplished by stratification of barangays also by proportional allocation. Similar formula for proportional allocation was applied, thus:

$$n_h = \frac{nN_h}{N}$$

where,

N = total number of farm households of the chosen barangays

N_h = number of farm households per barangay within towns

n = desired total number of farm household samples

n_h = number of households chosen per barangay

To capture the desired women respondents, simple random sampling was again resorted to using the available barangay captain's list of farm households. A total of 530 households representing the number of women respondents were selected and interviewed, 273 from Bulacan and 257 from Batangas.

CHAPTER III

METHODOLOGY

3.1 Conceptual Framework

A model is constructed to conceptualize the indicators of women's participation in agriculture. Women's labor input is hypothesized to be influenced by a number of factors as shown in Figure 3. Some ^{factors} indicators such as level of technology or irrigation development tend to increase the cropping intensity and hence the level of input for women-specific tasks. Likewise, the cropping pattern or system practiced i.e., whether it is monoculture or diversified, can affect the extent of involvement of women in agricultural production. The nature and volume of work as well as their roles can be influenced by the cropping pattern adopted. Furthermore, the cropping system can influence the division of labor by sex in order to increase labor productivity of family members.

Institutional factors like land reform could result to different roles of women. For example, women do not exercise the right to farm ownership but by virtue of their being a wife, sister or daughter of the landlord, they are able to utilize farm lands for rice production. Another institutional development, the emergence of "gama" system, a contractual arrangement for weeding-harvesting between landless laborer and farmer could prohibit the participation of wives and daughters of farmers.

Other factors such as chemical and mechanical technology may reduce female participation. Although mechanization tends to increase labor productivity and reduce the physical burden for some types of farm operations, it tends to displace females from tasks that can be mechanized and to hire males to operate the machines. However, the burden of women's work are still in the non-mechanized tasks such as weeding and transplanting.

Labor input may vary by farm size or tenure status. The role of woman may shift due to increases in the volume of farm business. The choice of crops may be influenced by farm size.

Another factor is the level of family farm income which could affect family labor allocation. Availability of employment opportunities could affect female labor input since women have generally less access than men to such opportunities. Higher opportunity cost (wage) outside agriculture would certainly affect division of labor by sex.

3.2 Statistical Framework

Three statistical procedures were used in the analysis: (a) Duncan Multiple Range Test (DMRT); (b) Analysis of Variance (ANOVA); and (c) Multiple Regression Analysis. Although several procedures for testing the differences between means as discussed by Steel and Torrie (1960) and Snedecor and Cochran (1967), the most commonly used DMRT.^{6/} The DMRT was used to evaluate all possible comparisons

^{6/} For details see K.A. Gomez and A.A. Gomez, 1976. Statistical Procedures for Agricultural Research With Emphasis on Rice. IRRI, Los Baños, Philippines.

of means to see which difference may appear real.

Multiple linear regression was the other procedure employed to examine the indicators listed in an attempt to explain the variation in female workshare. The advantage of this procedure is that, any number of independent variables suspected to affect the dependent variable can be included in the regression equation.

The regression model for female workshare estimated by the least squares method can be expressed as:

$$Y = f (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8)$$

where:

i) Dependent variable

Y = total household female labor for on-farm activities in man-days/year.

ii) The following independent variables were fitted into the equation to explain variation in female workshare:

X_1 = farm income in pesos per year

X_2 = farm size measured by effective crop area expressed in hectares planted to crops per year

X_3 = household age

X_4 = household size

X_5 = dummy variable for geographical location: equal to 1 for Bulacan and equal to 0 for Batangas.

X_6 = dummy variable for civil status: equal to 1 for married and equal to 0 for others (widow/separated/never married)

X_7 = dummy variable for economic class equal to 1 for owner-operator and equal to 0 for share tenants, leasehold, mixed tenure and landless labor.

X_8 = dummy variable for farming system: equal to 1 for rice/other crops and other crops alone and 0 for monoculture and livestock/poultry.

CHAPTER IV

RESULTS AND DISCUSSION

4.1 Background Information About the Sample Women Respondents

Table 1 shows the background economic information about the sample women respondents. The total sample was 530;273 in Bulacan and 257 in Batangas. The sample respondents consisted of married and unmarried women. Unmarried women include widows, separated and/or old maid who were heads of the household. However, due to the limited number of households headed by a woman, only a small proportions were obtained. These households were either with land or landless farm laborers. Among those with land, distribution according to farming system are also given in the table. However, the farming systems varied according to geographical location. In Bulacan, large proportions were monoculture rice while multiple cropping systems was common in Batangas. Other farming enterprises such as livestock or poultry alone represent a very small percentage.

Distribution of sample women respondents according to their economic status are also shown in the table. Except for the mixed tenure status, distribution of owned operators, share tenants and leaseholds were almost the same including the landless laborers. The average farm size of farmers measured as effective crop area was about 3 hectares. Bulacan farmers have a slightly higher effective crop area compared with Batangas farmers because they planted rice

and some farms were double-cropped while Batangas, were mostly upland or rainfed, and there had low cropping intensity index.

As expected, the main source of livelihood of the respondents were their farm. This includes the landless laborers who obtained income from the farm by working on the farmer's field. Their average farm income was a little more than ₱3,000 with Bulacan farmers having almost double than Batangas farmers. Nevertheless, majority of the families had farm income of less than ₱3,000, representing about 2/3 of all farm households including landless workers. Only about 2/3 of them were in the income level of ₱3,000 to ₱6,000.

Furthermore, the above economic status is also reflected in their housing quality. Large proportions, more than 80% of the respondents have had temporary or semi-permanent dwellings made up of local materials. However, more than 50% were homelot owners.

Table 2 shows household size and other demographic variables about the sample women respondents. Average household size was about 6 members for both Bulacan and Batangas families. Their sex composition were 1:1 male-female ratio. Size of labor force was 4.71 on the average and this includes those household members 10 years old and above. Bulacan and Batangas families had about the same size of labor force. It is this age bracket that was considered in the accounting of female and male workshares.

4.2 Women's Workshare in Agriculture

Do female contribute to agricultural production? Or what is the relative contribution of females to farm productivity? We hypothesized that the degree to which female participates in agriculture depends very much upon the institutional structure of farming such as farm size and tenancy, technology, farming system, cropping intensity, family size and their age compositions, level of mechanization, farm income and wage.

As reported earlier the average household has about 6 members with an almost 1:1 male-female ratio. However, not all 6 were potential labor force members (10 years of age and older). Only about 4 males and 2 females were in the working age group.

The labor force participation among the males was higher as reflected in the workshare distribution of farm activities by operation (Table 3). The overall participation of females for all farm operations was only about 21 percent for combined family and hired labor. The data revealed that the family labor contributes only 17 percent while the hired labor contributed the bulk of female workshares in farm operations. One should not be surprised about the higher proportions of hired labor. Several factors have contributed to this phenomenon; population pressure due to the increasing number of landless laborers and others are institutional in nature. For instance, transplanting and harvesting and related activities are by tradition, tasks performed by hired laborers.

The table also shows that close to 50% of these major activities were performed by the women. Negligible amount of workdays was contributed by women in land preparation jobs since this is specifically a male activity. The weeding operation is a unisex activity, and could be a one-to-one male-female correspondence depending on how much female children are available. The data revealed that the contribution of females in this operation was roughly 20 to 25 percent. The hired labor exhibited the larger share in weeding operation. One contributing factor is the emergence of an institutional arrangement for weeding-harvesting which had trimmed down the participation of family to weeding activity. Smith and Gascon (1979) had figured out the negligible participation of female children and wives in this operation as well as in other activities covered by the gama system. In some places in lowland rice areas of Batangas, the "gama" system is extended to cover other pre-harvest activities. However, our sample farmers in Batangas does not adopt the "gama" system since their farms are upland. Thus in both areas, the weeding tasks remained the job of almost all farm families. The female workshare remained very low at 15 to 20%.

Harvesting and post-harvest activities are in general tasks performed by hired laborers. In Bulacan, crop cutting or harvesting and threshing became two separate operations because the common method of threshing is with "tilyadora" or mechanical thresher. In this system, harvesters are employed at a fixed daily wage rate (upahan) or at a fixed payment

per certain area harvested (pakyaw). Therefore, harvesting is an operation where both male and female participates. While threshing is mainly a male activity. Mechanical thresher in Bulacan and other parts of Central Luzon can be partly explained by a relative labor shortage in the areas of new settlements and the more important reasons was for hacienda owners to collect the right amount of rent in kind (Kitachi et al., 1970). While male-female ratio in harvesting is 1:1 the female participation in threshing activity will be completely displaced. However, Bulacan farmers were not completely mechanized. Our data show that some may have practiced the 'homonan' system, thus from harvesting to threshing tasks and other post harvest activities, female workshare ranged from 29% family labor to as high as 53% of hired labor. In Natungao, the same "homonan" method was in practice. But the data revealed that in terms of absolute figures for harvesting and post-harvest activities, family labor dominates of which 18 to 15% were female labor.

However, to determine whether mechanized threshing displaces female labor, is discussed in later portion of this paper. Furthermore, some indicators related to women's workshare were incorporated in the regression analysis discussed in the subsequent sections.

6.2.1 Civil Status and Women's Workshare

Women's economic roles are substantial. They are producers and homemakers at the same time. However, women may have different functions due to marriage. Table 4 compares women's work participation in agriculture. Although their relative contribution was only about

20% of total workshare in agriculture, they may be regarded as great contributors to family welfare. Much more when women are the breadwinners in the family. Note that in the table, unmarried women may have significantly higher workshare compared to married women. Married mothers confined themselves to helping their husbands in the farm, their contribution was about half that of their husbands (Quino, 1978). Likewise, some married women have their participation in non-farm self-employment business like sari-sari store, homagardens and these constitute their secondary source of family income.

Unmarried or widows have the great advantage over the married women. For instance, in early years of married life, married mothers allocate their time to the home due to high demand of children on parent's time. However, once children enter the labor force, mothers are released from and enter in the labor market, depending on the availability of employment.

Table 4 likewise show the participation of other male and female household members. It would be noted that female participation in unmarried groups was much higher than in the married groups.

4.2.3 Farming System and Women's Workshare

Adoption by the farmer of a farming system is a function of many variables which could be physical, economic and social. Roxas et al. (1978) reported that in Iloilo rainfed lowland areas where on-farm testing of multiple cropping technology was conducted -- the main determinants which farmers consider in their cropping

strategy are rainfall, landscape position, labor, power and cash availability. The results of the study also showed that the successful introduction of new cropping patterns and multiple cropping technology will be a function of the above production variable that would also influence the cropping intensity of the area.

Prison and Barber (1977) reported that farmers are strongly motivated in their choice of cropping pattern by profitability which is expected to vary from one region to another and from farm to farm due to differences in physical, financial and human resources. Further studies on upland, rainfed and lowland irrigated farms in Batangas revealed that: (a) upland rice-based systems are more diverse and show low level of single cropping, but high levels of cropping intensity; (b) rainfed systems are less diverse and exhibit low level of cropping intensity; (c) irrigated systems show low diversity of pattern, but high levels of double-rice cropping; (d) upland sites have the smallest farm area and need the highest proportion of family labor; (e) rainfed farms are large, but used the less amount of labor per hectare; (f) irrigated farms have the highest labor input per hectare and need the highest proportion of hired labor. Analysis of upland farms in Batangas showed that there appeared to be a correlation between effective crop area and average number of family workers per household. The farmers who executed the least complex system, had the smallest number of family workers and they applied a low level of total labor on their farms.

Benins, Jr. and Hurd (1974) in their survey of eight provinces with substantial areas of upland rice disclosed that the crops grown in different regions were affected by the consumption patterns as well as the climate and soil characteristics of the regions. With diversity in staple and supplementary commodities, cropping patterns vary from one area to another. The Cebuano farmers consume corn as their main staple along with rice. Eastern Visayan farmers were reported fond of root crops, and rice while Western Visayan and Luzon people are rice and corn eaters. Some of Luzon farmers particularly in Batangas, consumed green corn and the rest as feeds for livestock. While farmers in Iloilo, used it as a supplementary food mainly in times of a rice shortage. Also, it was found that heterogeneity of upland farm environments affects labor use. In majority of barriers accessible, labor input per hectare were higher than remote areas irrespective of topography. The explanation given was that there were more labor available, both family and hired, in areas with paved roads or because of greater population density. Moreover, it was observed that samples in accessible barriers practiced more intensive cultivation in order to have more production for sale.

Crisostomo et al. (1971) in a study on labor absorption in Philippine agriculture cited relationships between the intensity of cropping and the amount of labor input. Result showed that labor input increases as the multiple cropping index increases on both lowland and upland rice-diversified farms. The labor input varied widely, depending on the cropping system; the highest labor absorption

is found on multiple cropped lowland farms, and the lowest is observed on upland farms. Another important observation was that small farms have highest cropping intensities and higher labor input per hectare than large farms. Moreover, the study noted that though an increase in multiple-cropping index will result in labor input increases, the choice of crop combination can also have a considerable impact on the amount of labor used. It is possible to have situations where the multiple-cropping index may be very low but the labor requirement may be high and vice versa. The farmer's decision as to which cropping pattern to follow will depend on his labor and other resource restriction.

Table 3 shows the average workshare of males and females per household by farming system and geographical location. The combined average for Bulacan and Batangas shows that rice monoculture cropping has the highest. Absolute total female workshare was highest for all cropping patterns but the lowest percentage wise. Crops which are not grown with rice showed the highest relative female workshare but the lowest in absolute terms. Comparing figures for Bulacan and Batangas reveal some significant differences. Average total labor input for Bulacan was very much higher than that of Batangas. Rice monoculture was the prevailing cropping pattern for Bulacan while rice with other crops or multiple cropping was dominant in Batangas farms studied. Bulacan farms are predominantly lowland while Batangas is upland.

Survey results from farm household in Bulacan show that though rice monoculture is the most labor intensive of all cropping patterns,

absolute and relative female workshare was lowest. While farm households that grow crops other than rice had higher female workshares in both absolute and relative terms. These findings support our hypothesis that as multiple cropping index increases, female workshare will also increase. Figures regarding total labor input for multiple-cropping farm groups (rice/other crops) was higher for Bulacan than in Batangas. This conforms with previous findings that the highest labor absorption is found in multiple-cropped lowland farms and the lowest observed on upland farms.

As to household female's workshare, the other crops (alone) group showed the highest female contribution in both absolute and relative terms. Crop combination could be a factor for such behaviour. Biological characteristics vary with crops. There are various operations in rice farming that need to be accomplished in a definite period of time, (e.g. planting, harvesting, threshing) because a delay may result in a drop in total yield. So more farm hands must be available, other than family labor. In this case, hired labor substitute for family labor and thus household female is spared/released. There are other crops where some operations could be staggered or done on certain intervals; vegetable crop is an example. Harvesting of vegetable crops need not be finished in one or four days, and does not require so many hours of work per day unlike rice. In this kind of activities, household female could have more participation.

Another factor that would explain the small absolute and relative household female workshare in Bulacan households is institutional.

In rainfed rice-based cropping systems it is common to have one half of total labor requirements supplied by hired labor, while for those lowland irrigated farms as much as 90% is hired (Price and Barker, 1977). In Balacan, an average of 31% of total labor requirement was supplied by hired laborers for all cropping systems. Nordt and Barker (1975) noted that an important characteristic of rice production in Asia is the large percentage of hired labor as a proportion of total labor used. This phenomenon seemed to be independent of the total amount of labor and is quite general in Asia with the exception of Taiwan, where family labor performs more than half of the work. As productivity increased, they observed a tendency to increase the proportion of hired labor use. A number of factors were given to explain for the high proportion of hired labor typically found in Asian rice production. These include; (a) the desire on the part of operators to avoid the arduous tasks in rice production (i.e., preference for leisure); (b) social pressure to provide employment for relatives, neighbors, or landless laborers; (c) the inadequacy of family labor during peak periods; and (d) alternative employment opportunities for labor labor. Thus, as the ratio of family labor to hired labor continues to decline, household female workshare in farming operations will also tend to decrease.

As compared to Balacan, Batangas farmers practiced more diverse cropping patterns. Majority of the farm household interviewed planted more than one type of crop per year, and thus have a high multiple-cropping index. Family labor for farm households in Batangas contributed an average of 89% of total labor requirement for the different

cropping systems. Thus, it seemed that family labor resources was an important factor in the selection of cropping system in Batangas. This also explains why relative household female workshare, and for that matter, total female workshare was higher in Batangas. Although variation in cropping patterns showed different total absolute female workshare percentages also, there was no significant difference.

Fris and Friso (1979) identified a total of 161 cropping patterns in Calo, Bataan, Batangas. About 80-90% of the farmers grow the rice-corn pattern in at least one plot of their farm. Other common patterns are rice-garlic, monoculture crops of eggplant and chili, rice-campalaya and rice-potato. Despite the high multiple cropping index of Batangas farms, relative to Bulacan, total labor input was lower in Batangas. Luning (1976) showed dramatic differences in per hectare labor absorption capacity of various farm types. Upland areas are able to absorb 30-80 man-days; rainfed areas between 100 and 200 man days; 200-220 for irrigated areas; and, in the lowland and rolling sugarcane areas, 120-150 man days depending on the degree of mechanization. Among different types of farmers, upland farmers are the ones disadvantaged in productivity. They derive very low income from their farms, but since most of them have land and use unpaid family labor, whatever income they obtain from farm operations is not income.

4.2.3. Household Age, Size, and Women's Workshare

The age variable reflects the life cycle of the individual: the father, mother and the children. Koptain (1975) characterizes the family's normal life cycle as starting with (a) establishment of a

separate unit, a farm unit as in the case of farm family in the early years of married life or after the birth of first child; (b) it continues to expand to include kin of wider genealogical connection until it reaches its peak; and (c) after which adult offspring begin to get married, move in and the household continues to decline until it finally ceases to exist altogether. The above life cycle hypothesis is also reflected in the age of family. As family grows older, children grow older too and thus become contributors to family welfare. In the early years of marriage, as the family are just beginning to grow the demands by children on parent's time are expected to grow. Thus, women, in the picture of the mother assume to follow the opposite path. The mother is occupied in the home and therefore less in the farm since a negative correlation is found between women's market participation and the presence of young children (Gronau, 1976; Manghoo and Ho, 1976).

Moreover, as the children grow older and become no longer recipients of welfare but become contributors to family welfare, their participation is expected to increase, depending upon the male/female ratio in the family. Our sample population has equally male-female proportions. The mean age of family was about 25 years. Workshare tended to increase slightly with age (Table 6). Female workshare in the early stage of married life (15 years and below) was slightly lower, considering children were in the schooling age level. However, once the elementary education is over, most rural families preferred their female children to remain at home and send males to higher educational levels. Thus, there is a tendency that females participate and help

fathers in the farm. This somehow explains the increased female workshare in 15 to 25 age groups. As mentioned earlier, they render weeding and other pre-harvest services to the farm. However, recycling of life begins, female children get married and therefore workshare declines as depicted in the female workdays in the 35 and above age bracket.

Family size is one of the essential criteria for the timely operation of a certain task which have to complete within a span of time (Smith and Ganesa, 1979). This is embodied in the seed-fertilizer technology package. Farmers are aware of the important of timeliness in carrying out rice farming operations. High demand for labor on certain tasks such as transplanting, weeding and harvesting and threshing makes it impossible to complete the operation within a span of time without hiring substantial quantities of labor. However, in other pre-harvest tasks like fertilizing and spraying, timing is equally vital but its labor requirements are small. These tasks can be undertaken by the family.

Roumasset and Smith (1979) had pointed out that as farmers grow older, if things go well, they gain in both experience of human capital and wealth. The human capital allows them to move into higher productivity positions in the agricultural ladders. In other words, as the farmer and his family move to later stages of the life cycle, accumulation of farming experience gives them a comparative advantage in farm management activities versus physical farm work. Thus changing family composition at different stages of the life cycle affects the availability of supply of family labor. Table 6, does indicates that at the

later stages of family's age family labor tend to decline, female labor in particular. Likewise the larger the household size is, female labor also decreases (Table 7).

4.2.4 Economic Class and Woman's Workshare

Barber and Cordova (1976) treated land tenure as one of the institutional factors influencing labor utilization in rice production. Findings from survey in Laguna and Central Luzon indicated important changes in tenure status and sharing of harvest due to land reform and the spread of the "gana" system. In both surveys, the land reform program caused a significant shift from share-tenancy to leasehold, but no consistent pattern of differences in labor has emerged as a result of the change in tenure status. In the Laguna survey, labor input per hectare on share tenant and leasehold farms were found to be 95 and 114 man-days, respectively. The Central Luzon-Laguna combine, showed 82 and 81 man-days per hectare for share-tenant and leasehold farms. This findings do not support the hypothesis that there could be significant difference in labor input with regard to the different tenure groups.

This study hypothesized that share tenants do not devote much labor input to farm production because of the sharing arrangement (of benefit), particularly with landlords. Owner-operator farmers were expected to increase labor input since full benefit from improved production will accrue to them and their families.

Table 8 show that the highest relative female workshare come from owner operated farming household, while the lowest relative female workshare come from mixed tenure arrangement. The owner-operated farm had the smallest total labor input while the mixed tenure group had the highest. The owner type group had the highest relative household female participation but the lowest relative hired female participation. Calculating the proportion of total family labor to total labor shows that the owner-operator group has the lowest proportion of the family labor (73 percent) among the different groups and therefore, the highest proportion of hired labor (27 percent).

For both Bulacan and Matangas, the owner-operator class had the highest absolute and relative household female workshare among the three most common tenurial arrangements, though this group also exhibited the lowest total farm labor input and also the lowest proportion of family labor to total labor. This seem to indicate that household female members who own the land have more involvement in farming operations. Traditional farming technology has relied mostly on family labor resources. The introduction of modern rice varieties indicate changing patterns in labor allocation. Assuming farm size to be constant, the fact that household female maintains a share in farming operations despite increase in hired labor, shows that women's involvement and participation is a valuable supplement to males in farming.

Duncan Multiple Range Test (DMRT) of the different mean of female workshare for all classes and for average household, hired and total female labor input showed no significant differences in their means. This implies that female workshare do not change with economic class. Shift in tenurial arrangement will not affect significant changes in female participation in farming.

If we are going to categorize the different tenurial group into highest, medium and lowest income groups, the owner type is expected to be in the highest, the leasehold in the medium and share-tenant, the lowest.

Taking a look at total female labor input, an average of 18.32 man-days for all tenure group and relative share of 20 percent. Comparing average total female workshare for different tenure groups did not show significant differences, though total labor requirement varied widely.

Thus a shift in tenure status will not result in significant change in female workshare, household members, hired laborers, and total female labor-input.

4.2.5 Farm Size and Woman's Workshare

Based on Nerdt and Barker (1975) findings, 65 percent of all farms in South and Southeast Asia are less than 2 hectares in size and 90 percent are less than 5 hectares. Most farms in Asia will be small and will likely become smaller over the next few decades as today's farmers produce an increased number of farmers for tomorrow.

In relating farm size to new technology adoption, the same authors found out that absolute farm size does not seem to be a disadvantage in the adoption of yield increasing innovation such as new varieties, fertilizers and insecticides. On the other hand, small farmers have lagged significantly behind large farms in the adoption of labor saving innovations, threshers and herbicides.

Barker and Cordova (1976) revealed that farm size affect the use of both technology and labor. Laguna results showed that a greater percentage of medium and large farms used tractors and herbicides. In the combined Central Luzon-Laguna areas, use of tractors and herbicides was more common on the larger than on the medium farms. Labor input per hectare tended to decrease with increase in farm size, but the percentage of hired labor was greater on the large farms. The large farms also reported lower yield, possibly due to differences in the quantity of the crop environment, larger farms are frequently located in poorer soil and water environment. Rainfed and poorly irrigated farms tend to be larger than well-irrigated farm.

Guino (1978) disclosed that family labor devoted to rice farming does vary by farm size measured by effective crop area. The foregoing finding however, is silent on the time devoted by women in farming as farm size varies. The study hypothesized that women participation increases as farm size increases and vice versa.

Table 9 shows that the proportion of household female participation declines with increase in effective farm size. In the case of hired female, the absolute labor inputs showed an increasing trend with

effective farm size, though percentage wise, no distinct pattern is observed. The same is true for average total female workshare. Comparing household and hired labor input, for effective farm size below 3 hectares, household labor accounted for 79% of the total while for those 7 hectares and above, it was reduced to 65 percent.

As far as household female labor is concerned, differences in average workshare for varying farm size were not found to be significant. Using the gathered data as the basis, we can say that increase in farm size does not necessarily result in an increase in household female's labor contribution. With increase in total requirement from expansion of farm size, it is mostly the male household member who will provide the additional family labor input. The case of Batangas area provide a support to the above argument. Batangas farms rely mostly on family or household labor compared to Bulacan farms. Price and Barber (1977) disclosed that upland sites have the smallest farm area and use the highest proportion of family labor. Household labor accounted for 92 percent of total labor for Batangas area and female share was 21 percent of total family labor. Comparing household female's relative labor contribution for varying farm size showed a narrow range of 21-23%. Likewise, absolute household female workshare was lowest for farm 7 hectares and above. Again, we can say that increase in farm size does not lead to increase in household female labor participation.

There are other explanations for such a behaviour and cropping system is one, the larger the farm size, the greater the tendency to adopt labor-saving technology. Adoption of mechanical technology is

one way of substituting for family labor input. The smaller the farm area, the greater the tendency to practice higher cropping intensity. The economics of farming provide a sound rationale for such a behaviour. Crops like coconut and sugarcane require more land space compared to rice and corn, but these two crops have lesser labor requirements than rice and corn.

DDST results on average hired female workshare showed significant differences. Though average total female labor input did not differ significantly with varying farm sizes. In general as farm size increases total labor requirement also increase, though not on a per hectare basis. Hired female labor increased significantly with increase in effective farm size. This was brought about by increase in proportion of hired labor to total labor, as effective farm size increases.

Results of tests on average total female workshare showed no significant differences with farm size. The relative female workshare did not vary significantly. This may indicate that female workshare on a per-hectare basis will increase with increase in farm size.

4.2.6 Farm Income and Women's Workshare

Grouping farmers into three types: upland, rainfed and irrigation and comparing their farm income, it was found that upland farmers receive the lowest from farming. Because of low productivity, upland farmers are forced to look for off-farm employment inside and outside their locality. Luning (1976) reported that upland farmers derived

74 percent of family income from off-farm and non-farm activities. Rainfed rice farmers obtained about 34 percent of total income from farming. The irrigated rice farmers are the most dependent on their farms for household income. About 48% of total family income came from the farm.

Information regarding female workshare by farm income level shows that with increase in farm income, household female's absolute and relative workshare declined (Table 10). This could be attributed to the "income effect". With increase in farm income and therefore availability of cash farm households are able to hire additional laborers. There is substitution by hired labor. The proportion of hired labor to household labor increased with increase in farm income. Thus, the members of the farmer's household can devote their time for other activities, as like, schooling. If farm income is to be associated with farm size and adoption of mechanical technology, the bigger the farm, the greater the tendency to use tractors and thresher in farm operations. In this case farm income has a negative effect on female participation.

4.2.7 Mechanization and Women's Workshare

Questions are being raised about the likely impact on female workshare of the promotion of mechanization in the rice sector. Many critics are concerned that mechanization will tend to be unduly labor-displacing, thus aggravating the problem of underemployment or unemployment (Ladefinsky, 1970).

Bull (1978) has broadly defined the role of mechanization in agricultural production as a (1) complement, as in the case of pump irrigation in raised areas, (2) substitute for, as in the case of tractors for animal power and labor, and (3) supplement as illustrated by use of manual rotary weeder. The growth of mechanization occurred simultaneously with the spread of modern rice varieties.

Moreover, the increasing trend of tractor users was not the result of technological change but due to the loan program for mechanization of the World Bank. As a result of technological innovation, yields and intensification of rice production have increased. Likewise, it had a positive effect on labor use, but, due to the tractorization of land preparation and threshing operation, which resulted to the decline in labor use of the above activities, and on balance had a neutral effect on the level of labor input per hectare (Osino and Myers, 1971).

Hand in hand, with the adoption of modern varieties is the adoption of straight row planting which have contributed to the need for rotary weeding. Moreover, the high fertilizer rates and the semi-dwarf plant type have invariably increased the need for weed control inputs, which stimulated the use of rotary weeder. The high yielding varieties are early maturing type and not sensitive to photoperiodism and can be planted and harvested anytime during the year. Coupled with increased irrigation, that characteristic created a need for harvesting and threshing and thus the need for mechanical threshers.

In this study, as technological innovation takes place in agriculture, there is a tendency to displace females from tasks that can be mechanized and to hire males to operate the tractors. Moreover, there is a tendency towards increasing the burden of females' work in non-mechanized tasks such as weeding and transplanting.

Tractors have been adopted by majority of farmers in Central Luzon area. Their use is confined to land preparation and threshing activity, and the general practice is to rent tractor services for only a portion of land preparation tasks. The 70-hp 4-wheel tractors were much more common and were hired by farmers for primary tillage, plowing or rotavating. Although in both areas, animal power continued to be used by farmers for a portion of the land preparation job, including final harrowing. Threshing is mostly mechanized in Central Luzon but not in Southern Luzon. Although IRRI portable threshers became popular in some part of the region, our sample farmers have not adopted this mechanical technology.

What one would expect is the displacement of female labor as mechanization takes place in land preparation, since this activity is male activity. But since the male is the one who operates the tractor, we could expect a decline in the total male labor per hectare. Threshing has been mechanized in Central Luzon for a long time. This is associated with the landlord-tenant system in the area as a means of better control over the sharing of the crop and not to save labor (Kikuchi et al., 1978). One would, however, argue that when threshing is done by manual labor, both male and female members of the family

participate and thus when mechanized, the male labor dominates and female counterparts will be completely displaced. The above issues were examined to test the above hypotheses. Tables 11 and 12 show mechanized and non-mechanized farms, as well as those farms employing both for land preparation and threshing respectively. Surprisingly, mechanized land preparation had slightly higher male labor utilization compared with the non-mechanized farms. The reason might be that these mechanized farms had much larger farms than the non-mechanized farms since the male/female workshares in the table are expressed in man-days per farm and not on a per hectare basis. However, some evidence have indicated that around 7 to 10 man-days reduction in labor inputs per hectare is expected in land preparation if tractor is used (Orsino and Alviar, 1968). For non-mechanized land preparation the average labor inputs per hectare was around 18 man-days (Guino and Meyers, 1971).

In the Philippines, farmers' decision to mechanize is based on economic grounds. Theoretically, when the decision depends upon the economic criterion, it is assumed that the economic benefits deriving from mechanization will exceed the costs arising from it. Although the use of tractors will often increase returns, the problem is to ensure that the costs incurred in their introduction amount to less than the additional returns. The gains due to mechanical technology are mainly associated with increased yields through an expansion of cultivation, although increased yields can result from better land

preparation, particularly in the case of heavy soils, and/or more timely operations including planting. Many factors have influenced the use of tractors. Bautista and Wickham (1974) have disclosed some; farmer's decision for timely operation as in the case of rainfed areas, nuisance of carabao maintenance and the non-security of maintaining animal power.

Without doubt, the mechanization of threshing operation resulted in a major displacement of labor among the females (Table 11). Yet, Juarez and Duff (1979) have shown that in two villages in Biñan and Iloilo, farmers mechanized their threshing operations completely and that landless workers were still happy because of the faster turnover of their "gama" works.

To this end, there is a considerable fear that the mechanization of agriculture can result in a major displacement of labor both male and female, aggravating the employment problem. For farmers, they have reasons for mechanization such as timely operation, thus ensuring increased production on one hand, but displacing labor on the other hand. However, due to technological change, reduced labor requirements for land preparation and threshing have been more than offset by increased labor requirements for weeding and pre-harvest tasks.

4.3 Male-Female Wage Differentials

The wages paid by farmers to hired workers employed for rice production are given in Table 13. In general, there were no significant differences in the wage payments for male and female workers.

However, there were slight variations in the average wage per worker day among tasks and between locations. In particular, the average wage paid for threshing was very high for Batangas versus Bulacan. Such variation is reflected in the difference in the method of threshing and the type of rice variety threshed. In Bulacan, threshing operation is performed by the big 60-70 hp McCormick thresher which is paid 5 percent of the gross harvest. Likewise, Bulacan farmers adopt the modern high yielding varieties which commands a low price. Batangas farmers, however, adopt the manual method of threshing, by means of feet or the use of "hampasan". Moreover, the kind of palay planted were the local upland rice varieties which command higher prices by about 30 percent more. Harvesting and threshing activities are usually performed by the same person. Payments are in kind (palay) which is usually about 1/6 of gross harvest. In Bulacan, harvesting is an independent activity from threshing. Harvesting labor is paid in cash while threshing is paid in kind of about 5 percent of gross harvest. Piling of harvested palay are usually performed through exchange of labor among farmers.

Wage for land preparation represents the payments for human power only and do not reflect the actual cost of land preparation since animal or machine power were not included. However, slight wage differentials in land preparation was observed between Bulacan and Batangas. One reason for such difference was that in Batangas, man-animal power are predominantly used in land preparation, while

man-machine power were common in Bulacan such that a much higher wage is paid for the operator of the tractor compared to the man bringing with him a carabao.

It may be surprising that female were hired for land preparation activity. Actually, female were hired not for plowing nor harrowing but for clearing the field and maintaining the dikes. The wage for this activity was about ₱4/day in Batangas and about ₱7/day in Bulacan. Traditionally land preparation and related activities are family activities and are performed mostly by males. However, due to population pressures and growth of landless labor, women were obliged to participate.

There was no difference in wage between male and female workers in transplanting and related tasks. Planting, pulling seedlings and replanting were included in this category. The sabog-tanim technology are common for upland cultural practices in Batangas, while the wet-bed or dapog method of seeding was used and then seedlings are pulled and transplanted after 11-25 days of seeding depending on the method of seeding. Transplantings are performed by both male and female, although this activity is dominated by the females in some locations like Laguna. Wage payments ranged from ₱8/day to ₱12/day depending on the number of transplanting crew members in the transplanting group. Transplanting by tradition is an activity of hired laborers, although in some remote areas with limited number of landless population, exchange labor is prevalent.

Wage payments for weeding activity reflect the effective wage rate for this task. Wage rate was about ₱10/day for both male and female. This is in contrast to other neighboring areas of Batangas where weeding labor are under the "gama" arrangement where in the hired laborers weed the field free of charge in exchange for the right to be employed for harvesting on a crop-share basis. This implies that the wage payments for weeding are included in the payments for harvesting.

The average wage rate for weeding was slightly higher in Batangas compared with Bulacan. One possible explanation for this difference is the higher demand for weeding labor in Batangas because upland rice crops require intensive weeding to ensure maximum harvest. Herbicides and rotary weeding are seldom adopted unlike in the lowland rice areas of Bulacan where chemical and mechanical technology used to complement manual weeding. Labor is hired in weeding only to the extent that family labor can not perform the task on time. In other words, correct timing of weeding necessitates the hiring of labor since delays in the operation may mean a decline in production. By and large, weeding tasks are family activities regardless of sex.

Likewise, other pre-harvest tasks such as fertilizer application and spraying insecticides are usually tasks of the farm operator but are occasionally hired out. Surprisingly, female hired labor to perform the above tasks are paid very low wages, less than ₱4/day. It was observed that only Batangas respondents hired workers to do these jobs.

Payments for post-harvest activities such as cleaning and drying were about ₱10/day. Farmers who hired workers for these tasks are large farmers who have large volumes of production. Females are usually hired to clean or winnow the palay and for males to dry them. This kind of job were very common in Central Luzon where the method of drying the palay is sun-drying. Palay is dried under the sun along cemented highways. Another method of palay drying is mechanical drying but none of our cooperators adopted this method.

Labor earnings for this post-harvest activities do not reflect the effective wage rate according to agricultural wage law, because earnings from this job is highly dependent on the volume of palay cleaned or dried. Most common rate of payment for sun drying is one peso per cavan.

To recapitulate, there were no male/female wage differentials in agricultural activities. Wage differences however vary across locations depending upon the method of payment used.

4.4 Women's Workshare in Off-Farm Employment

Off-farm employment refers to all income generating activities other than those in agricultural enterprise. This is defined to include self-employment in non-farm activities such as operating small sari-sari store, jeepney and tricycle transport business, dress-making, which are among the common sources of side jobs if not primary employment for almost all households in both Bulacan and Batangas. These activities have been found to be mostly engaged in by women as

as shown in Table 14. In Balacan, close to 70% of the total workshare was contributed by females while Batangas records a lower proportion (60%) of female workshare in off-farm activities. By and large, outside farming, female workshare tend to be limited to domestic services in some rich households in the town or the nearest city or in some self-employment jobs as Illo (1978) found out among Bicol women. She likewise disclosed that women who belong to the lowest economic strata in the society are forced in to low productivity employment. In other words, lower class women simply have to work virtually on any job available. That is, lower class women suffer from the no choice position of having to work because of necessity.

One reason for high participation rate of females in off-farm activities is the seasonality of farm activities. If we recall, only about 21% of the total on-farm workshare is contributed by the females. Resource endowments of the area explains this difference. Both areas of Balacan and Batangas under study have very low cropping intensity which means the level of demand for labor is not maintained throughout the year. Only about 30% are double-cropped, thus, the seasonality of rice farming predisposes both male and female to off-farm jobs.

In absolute terms, Balacan has more off-farm employment compared to Batangas. The proximity of the area to urban market (Manila) explains this difference. Distance wise, Balacan people have better access to non-farm employment opportunities very likely in factories and other white collar jobs.

Moreover, civil status does not affect off-farm employment allocation as shown in Table 15. Workdays per year of female for both married and other category remain the same at about 73 man-days or about 63% of total workshare. Similarly, there is no significant variation in the relative contributions of females among different cropping systems (Table 16). However, as the size of household increases, off-farm workshare increases possibly because of increases in economically active labor force though the difference seem to be not significant. (Table 17).

Table 18 cross tabulates off-farm employment and farm size.

One would expect that as farm size increases there would be some constraint on working on off-farm employment. This seems to be valid in Bulacan, but not in Batangas. Yet the overall effect of farm size on farm employment was an increase in off-farm employment with the increase in farm size expressed in effective crop area. One explanation as Smith and Green (1979) pointed out is that large farmers in the higher position in the agriculture ladder, have better contacts and are better skilled for non-farm employment jobs because their children could have been sent to higher education and thus created some discrimination against the lower class of the society as in the case of small farmers and landless laborers.

Off-farm employment in relation to farmer's tenure status (economic class) and level of farm income are given in Tables 19 and 20, respectively. Contrary to what is expected, the two indicators do not affect the volume of work in off-farm employment.

4.5 Factors Explaining Differences in Women's Workshare

For the initial step in our statistical procedures, analysis of variance (ANOVA) was used in evaluating differences among means under consideration. The significant F-test in the analysis of variance indicates the presence of one or more real differences among the means tested. Since the test, does not however, locate the specific difference or differences that may account for the significance, the Duncan Multiple Range Test was applied.

The results of the Duncan Multiple Range Test in comparing means are indicated in the different tables presented for the different indicators or variables hypothesized to affect women's labor participation in agriculture. Those with asterisks indicate that their mean values are significantly different from the rest of means under consideration. Such statistical test gave us the indication of possible effect of each of the indicators. In determining the extent to which each indicator contributes to the variation of female labor utilization, regression analysis provides the valid tests.

The result of the regression equation was:

$$\begin{aligned}
 Y &= 10.53 + 0.005X_1^{**} + 0.011X_2^{ns} + 0.09X_3^{ns} + 0.53X_4^{**} \\
 &\quad + 8.51X_5^{**} - 3.81X_6^{ns} + 0.58X_7^{ns} - 1.45X_8
 \end{aligned}$$

N = 530 R² = 0.15

At the first glance on the results of the fitted equation for female workshare, one would be surprised by the low R^2 or multiple correlation coefficient. The R^2 tells us the percentage contribution of the independent variables on the total variation observed on the dependent variable. The low value of R^2 suggests that there are other variables not included but also influence female labor participation. However, in spite of the very low R^2 , some of the indicators gave significant regression coefficients which indicates the importance of those variables in explaining the variation in the dependent variable.

The main factors accounting for the variations in total female workshare were farm income, household size and location (dummy for Bulacan) as given in the above equation. The R^2 value was very low at 0.15. The coefficient of farm income was positive and highly significant indicating female workshare and income are positively correlated. This implies a substitution effect. This would further suggest that female workshare increased with farm income. This finding was contrary to our income effect hypothesis.

Family size as expected, exhibited positive regression coefficient which was also highly significant. This indicates that as family size increases, household female work contribution increases too. The explanation for this relationship is that as the children enter the labor market as Navera (1977) has pointed out, they shift from the role of recipients of welfare to contributors to family resources, particularly family labor.

Farm size expressed as effective crop area, gave a positive coefficient as hypothesized, though not significant. This result indicates that women participation increases correspondingly with farm size.

Contrary to expectation, household age gave a positive coefficient, though not significant. What we ought to expect, however was that the age variable is reflected in the individual's life cycle which suggests that as family advanced to their later growth stages, their participation should decline. One explanation could be that, the family age level could still be at their productive stage and their children are still intact with the family, considering the average age of about 25 years.

Surprisingly, the location dummy exhibited a significant positive coefficient. Location dummy is for Bulacan. This would indicate that location per se is affecting female labor participation. Bulacan is a lowland rice area. Palay is the dominant crop, and labor intensive compared with diversified farming in Batangas with rice/corn cropping pattern. This finding agrees to what Price (1978) pointed out, that the rice/corn crop combination has the least labor intensive cropping pattern. On the other hand, farming system variable gave the negative regression coefficient as expected since this dummy variable was for diversified farming system representing the Batangas area. Though the coefficient appear to be not significant, yet it agrees to our expectation, and likewise, corresponds to the effect of the location dummy.

Furthermore, civil status was found not to be affecting female participation as shown by the non-significant regression.

The dummy, for civil status is for married female coefficient. The sign and magnitude of the coefficient seems to be realistic. Negative coefficient would indicate that non-married, widows in particular, would have higher workshare than the married females, considering that she is the head of the family. This findings is to be expected.

Owner farm families as represented by the dummy variable in the equation, exhibited a positive sign coefficient but not significant which indicates that owner or tenanted farms families female participation shows no difference. However, the positive sign would suggest that female workshare among owner groups tend to be much higher than the females of tenanted farm households.

4.6 Domestic Time Allocation

Using Bealier's (1976) general categories of activities involving time utilisation, the following types of domestic activities (Table 21) have been identified under non-income home production time category: hours spent on marketing of foods and other goods (including travel time), cooking and food preparation, fetching water, gathering firewood, gardening, housecleaning, house repair and maintenance. Time spent in on-farm activities such as crop production, poultry and livestock, wage employment, income generating off-farm activities such as home gardening, practice of vocational skills i.e. sewing, handicrafts,

cottage industries, practice of profession have been categorised under income-earning time. Child care time include time for feeding, bathing and related activities, and assisting children with school work.

Analysis on time allocation and utilization of household members to different activities lead to the observation that although females are not as involved in on-farm income-earning activities as are the males, they nevertheless spend more time "working" as housekeepers and unpaid household laborers. On the average, females 10 years old and above used in the study have a high time allocation/utilization for domestic chores or non-income home production functions, put against a low income-earning time devoted to on-farm production activities.

However, data on Table 21 dispel the impression that the household was the woman's dominion. It was noted that with males participating in all types of activities considered in the study, the household as a functional production unit, does not rigidly specify sex in carrying out specific household tasks. This was indicated by the type of domestic activity as may be performed either by male or female or jointly. Hence, it was only in terms of workshare and time allocation that male and female participation may be differentiated in the domestic scene. Activities such as marketing/shopping of foods and other goods, as well as housecleaning, generally regarded as feminine tasks, were found to be performed by either male or female members with approximately equal workshare (in terms of man hours per week). While females seemed to be more involved in cooking and preparation of food, laundrying, ironing and sewing, the males appear to take up mostly domestic chores

which call for more physical exertion as fetching water, gathering/chopping firewood, gardening, house repair and maintenance. Except for fetching water and chopping firewood which are heavier physical activities, the rest were shared or jointly undertaken by both the male and female. It is interesting to note that while child care is by tradition the larger responsibility of the women in the house and on the elderly female sibling, data show that more males tend to perform this function and spend more time feeding and caring for young children than doing other houseworks.

What may be gleaned from the sample household is the seeming egalitarian characteristics of the functional relationship of its members in carrying out domestic tasks. There seemed to be no marked sexual division of labor in carrying out domestic task. A study by Jayne-Ho (1976) on time allocation, home production, and labor price participation of married women corroborates this observation: husbands for instance participate in feeding and caring for the young children, they do cooking and food preparation, laundry, housecleaning and marketing, just as they do livestock and poultry feeding, gardening fetching water and firewood. Also, in the same study, sons and daughters are found to be more involved in the same activities which in the past were more specifically defined as male or female roles. These findings appear to counterbalance Iltis's (1977) impression about Bicolano homes where overall expectations about work assignment seem to be heavily founded on a stronger- weaker sex distinction and on

the common association of activities. Thus, the consensus on the femininity or maleness of certain household chores. Castillo (1977) on one hand, views time and task allocation as a function of the household members' availability and ability to do the job, rather than the function of sex. Or that time and task allocation in the household may be regarded as one way for the family to maximize the utilization of human resources at disposal for maximum productivity to meet the needs not only for livelihood but also for its own general welfare. With males therefore, participating in domestic activities, the household female is to an extent relieved of the task that keep her confined in the home and which limit her chances to engage in non-domestic activities, including gainful employment. Moreover, males pitching in making available labor substitute in housekeeping, thereby lessening the responsibilities of the females at home, while at the same time releasing more time for other activities.

4.7 Participation in Decision-Making

Entrepreneurial attitude of women respondents in terms of decision-making criterion was investigated. Table 22 shows women's input to farm household decision making by number of times. Decision areas in the farm household were classified as securing loans, payment of loans, taxes, etc., marketing, purchasing and shelter. Farm household decision was made either by husband alone, wife alone or joint husband and wife.

As shown in the table a pattern exists whereby the wife was more often than not consulted in areas where the husband was the predominant decision-maker and vice versa. The number of times a decision was consulted was generally less than the incidence of decision. This implies that not in all times when the husband or the wife makes decision they independently consults each other.

Securing loans for farm production was decided by the husband in consultation with the wife. Financing of house construction and maintenance through borrowing was determined more by the wife than the husband. As to who decides on borrowing for children's education, data also reveal that it was more often the husband. The wife was noted to be the more active decision-maker than the husband in matters concerning hospitalization and medication of household members. There are however some cases (8%) of joint decision-making in this area. Borrowing money to finance other household business matters was determined more by the husband than the wife.

In the decision area of payment of loans, taxes, etc., data show that the husband predominantly decides. This was greatly in contrast to Contado's (1977) finding that majority of decisions regarding when to repay the loan was made more jointly and by wife alone than by husband alone.

When it comes to selling of farm products, the husband has the upperhand. Selling of home made products, on the other hand, is the domain of the wife.

The husband decides in the area of purchasing of farm tools and machineries. He however has little involvement in the decision

of purchase of household items as this is highly a female concern. This is supportive of Mandez and Jecano's (1974) conclusion that household management is the wife's domain. The above findings of the study corroborate also the claim of Guerrero (1966) in her study of decision-making among farm families that the purchase of farm tools was an independent decision for the husband just as buying household furniture belonged to the wife. Purchase of items other than those already mentioned was confided to the wife.

The husband turns out to be more engrossed with child rearing in terms of imposing discipline than his better-half. This runs counter to the result of studies of Porio et al., (1975) and Guerrero (1966) both of which related that discipline of children is more of a joint than a wife only or a husband only decision. Child's education is also a concern more of the father than the mother. Guerrero's study (1966) pointed out that in matters pertaining to sending or not children to high school or college are decided jointly by husband and wife.

Farm job placement or assignment of farm jobs to household members is decided often by the husband while household task placement is the wife's domain. Decision area of extension of financial aids to relatives, friends, etc., is slightly more of the husband's with the wife also in the active play of the role of a decision-maker. In her study of decision-making in the rural family, Contado (1977) expounded that in matters of lending money, it is more of a joint than a wife's sole decision but more wives than husbands make this decision by

themselves only. Other decisions in the area of shelter such as choice of house site is within more of the husband judgement.

4.8 Access to Training

Access to women in agriculture to training in terms of proportion of women reached by government and private technicians was also studied in view that increasing training opportunities for women would involve them more in productive activities. Results are shown in Table 23. Compared to male, female has more access to both government and private technicians for the two provinces combined.

In Bulacan, male has greater access to government technicians than his female counterpart while the reverse is true when it comes to access to technicians from private institutions.

Agricultural women in Batangas, on the other hand, have greater contact with government technicians compared to male. Similar situation exists in the frequency of contact of women to private technicians.

Based on absolute terms, Bulacan farm households are visited and contacted more frequently by both government and private technicians than Batangas farm households. The number of government technicians who got in touch with the respondents in the two study provinces far exceeds that of private technicians.

Organizational Affiliations of Women

It is not uncommon to hear that women are for the home, yet the idea of the womenfolk being out in the household and taking on active interest in non-economic or community affairs in groups is not totally a strong prenotation especially among the menkind. There are however, differences in the acceptable realm of female involvement in non-economic, non-domestic or community activities. For instance, in the survey of organizational affiliations of women (10 years old and over) in the study, data show that of the women who identified themselves as members of certain organization, about 40% belong to socio-civic type of organizations or groups such as Mother's Club, Bayanihan Club, Kababaihan Barangay, and others, and a minimal 3% as taking interest in political set-ups such as the Barangay Council. From one point of reference, speculations could be made as regards the wide difference in female participation in these two types of organizations as a function of the existing value system of the household or the community in the larger context. Social and civic activities, for instance, are often associated with food and nutrition action programs, beautification programs, and similar activities which are perceived as extension of the domestic roles of women, and are therefore more acceptable forms of organization for the women. Political groups, on the other hand, is viewed more as men's affairs, so that "female intrusion or interference" in this regard is not exactly welcome. A few women though do manage to get into the political circle, but to what extent and with what qualification is another matter of investigation.

In like manner, religious and religion-related activities or groups are more associated with females than with males, hence, an appreciable participation by the women in this type of organization can be expected. Table 24 gives a profile of organizational affiliations of women, 10 years and above, in both Bulacan and Batangas. Data describe Bulacan women as tending to be affiliated more to socio-civic and religious organizations, while Batangas women slope towards the occupational and socio-civic types of organization. If "civic-mindedness" or "religiousness" can be measured by being members or participants of civic or religious groups, then Bulacan women can be said to be more civic conscious or religious, and thus follows that Batangas women are more enterprising than they are civic or religious. This speculation however, needs further study and ample hard data to establish credence.

Overall, only about 13% of the total women population, 10 years and above, are members of one or another type of organization. More common reply obtained from respondents as to benefits or privilege derived from joining is that the organization is able to help them meet their "needs" (with economic undertone). A significant number of women who do not belong to any organization cited time and job or work preoccupation as a constraining factor to joining. It is noteworthy to mention the total absence of organization in the community or unawareness of existing organization also as factors for non-membership.

CHAPTER V

SUMMARY AND CONCLUSION

Female workshare in farming accounted for 21 percent of total farm labor input. On the average, household female contributed 17 percent of family farm labor, while hired female's share of total hired labor was found to be 36 percent.

1. Female labor is concentrated on planting/transplanting, harvesting and other post-harvest activities. These activities account for 68.5 percent of the total female contribution in farming. These are also the tasks which exhibit "peak" demand for labor. Furthermore, these are the activities which can be done in a relatively short span of time.

2. An increase in the multiple cropping index can result in an increase in female workshare. Rainfed rice-based cropping system exhibited higher household female workshare than lowland irrigated farms. Although lowland irrigated farms have greater demand for hired female labor than rainfed farms. Lowland irrigated farms can have as much as 90 percent of total farm labor input coming from hired labor while rainfed farms have about one-half of total labor requirement supplied by family labor.

3. An increase in family farm income will result in a decline in household female farm labor input. The demand for hired female labor is expected to increase. This could be attributed to income effect. With an increase in farm income, and therefore availability of cash, farm households are able to hire additional laborers.

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 would increase
 with income

4. Changes or shifts in tenure status will not result in significant changes in female workshare for household member, hired female labor and the total female farm labor input.

5. Increase in farm size either by increase in physical area or effective crop area does not necessarily increase household female labor participation. Significant changes can be expected on hired female labor input. The bigger the crop area, the greater the demand for labor, and thus for female hired labor. This will be more prominent in leveled irrigated farms.

6. During the early years of the household when there are young children to take care of, household female labor participation is lower. As the household grows older and children are able to provide additional farm hands, total household female labor participation is expected to increase.

As household size increases, household female labor contribution tend to decline.

7. If mechanization is practiced in land preparation, it is the male labor that is displaced. Mechanization of threshing operations will result in displacement of considerable female labor since this is one of the areas of concentration of female activities in farming. In the overall analysis, labor displacements could be offset by increase in labor requirements for weeding and pre-harvest activities, particularly if mechanization leads

to timely operations and increase in number of croppings per year.

8. There were no significant differences in wages paid to males and females for different farming operations. Wages were found to vary across location depending on the method of payment used.

9. Results show that in Batangas and Bulacan, women have generally more access to government and private technicians than their male counterpart.

Comparisons between the two provinces reveal that Bulacan farm households appear to have more contact and exposure to both private and government technicians.

10. It is generally observed from the findings that where areas of decision-making are farm production specific, it is predominantly the husband who finally gives the decision. Whereas affairs concerning housekeeping or to specific household activity commonly associated with female, it is the wife who decides. Neutral areas of concerns are children's education and discipline, while extension of financial aids to relative tends to be the husband's domain for decision.

11. Data on time allocation for domestic activities give the impression that the household as a production unit draws no strict and rigid sex discrimination in the domestic task performance

of its members, males and females alike share in common activities, or that household tasks are undertaken by them interchangeably, thus male and female workers do not exhibit much variation and differences.

12. Relative to on-farm activities, household females seem to devote more time in non-farm activities. The need for off-farm employment could be understood in the light of the seasonality of farming operations, as well as the need to augment family income. This also indicates that there is a certain degree of variation in rural women's economic preoccupations.

CHAPTER VI

POLICY IMPLICATIONS AND RECOMMENDATIONS

The roles of rural women were found to be substantial. Bridging the knowledge gap on women's roles helpfully dispels the delusions that they are marginal contributors to social and economic transformations. This also provides policy inputs for government planners to recognize the importance of women as active and dynamic human resources.

Indicators designed to determine the extent of rural women's contribution and participation in development provide a means of generating much needed information not only in appraising their present roles, but also in developing alternative strategies for broadening their latitudes of participation. If the goals of integrated rural development are to be realized, it is imperative that efforts be strengthened to integrate rural women.

Due to the lack of ample data as to the roles of rural women and likewise the failure of their many socio-economic activities to be included in the traditional measure of development, some erroneous assumptions have emerged: (a) that men are the principal laborers in any society; (b) that men are the primary breadwinners, and their wages constitute family incomes; (c) women and men have equal access to educational and credit facilities. Recent literature on women has proven that these assumptions are not clear reflections of men's and women's roles in reality.

Majority of rural women do not have extensive education and this is one factor why a big number of rural women are in the lowest stratum of workers. The social value of giving priority to male education discriminates against women since it deprives them of skills necessary for further participation in socio-economic activities. The level of skill of rural women need to be uplifted if the goal of increased economic productivity in the rural areas is to be achieved.

A possible alternative is to gear educational programs to the concrete needs of rural women and to promote their participation in the educational process. Non-traditional materials and techniques could be basic element in this process. One prospective area would be home-based cottage industries. These industries may include processing of agricultural products as well as the manufacture of finished product from locally available materials. Such industries not only enhance the economic productivity of rural families but also augment the overall economic productivity of the rural areas.

More female social workers should be recruited directly from the rural areas for local development work. These workers have built-in advantages because of their familiarity with the local conditions and practices in the target areas. This practice will also ensure better continuity of program implementation. Furthermore, rural women can easily identify with local workers and thus can be more receptive to their advices.

More female extension workers should be hired with training not only in household and domestic functions but also in technical agriculture so as to give possible advice on agricultural operation as well as to explain implications of technological innovation and new programs being introduced to the farmers. It is well-known that family consultation is widely practiced by farmers before arriving at a decision on whether to accept or reject innovation.

It should be of importance to seek alternative ways of reducing the burden of rural women's work particularly in the household. Improved ways of performing domestic and household function will mean more time for economic activities as well as leisure. In agriculture, rural women's productivity could be increased by improvement in tool for cultivation, harvesting, and processing operations. Also, improvements in processing and preservation of food will be valuable not only for nutritional purposes, but likewise, in food conservation.

Women's organization and cooperative-type group should be utilized in the rural areas to provide women access to credit facilities and income-generating activities. This provides a means of developing their political and administrative capacity.

In the formulation and implementation of development project, a few basic questions could be raised:

1. How can project concerned respond to women's needs and make use of their capabilities?

2. Are opportunities available for women to participate and share in the benefits from the project?

3. Is there available information as to the current socio-economic role of women in the project area? If so, what implications might their role(s) have in the design and operationalization of the project's objectives?

4. Is it possible for the project to affect women detrimentally? How can these effects be identified and prevented?

With the exception of the wage differential indicators wherein results indicated no wage differences between sexes, the other indicators tested in this research study could be further used in a national sample survey with some modifications. It is suggested that in the case of mechanization and farm size indicators, farm labor input be measured in a per hectare basis both for male and female.

This research study is the first opportunity to try the set of indicators discussed and testing them on a broader scale would generate more insight as to their application and relevance.

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Table 1. Background information of sample farm households, by geographic location.

Items	Bulacan		Batangas		Total	
	No.	%	No.	%	No.	%
No. of sample respondents	273	52	257	48	530	100
Civil Status						
Married	264	55	227	45	481	91
Others*	9	18	30	82	49	9
Farming System						
Rice (monoculture)	180	79	48	21	228	43
Rice/other crops	20	14	118	86	138	26
Other crops (alone)	15	33	31	67	46	9
Livestock (etc.**)	0	0	16	100	16	3
Economic Class						
Owner	55	47	61	53	116	22
Lessehold	60	57	46	43	106	20
Share tenant	86	49	88	51	174	33
Mixed tenure	14	44	18	56	32	6
Landless	58	57	44	43	102	19
Farm Size						
Below 3 ha.	126	47	143	53	269	51
3 - 6.99	77	61	49	39	126	24
7 and above	12	54	10	46	22	4
Landless	58	57	44	43	102	19
Pure livestock	0	0	11	100	11	2
Mean farm size	3.51		2.61		3.06	
Farm Income (P/yr)						
Below 3,000	155	45	192	55	347	65
3,000 - 5,999	74	68	34	32	108	20
6,000 and above	44	59	30	41	74	14
No response	0	0	1	100	1	1
Mean farm income	4235.78		2304.50		3299.29	
Quality of Housing						
Permanent (X)	24		10		17	
Semi-permanent	46		60		53	
Temporary	30		30		30	
Homelot Ownership						
Owned (X)	43		50		56	
Others (X)	27		30		44	

* Includes widows, unmarried, separated.

** Livestock/poultry/other crops.

Table 2. Selected demographic variables of sample farm household, by geographic location.

Demographic variables	Balaam	Batangas	Total
Age of family (yrs of marriage)			
Below 15 yrs.	73	67	140
15 - 25	82	60	142
26 - 35	51	61	112
36 & above	64	68	132
No response	3	1	4
Mean age of family	23.41	26.96	25.14
Household size			
4 & below	61	74	135
5 - 7	129	105	234
8 & above	83	78	161
Mean household size	6.44	6.22	6.33
Total sample household pop'n	1758	1398	3156
Sex composition			
Male (M)	50	48	98
Female (F)	50	52	102
Ave. male household members (excluding male household head) 10 yrs. & above 10 yr	1.48	1.29	1.39
Ave. female household members (excluding respondents) 10 yrs & above	1.46	1.45	1.46
Ave. no. male household members below 10 yrs.	0.98	1.00	0.99
Ave. no. female household members below 10 yrs.	1.33	0.82	1.08
Ave. no. of household members 10 yrs. & above	4.78	4.64	4.71
Ave. no. of household members 10 yrs & below	2.32	1.82	2.07

Table 3. Average workshare of males and females per household (in man-days/yr.) by type of farm operation and by geographical area

Type of Farm Operation	B U L A C A N								Total labor			
	Family				Hired				Male		Female	
	Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
Land preparation	28.82	97	0.79	3	4.88	99	0.04	1	33.70	97	0.83	3
Planting/Transplanting/ Replanting	0.88	52	0.82	48	1.82	48	1.94	52	2.70	49	2.76	51
Weeding	10.61	81	2.57	19	1.10	70	0.48	30	11.71	79	3.05	21
Other pre-harvest	14.07	97	0.41	3	1.47	95	0.07	5	15.54	97	0.48	3
Harvesting	4.83	69	2.14	31	5.81	47	6.58	53	10.64	55	8.72	45
Piling	0.91	67	0.44	33	1.34	52	1.24	48	2.25	57	1.68	43
Threshing	0.81	61	0.52	39	1.44	56	1.14	44	2.25	57	1.66	43
Other post-harvest	3.98	71	1.64	29	1.52	55	1.24	45	5.50	65	2.88	35
All	64.91	87	9.33	13	19.53	60	12.73	40	84.29	79	22.06	21

Table 2 (Contd.)

Type of Farm Operation	Family				Hired				Total labor			
	Male	X	Female	X	Male	X	Female	X	Male	X	Female	X
Land preparation	20.71	97	0.67	3	2.94	98	0.05	2	23.65	97	0.73	3
Planting/Transplanting/ Marriage	1.73	71	0.69	29	1.07	51	1.03	49	2.80	62	1.72	38
Seeding	11.02	83	2.32	17	1.16	74	0.41	26	12.18	81	2.73	19
Other Pre-harvest	9.73	36	0.45	4	1.02	92	0.09	8	10.75	95	0.54	5
Harvesting	3.74	70	1.48	30	3.93	52	3.60	48	7.40	59	5.08	41
Piling	0.58	70	0.25	30	0.80	54	0.68	46	1.38	60	0.93	40
Threshing	0.97	65	0.52	35	1.07	56	0.84	44	2.04	60	1.36	40
Other post-harvest	5.48	56	4.37	44	0.98	59	0.69	41	6.46	56	5.06	44
All	53.69	83	10.67	17	12.95	64	7.39	36	66.64	79	18.15	21

Table 1. Workshare in on-farm activity of males and females per household (in man-days/year) by civil status and by geographical location.

Civil Status	No. of household	B U L A G A N											
		Family				Hired				Total Labor			
		Male	♀	Female	♂	Male	♀	Female	♂	Male	♀	Female	♂
Married	251	67.95	88	9.38	12	18.94	60	12.68	40	86.89	60	22.06	20
Others	22	30.36	77	9.60	23	24.32	64	13.45	36	54.68	71	22.43	29
All	273	64.92	87	9.35	13	19.37	60	12.73	40	84.29	77	22.10	23
		B A T A N G A S											
Married	230	43.82	80	11.56	20	6.03	78	1.71	22	49.85	79	13.27	21
Others	27	24.26	57	18.11	43	7.00	81	1.67	19	31.26	61	19.78	39
All	257	41.77	77	12.25	23	6.13	78	1.70	22	47.90	77	13.95	23
		T O T A L											
Married	481	57.00	85	9.87	15	12.51	63	7.46	37	69.51	80	17.33	20
Others*	49	21.26	52	19.43	48	17.26	72	6.67	28	38.72	60	26.10	40
All	530	53.69	83	10.76	17	12.95	64.39	7.39	36	65.64	78	18.15	22

* Includes widows, unmarried, separated.

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Table

Farming System	No. of household	Family				Hired				Total Labor			
		Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
Rice (Monoculture)	228	68.91	87	8.78	13	19.07	60	12.50*	40	87.98	80	21.28	20
Rice (other crops)	138	56.93	79	15.04	21	7.96	73	2.92	27	64.89	78	17.96	22
Other crops (alone)	46	33.85	78	9.45	22	10.49	73	6.43	27	44.34	74	15.88	26
Livestock/Poultry/OC	16	2.69	69	1.19	31	1.25	100	0.0	0	3.94	77	1.19	23
All	428*	57.92	85	10.23	15	13.55	63	7.88	37	72.42	79	19.07	21

* Does not include landless.

Table 3. cont.

Farming System	No. of household	Family				Hired				Total labor			
		Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
Rice (Monoculture)	228	68.91	87	6.78	13	19.07	60	12.50*	40	87.98	80	21.28	28
Rice (other crops)	138	56.93	79	15.84	21	7.96	73	2.92	27	64.89	78	17.96	23
Other crops (alone)	46	33.85	78	9.45	22	10.49	73	6.43	27	44.34	74	15.88	26
Livestock/Poultry/OC	16	2.00	69	1.19	31	1.25	100	0.0	0	3.94	77	1.19	23
All	428*	57.92	85	10.23	15	13.55	63	7.88	37	72.42	79	19.07	21

* Does not include landless.

Table 6. **Man-days in on-farm activity of males and females per household (in man-days/yr.)**
 by household age and by geographical area

Household age (years of marriage)	No. of household	Family				Hired				Total Labor			
		Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
B U L A C A N													
Below 15	73	62.63	88	8.68	12	14.96	53	13.05	47	77.59	78	21.73	22
15 - 25	82	58.49	84	11.05	16	17.88	60	11.93	40	76.37	77	22.98	23
26 - 35	51	67.10	83	13.39	17	23.34	63	13.80	37	90.34	77	27.19	23
36 and above	64	75.45	94	5.07	6	23.45	65	12.80	35	98.90	85	17.87	15
All	270	65.32	87	3.42	13	19.46	60	12.79	40	84.78	79	22.21	21
B A T A N G A S													
Below 15	67	44.19	77	13.07	23	5.07	82	1.07	18	49.26	78	14.14	22
15 - 25	60	36.18	82	7.93	18	4.77	80	1.17	20	40.95	82	9.1	18
26 - 35	61	39.08	74	13.48	26	7.66	78	2.13	22	46.74	75	15.16	25
36 and above	8	47.32	77	14.34	23	7.09	74	2.44	26	54.41	76	16.78	24
All	256	41.17	77	12.25	23	6.13	78	1.70	22	47.9	77	13.95	23

Table 6. cont'd.

Household age (years of marriage)	No. of househo	Family				Hired				Total Labor			
		Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
Below 15	140	53.81	83	10.78	17	10.23	58	7.32	42	64.04	78	18.10	22
15 - 25	142	49.06	83	9.73	17	12.34	62	7.38	38	61.40	78	17.11	22
26 - 35	112	51.84	79	13.44	21	14.75	66	7.45	34	66.59	76	20.89	24
36 and above	132	60.96	86	9.85	14	15.02	67	7.46	13	75.98	81	17.31	19
All	526	53.91	83	10.82	17	12.95	64	7.39	36	66.86	79	18.21	21

Table 7. Average workshare in on-farm activity of males and females per household (in man-days/yr.) by household size and by geographical location.

Household size	No. of household	Family				Hired				Total Labor			
		Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
B U L A C A N													
Below 5	65	45.29	88	5.89	12	42.43	78	11.77	22	87.72	83	17.66	17
5 - 7	122	70.24	87	10.55	13	44.47	77	13.11	23	114.71	83	23.66	17
8 and above	86	72.21	88	10.26	12	37.11	76	11.43	24	109.32	83	21.69	17
All	273	64.92	87	9.35	13	19.37	60	12.75	40	84.29	79	22.10	21
B A T A N G A S													
Below 5	70	18.78	64	10.78	36	6.33	84	1.17	16	25.11	68	11.95	32
5 - 7	112	19.23	56	14.91	44	4.84	72	1.88	28	24.07	59	16.79	41
8 and above	75	20.02	64	11.16	36	7.87	80	1.95	20	27.89	68	13.11	32
All	257	41.77	77	12.25	23	6.13	78	1.70	22	47.90	77	13.95	23
T O T A L													
Below 5	135	40.47	83	8.17	17	12.16	72	4.72	28	52.63	80	12.89	20
5 - 7	234	59.63	82	13.06	18	13.11	59	9.16	41	72.74	77	22.22	23
8 and above	161	66.15	85	9.57	15	13.38	65	7.06	35	69.53	81	16.63	19
All	530	53.69	83	10.76	17	12.95	64	7.39	36	66.64	79	18.15	21

Table 8. Average man-days in on-farm activities of males and females per household (in man-days/yr.) by economic class and by gender, 1962-1963.

Economic class	No. of household	Family				Hired				Total Labor			
		Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
BULACAN													
Owner	55	60.82	86.47	9.47	14	22.82	67	11.38	33	83.64	60	20.85	28
Leasehold	60	74.52	92	6.83	8	19.87	59	13.65	41	94.39	82	20.48	18
Share-tenant	86	64.30	90	6.77	10	18.91	55	15.69	45	83.21	79	22.46	21
Mixed tenure	14	126.50	91	11.86	9	32.36	65	17.28	35	158.86	84	29.14	16
All	215*	70.30	90	7.81	10	21.05	60	14.14	40	91.36	81	21.93	19
BATANGAS													
Owner	61	24.66	63	14.54	3	6.08	77	1.80	23	30.74	65	16.34	35
Leasehold	46	57.35	81	13.76	19	2.87	87	0.48	14	60.22	81	14.24	19
Share-tenant	88	55.78	78	12.27	22	6.39	74	2.26	26	62.17	81	14.53	19
Mixed tenure	18	30.39	77	9.06	23	6.89	81	1.61	39	37.28	78	10.67	22
All	213*	45.03	78	12.96	22	5.58	77	1.69	23	50.61	78	14.65	22
TOTAL													
Owner	116	41.80	77	12.15	23	14.02	69	6.34	31	55.82	75	18.48	25
Leasehold	106	67.18	87	9.64	13	12.49	61	7.93	39	79.67	82	17.77	18
Share-tenant	174	59.99	86	9.55	14	12.57	62	8.90	38	72.56	80	18.45	20
Mixed tenure	32	72.44	88	10.28	12	18.03	84	8.47	16	90.47	83	18.75	17
All	428*	57.77	85	10.38	15	13.35	63	7.94	37	71.12	80	18.32	20

* Does not include landless.

Table 9. Average workshare in on-farm activity of males and females per household (in man-days/yr) by farm size and by geographical location.

Effective farm size (ha.)	No. of household	Family				Hired				Total Labor			
		Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
BULACAN													
Below 3	126	53.62	91	5.48	9	17.02	66	8.94	34	80.64	83	14.42	17
3 - 6.99	77	87.10	88	12.18	12	22.39	53	19.53	47	109.49	78	31.71	22
7 and above	12	138.83	97	4.25	3	54.75	62	33.83	38	193.58	84	38.08	16
All	215*	70.38	90	7.81	10	21.06	60	14.12	40	91.43	81	21.93	19
BATANGAS													
Below 3	143	43.22	77	12.82	23	5.05	75	1.65	25	48.27	77	14.47	23
3 - 6.99	49	61.65	78	16.86	22	7.08	78	1.96	22	68.73	78	18.82	22
7 and above	10	39.70	79	10.30	21	11.80	81	2.80	19	5.15	80	13.10	20
All	202*	47.50	78	13.67	22	5.88	77	1.78	23	51.06	77	15.45	23
TOTAL													
Below 3	269	48.09	84	9.38	16	10.66	68	5.06	32	58.75	80	14.44	20
3 - 6.99	126	77.21	84	14.00	15	16.44	56	12.70	44	93.65	75	26.70	22
7 and above	22	93.77	93	7.00	7	35.23	64	19.73	36	129.00	83	26.72	17
All	417*	59.30	85	10.65	15	13.70	63	8.14	37	73	80	18.79	20

* Does not include landless and pure livestock farmers 102 and 11 respectively.

Table 10. Average workshare in on-farm activity of males and females per household (in man-days/yr) by farm income and by geographical location.

Farm income	No. of household	Family				Hired				Total Labor			
		Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
BULACAN													
Below ₱3,000	155	48.18	84	9.37	16	15.41	61	9.99	39	63.59	77	19.36	23
3,000 - 5,999	74	84.41	93	6.74	7	19.51	58	12.18	42	103.92	83	28.92	17
6,000 and above	44	91.11	87	13.66	13	33.09	62	20.04	38	124.20	79	33.70	21
All	273	64.92	87	9.35	13	19.37	60	12.75	40	84.29	79	22.10	21
BATANGAS													
Below ₱3,000	192	40.33	76	12.72	14	6.09	79	1.59	21	46.42	76	14.31	24
3,000 - 5,999	34	43.79	79	11.32	21	6.59	76	1.44	24	48.30	79	12.76	21
6,000 and above	30	46.67	81	11.32	19	8.27	75	2.70	25	54.94	80	14.02	20
All	256	41.77	77	12.25	23	6.13	78	1.70	22	47.90	77	13.95	23
TOTAL													
Below ₱3,000	347	44.09	80	11.30	20	9.85	65	5.34	35	53.94	76	16.64	24
3,000 - 5,999	108	71.20	87	10.42	13	15.45	60	10.24	40	86.65	81	20.66	19
6,000 and above	74	72.53	89	8.85	11	24.00	65	12.94	35	96.53	82	21.79	18
All	529	51.60	83	10.76	17	12.95	64	7.19	36	66.64	79	18.15	21

Table 11. Mechanization effect of land preparation on male/female workdays.

Activity	MECHANIZED		NON-MECHANIZED		CONTRIBUTION	
	Male	Female	Male	Female	Male	Female
Number of cases	49		444		37	
Land preparation	25.00	0.04	21.41	0.51	26.49	0.14
Planting and related tasks	1.88	1.45	2.77	1.83	3.03	4.24
Weeding	19.41	3.26	13.21	3.06	19.54	2.94
Other pre-harvest	18.47	0.88	10.98	0.49	20.86	1.24
Harvesting	8.14	13.92	6.68	4.13	14.65	7.73
Piling	2.00	1.98	1.35	0.54	2.92	2.81
Threshing	1.86	1.55	2.06	1.02	4.30	3.11
Other post-harvest	7.49	5.04	7.22	5.75	9.22	4.51
TOTAL	85.25	28.12	65.80	17.33	103.03	26.72

Table 12. Mechanization effect of threshing on male/female workhars.

Activity	Mechanized		Non-mechanized		Combined mech. & non-mech.	
	Male	Female	Male	Female	Male	Female
Number of cases	17		497		6	
Land preparation	34.24	0.06	19.47	0.41	30.17	0
Planting and related tasks	1.71	1.24	2.90	2.10	1.33	3.83
Weeding	11.06	4.00	12.24	2.56	14.17	2.50
Other pre-harvest	19.53	0.24	11.70	0.55	16.83	3.67
Harvesting	6.53	3.59	8.56	5.90	4.83	2.33
Pulling	4.65	0.53	1.54	1.16	1.33	0
Threshing	3.00	0	2.40	1.69	1.50	1.00
Other post-harvest	7.47	1.76	7.25	6.38	5.67	0.17
TOTAL	88.19	11.42	66.06	20.75	75.83	14.33

Table 13. Wage payments for male/female hired workers for rice production by type of activity and by location.

Activity	Balacan		Batangas		All Location	
	Male	Female	Male	Female	Male	Female
	<u>P/day/person</u>					
Land preparation	8.68	7.37	6.56	3.66	8.16	5.78
Transplanting and related tasks	8.98	8.68	12.20	9.71	9.63	8.72
Weeding	9.55	6.30	10.71	12.84	10.36	9.51
Other pre-harvest	-	-	-	3.28	-	3.28
Harvesting	12.00	14.71	14.50	13.21	12.86	14.32
Threshing	10.50	11.56	19.32	20.13	14.69	15.73
Other post-harvest	10.56	9.86	7.95	8.12	9.78	9.45

Table 14. Secondary employment (side job) distribution of women respondents by geographical area.

Geographical area	No. of respondent	A G R I C U L T U R A L										NON-AGRICULTURAL					
		Total ^{a/}		Live-stock		Crops/ Fag.		Wage labor		Cottage Ind. ^{b/}		Small business		Practice & Prof.		Personal services ^{d/}	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Bulacan	273	139	100	3	2	10	7	39	28	4	3	78	56	2	2	3	2
Batangas	257	87	100	9	10	-	-	3	4	1	1	69	79	3	4	2	2
All locations	530	226	100	12	6	10	5	42	18	5	2	147	65	5	2	5	2

^{a/} Exceed the number of reporting for Bulacan; 135 (49%); Batangas, 77 (30%), because some women reported more than one side job.

^{b/} Includes embroidery & hat weaving.

^{c/} Storekeeping, buy & sell & dressmaking.

^{d/} Laundrying, baby sitting & kitchen help.

Table 1. Workforce in agriculture: activity of males and females per household (in man-days/yr.) by civil status and by geographical location.

Civil Status	BULACAN					BATANGAS					ALL LOCATIONS				
	No. of household	Male	%	Female	%	No. of household	Male	%	Female	%	No. of household	Male	%	Female	%
Married	251	38.45	31	86.69	69	230	40.13	40	59.21	60	481	39.26	35	73.34	65
Others	22	52.91	39	84.04	61	27	32.00	34	63.11	66	49	41.39	36	72.51	64
All	273	39.62	32	86.11	68	257	39.28	40	58.62	60	530	39.45	35	73.27	65

Table 16. Average workshare in off-farm activity of males and females per household (in man-days/yr.) by farming system and by geographical location.

Farming System	BULACAN					BATANGAS					ALL LOCATIONS				
	No. of household	Household		Household		No. of household	Household		Household		No. of household	Household		Household	
		Male	%	Female	%		Male	%	Female	%		Male	%	Female	%
Rice (Monoculture)	180	36.58	29	89.04	71	48	52.06	66	29.83	36	228	44.28	43	59.57	57
Rice/other crops	20	36.80	64	20.40	36	116	23.46	26	67.03	74	138	30.16	41	49.61	59
Other crops (alone)	15	76.80	37	128.53	63	31	37.42	27	99.87	73	46	57.20	33	114.26	67
All	215*	39.42	32	85.42	68	213*	30.17	31	58.43	66	428*	34.82	33	71.99	67

* Does not include landless.

Table 17. Average workdays in off-farm activity of males and females per household (in man-days/year) by household size and by geographical location.

Household Size	BULACAN				BATANGAS				ALL LOCATIONS						
	No. of household	Male	%	Female	%	No. of household	Male	%	Female	%	No. of household	Male	%	Female	%
Below 5	65	22.46	26	62.83	74	70	13.12	21	49.43	79	135	17.60	24	55.86	75
5 -7	122	26.79	21	100.41	79	112	39.61	44	51.39	56	234	32.89	30	76.82	70
8 and above	86	70.79	46	83.43	54	75	63.13	44	81.41	56	161	67.48	45	82.53	55
All	273	39.62	32	86.11	68	257	39.28	59.62		60	530	39.45	35	73.26	65

Table 18. Average workshare in off-farm activity of males and females for household (in man-days/yr) by farm size and by geographical location.

Effective farm size (ha)	BULACAN					BATANGAS					/JL LOCATION				
	No. of household	Male	%	Female	%	No. of household	Male	%	Female	%	No. of household	Male	%	Female	%
Below 3	126	27.13	26	79.20	74	145	32.16	38	53.05	62	200	89.61	31	65.30	69
3 - 6.9	77	55.45	35	102.03	65	49	25.55	30	58.37	70	126	43.82	34	85.05	66
7 and above	12	65.33	60	44.00	40	10	57.60	22	199.20	78	22	61.82	35	114.54	65
All	215*	39.41	32	85.40	68	202*	31.83	34	61.64	66	417*	35.74	33	73.87	67

*Does not include landless and pure livestock households.

Table 12. Share in total activity of males and females per household (in man-days/year) by economic class and by geographical location.

Economic Class	BULACAN				BATANGAS				ALL LOCATIONS						
	No. of household	Male	X	Female	X	No. of household	Male	X	Female	X	No. of household	Male	X	Female	X
Owner	55	30.87	23	100.98	77	61	35.74	36	64.64	64	116	33.29	29	82.80	71
Leasehold	60	33.65	29	80.85	71	46	16.67	23	55.83	77	106	25.20	27	68.40	73
Share-tenant	86	48.19	39	76.45	61	88	23.23	30	53.84	70	174	35.77	35	65.20	65
Mixed tenure	14	43.71	31	98.78	69	13	79.78	54	66.67	46	32	61.66	43	82.80	57
All	215*	39.41	32	85.41	88	213*	30.12	34	58.33	66	428*	34.79	32	71.93	68

*Does not include landless.

Table 10. Average workdays in off-farm activity of males and females per household (in man-days/yr.) by farm income and by geographical location.

Farm income (P/yr.)	BULACAN					BATANGAS					ALL LOCATIONS				
	No. of household	Male	%	Female	%	No. of household	Male	%	Female	%	No. of household	Male	%	Female	%
Below 3,000	155	32.99	30	76.17	70	192	52.17	56	40.87	44	347	37.35	37	62.89	63
3,000 - 5,999	74	56.73	38	90.39	62	34	108.44	73	39.26	27	108	51.23	35	96.07	65
6,000 - above	44	34.18	23	113.93	77	30	51.80	39	30.40	61	74	32.65	27	88.74	73
All	273	39.62	32	86.11	68	257	39.28	40	59.62	60	529	39.45	35	73.27	65

Table 21. Average male - female (total workforce) time allocation per household in man-hours/week

Type of activity	Male	X	Female	X	Joint	X	Total
Marketing/shopping (including travel time)	4.38	34	4.47	35	4.00	31	4.45
Cooking/preparing food (including supervising)	9.86	22	11.02	25	23.62	53	11.14
Child Care (including bottle or breast feeding, assisting children with school work)	41.32	57	20.64	29	10.50	14	27.62
Fetching water	5.60	63	3.33	37	-	-	1.55
Gathering firewood	4.15	56	3.28	44	-	-	3.87
Gardening	16.34	62	6.52	25	3.50	13	7.38
House cleaning	8.80	22	8.62	22	13.67	34	8.59
House repair and maintenance	5.02	20	3.13	13	16.67	67	4.71
Laundry/ironing/sewing	11.25	25	16.50	36	17.82	89	11.29
Other housework (including taking meals to family members away from the home)	3.12	23	10.67	77	-	-	0.23

Table 22. Women's input to farm household decision making by number of times.

Type of decision	DECISION-MAKER								CONSULTATION							
	Male		Female		Joint		Total		Male		Female		Joint		Total	
	No. of times	X	No. of times	X	No. of times	X	No. of times	X	No. of times	X	No. of times	X	No. of times	X	No. of times	X
A. Securing loans																
1. farm	371	89	40	40	4	1	415		24	8	278	90	5	2	307	
2. house	69	14	424	85	4	1	497		285	79	74	21	-	-	359	
3. children's education	234	56	151	36	36	8	421		110	31	230	66	9	3	349	
4. hospital/medical	135	28	323	68	19	4	477		230	63	132	36	5	1	367	
5. other business matters	171	63	89	33	12	4	272		53	30	121	69	1	1	175	
B. Payments of Loans/Taxes, etc.																
346	79	82	19	8	2	436		56	16	285	32	-	-	341		
C. Selling of																
1. Farm prod.																
321	73	108	25	10	2	439		78	23	263	76.8	2	0.2	343		
2. home made products																
30	9	298	90	2	1	330		171	84	32	16	-	-	203		
D. Purchasing of																
1. farm tools/machineries																
331	82	70	17	2	1	405		47	16.6	235	83	1	0.4	283		
2. household items																
25	5	472	95	2	1	499		300	89.7	33	10	1	0.3	334		

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Table 22. (cont'd)

Type of	DECISION-MAKER								CONSULTATION							
	M.		Female		Joint		Total		Male		Female		Joint		Total	
	No. of times	%	No. of times	%	No. of times	%	No. of times	%	No. of times	%	No. of times	%	No. of times	%	No. of times	%
3. Others	36	4	863	95	8	1	907		587	90.4	61	9.4	1	0.2	649	
E. Shelter	378	80	78	16	20	4	476		51	13	328	86	4	1	383	
1. number of children	267	65	106	21	35	9	408		63	21	238	77	7	2	308	
2. child rearing (discipline)	312	63	153	31	27	6	492		109	27.0	293	72.8	1	0.2	403	
3. child's education	298	63	149	32	25	5	472		107	27	286	72.5	2	0.5	395	
4. farm job placement	382	86	64	14	0	-	446		46	15.0	258	64	2	2	306	
5. household task placement	45	8.8	464	91	1	0.2	510		299	84	53	15	2	1	354	
6. extension of financial aids	255	50	228	45	26	5	509		173	42	239	57	3	1	415	
7. others	906	58	594	38	63	4.0	1563		418	32.9	851	67	2	0.1	1271	

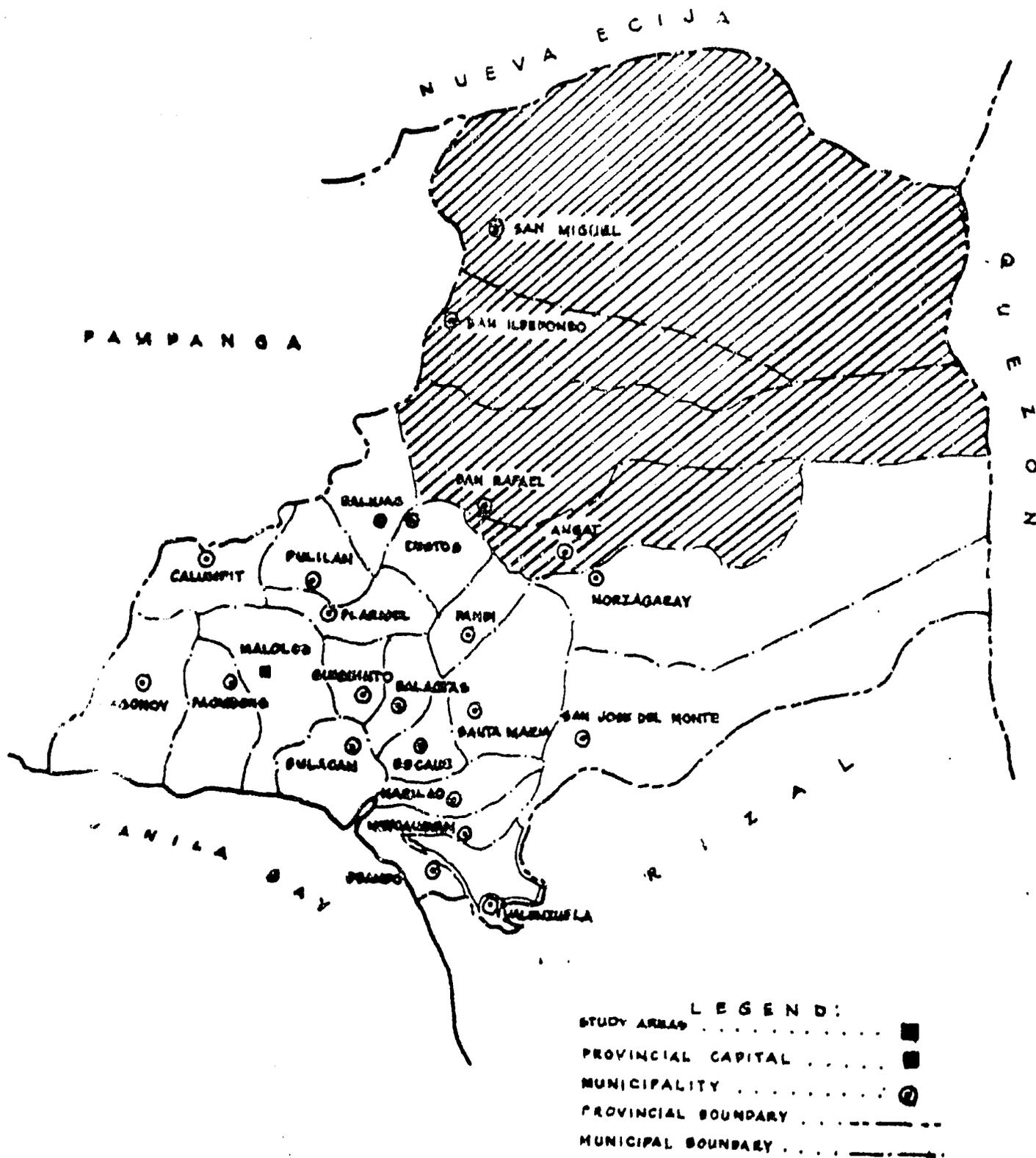
Table 23. Access to training by proportion of women reached by technicians (government and private) and by geographical location.

Geographical location/agency	Male	Row Col %	Female	Row Col %	Total	Row Col %
NEGLACAN						
Government	61	58 82	44	42 48	105	100
Private	2	3 100	66	97 92	68	100
BATANGAS						
Government	13	21 18	49	79 52	62	100
Private	0	0 0	6	100 8	6	100
TOTAL						
Government	74	44 100	93	56 100	167	100
Private	2	3 100	72	97 100	74	100

Table 24. Organizational affiliations of women by geographical locations.

Type of organization	Geographical location					
	Bulacan		Batangas		All locations	
	No.	%	No.	%	No.	%
Political	4	3	2	3	6	3
Religious	27	20	2	0	27	14
Civic	10	7	1	2	11	5
Socio-civic	63	46	15	25	78	40
Occupational	22	16	26	44	48	24
Recreation	0	0	2	3	2	1
Academic	3	2	5	9	8	4
Government Institution	9	6	8	14	17	9
Total*	138	100	59	100	197	100

* Exceed the no. of reporting for Bulacan, 113 (17%), Batangas, 56 (9%) because some women reported more than one organizational affiliation.



**FIG. 2.1 MAP OF BULACAN
SHOWING THE STUDY AREAS**

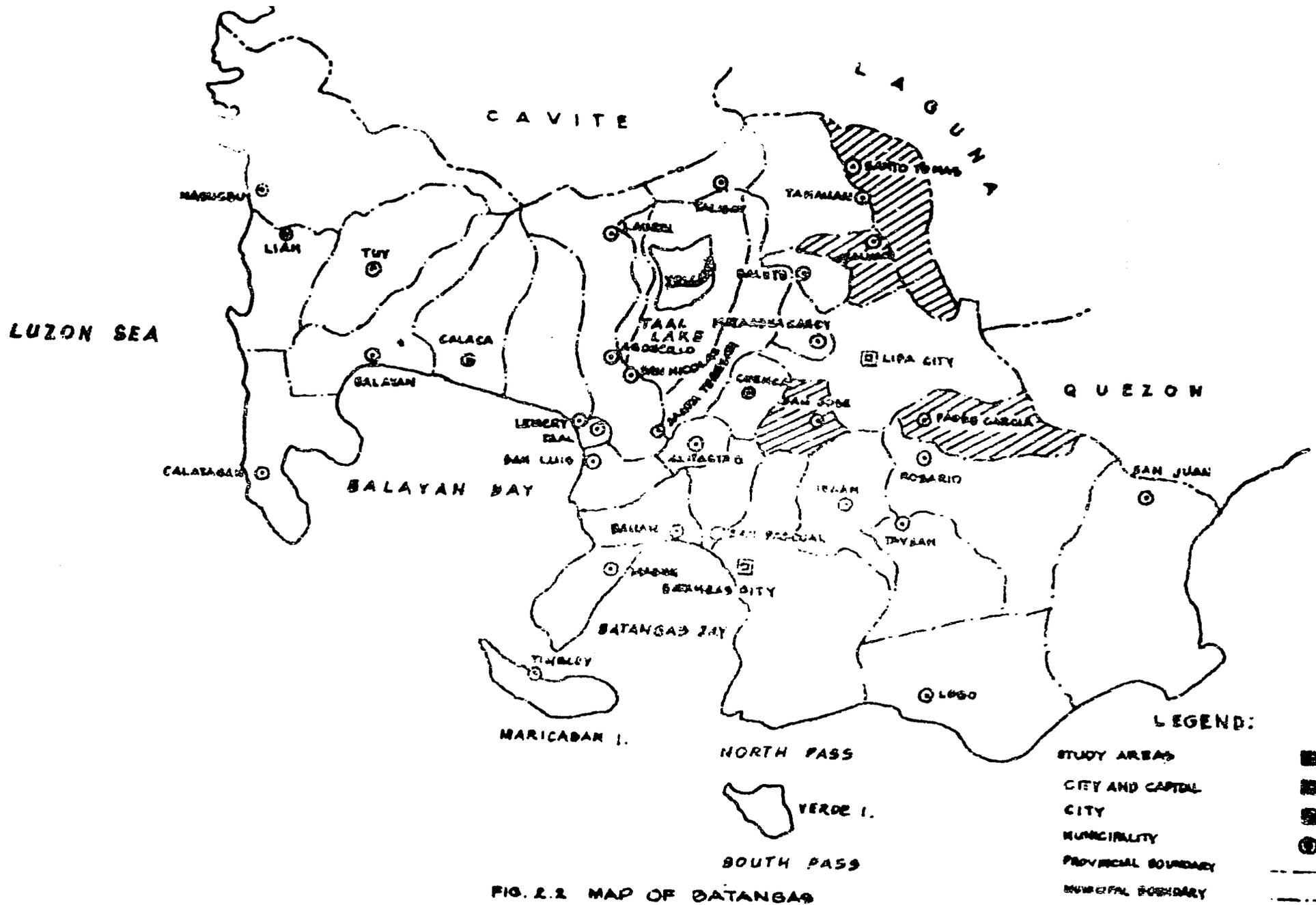


FIG. 2.2 MAP OF BATANGAS SHOWING THE STUDY AREAS

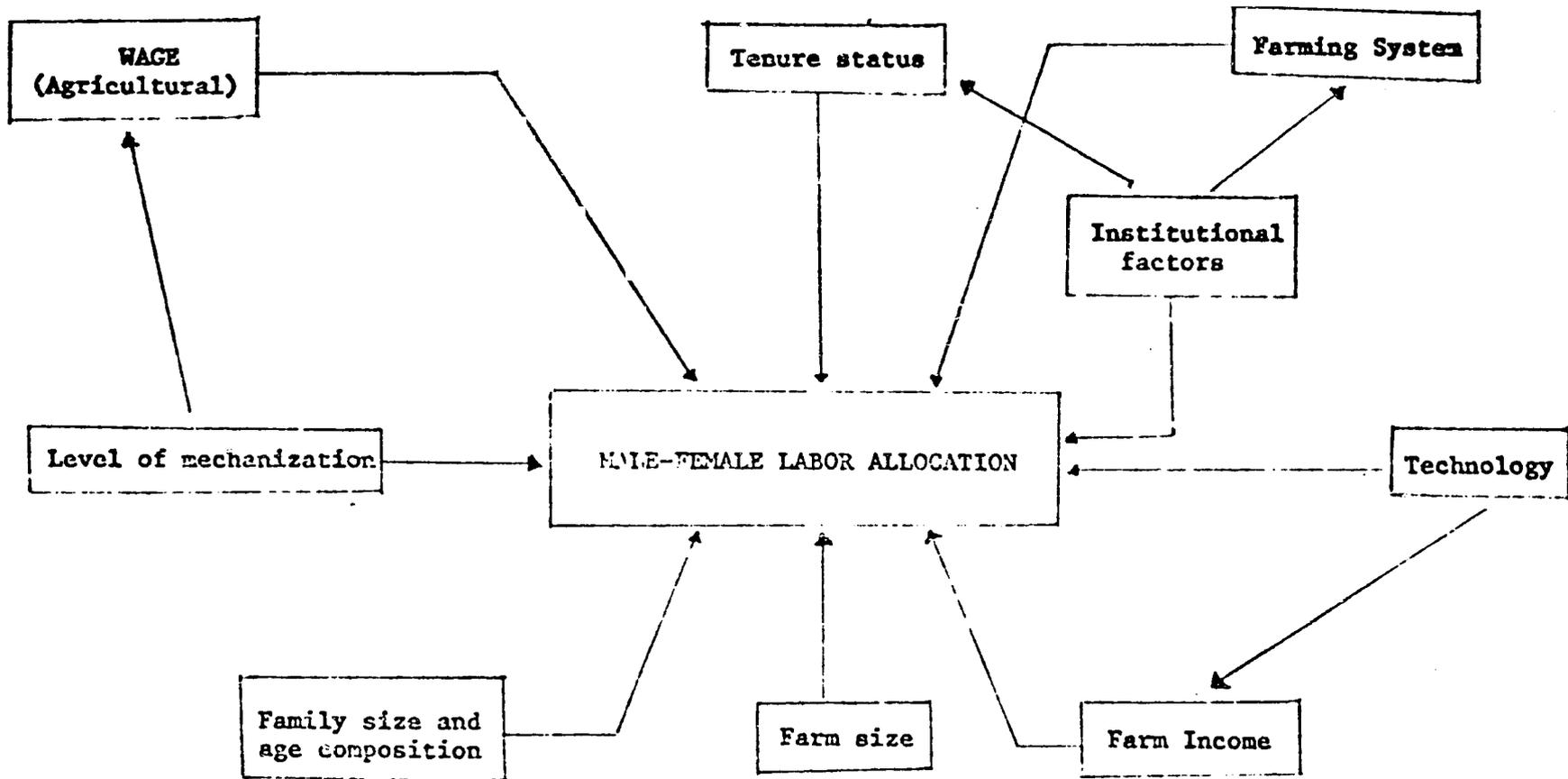


Fig. 3.1 . Model showing factors influencing female's workshare in agriculture.

Village Women of San Miguel: Two Case Studies

Introduction

Rural organizations are said to be vital elements in rural development, particularly in developing countries. Organizations foster participation and contribution of members to community activities and objectives. Especially in many rural areas where direct individual contact is very difficult to achieve with limited resources, it is more feasible to reach rural people in terms of groups when eliciting community involvement. Furthermore, oriental tradition has conditioned individual community members to groups, community values and relations. Group pressure has become a very effective control measure over individual members. The practices of self-reliance, in terms of local community projects, wherein members of the community give their own contribution towards local project, is an example of synergistic effect.

The Philippine rural setting is not wanting in terms of formal groups and associations, the most common of which are the Samahang Nayon and the Barangay for all barrio folks. Farmers constitute the Samahang Nayon which is more of an agricultural pre-cooperative organization. The Barangay, on the other hand, is composed of all constituents of a barrio or a given section of a town. Though these two associations are open to both male and female in principle, it is usually the head of the family, the husband, who attends the meetings and participates in other organizational activities.

While this is common in Philippine rural setting, the town of San Miguel, Bulacan has a unique and active association solely for women, operating their own, projects. This is a self-help group that originated from "below" or from the village level itself, compared to some other associations which originated from "above". This barangay group came into being because of the member's felt need for an association solely for the female members of the barrio, an association which focuses towards the female constituents of the community. The association was expected to launch projects intended to improve the living conditions of the womenfolk and their families and also contribute a share towards community development.

Because of its setting and unique set-up and operations, the barrio women's association of San Miguel, Bulacan provides an interesting area for study. It is an opportunity to generate a wealth of information as to the role of women, particularly the village women in agriculture.

From the data, speculations can be made regarding the following:

1. Can rural women be active and productive members of an organization
2. Can rural women manage and operate a barrio/village organization
3. Can rural women plan and implement projects effectively
4. What are the constraints and problems that can hinder the formation and growth of a rural women's association

5. How effective can such an association be in mobilizing human resources for community development.
6. How can rural women's productivity be improved
7. What types of employment opportunities should be created in rural areas to minimize if not totally prevent migration of young women from rural areas
8. How can women be integrated into rural development projects and what activities can be encouraged to expand female contribution to rural development
9. How could one reconcile traditional role of women and their changing roles, i.e. how would males regard to these kind of activities - competition, conflict, complimentary, etc.
10. What is the significance of a women association to government programs in the rural areas? Can this association serve as an effective channel for government assistance

THE OBJECTIVES OF THE STUDY:

1. To identify the factors that contributed to the formation of the association
2. Determine the goals of the association and how they relate to the needs of the members and likewise to rural development.
3. Determine the strategies adopted by the association to realize its objectives and sustain the interest and involvement of the members.
4. To illustrate and describe the operations and activities of the association.

5. Determine the socio-economic impact of the projects to the members.

Two cases are presented in the study: One is the case of a village women association and the other is the case of one member.

Case 1

Katipunan ng Kababaihang Barangay

Setting

The town of San Miguel is located in the northern most part of Bulacan province. It is about 75 kilometers away from Manila. Prior to the creation of an adjacent town namely: Doña Remedios Trinidad, San Miguel comprised practically one-fifth of the land area (78,930 hectares) of the whole province. A third class municipality, it is largely an agricultural region running from fertile to hilly rice lands, from level plains to rugged mountains and from marshy swamps to slippery grounds.

San Miguel is bounded on the North by Gapan, a town of Nueva Ecija; on the northeast quadrant by the Sierra Madre mountains; on the northwest by Candaba, a town of Pampanga; and on the southeast by San Ildefonso also a town of Bulacan. It has 45 barangays which are accessible through feeder roads which serve, as well, as linkage between the Poblacion and barangays contributing much to economic progress as the products of industry in the places are easily transported to the consuming public.

Socio-Economic Profile

Census records in 1975 peg San Miguel population at 66,870 residents, 33,735 males and 33,135 females depending primarily on agriculture for livelihood. Agricultural productivity has been improved to recent years due to the coverage of five barangays

by irrigation. Around 800 certificate of land transfer has been distributed to the farmers as the case study time. Aside from timber, San Miguel has iron mines in Mt. Silao, a sitio of Sibul. Agribusiness projects such as commercial poultry and livestock farm operation and castor oil plantation are also in the town. San Miguel is likewise noted for the various kinds of preserved sweets, (pastillas, turon, yamas, santol, langka, etc.) a home industry. This is the reason why the town is dubbed San Miguel de Mayumo.

The town is electrified, serviced by the First Bulacan Electric Cooperative (IBECO). However, not all barangays enjoy the advantages of electrification, as in 1975, there were only 1,140 household-members off the cooperative out of 11,015 potential members. It is expected that the membership would be tremendous because expansion of electricity to the barangays is underway.

The health conditions of the people in San Miguel is taken care of by the Rural Health Unit (RHU), whose medical services to the town folks are indispensable. To meet the demands of the increasing population, this municipality was divided into four units each having a municipal health doctor, a registered nurse, three midwives, a sanitary inspector and two family planning motivators. A presidential directive was issued to give birth to the San Miguel Emergency Hospital.

Historical Background

The Katipunan ng Kababaihang Barangay (KBB) of San Miguel was conceived in a "historical accident" which took place in Barangay Masalipit, 13 kilometers away from the Poblacion. It all started

when Mr. Manuel G. Collado, San Miguel Municipal Development Officer (MDO), called for a Samahang Nayon (SN) meeting in Masalipit in September 1977. This Samahang Nayon meeting which was supposed to be attended by the majority male members turned out to be a women affair as majority of those who attended were housewives who represented their husbands who were then occupied in the farm. The female dominated attendance in the SN meeting gave the MDO the idea to organize the barangay women. He had thought that as a Municipal Development Officer, he had already different barangay organizations such as Barangay Council, Kabataang Barangay and Samahang Nayon but not a group who would solely be of, for and by the barangay women. Right there and then, Collado spearheaded the actual formation of the barangay women association by simply asking them whether they liked to organize themselves or not. Upon receipt of a positive answer, Collado set the body for the election of officers composed of the chairman, secretary, treasurer, and muse.

From then, Collado proceeded to organize women in other barangays of San Miguel. This time he was joined by the active women in the town. Before the actual formation of a KBB chapter in the barangay level, Collado consulted the legitimizers who were the recognized leaders in the barangay, as to the feasibility of establishing barangay women association in the area. The Barangay Captains and Samahang Nayon Presidents were mobilized to communicate to the Barangay women the plan of organizing themselves into a formal association.

The "good news" of KBB formation in the pioneer barangays was gradually disseminated until in all 45 but nine barangays, there was KBB. This came about only after winning the support and sympathy of the core group of San Miguel composed of Barangay Council Captains, SN Presidents, legitimizers, and teachers as well as other government and non-government agencies alike working out there with San Miguel female folks. Through frequent meeting and consultation with the aforesaid parties, concerted recruitment campaign was launched in one barangay after the other. As barangay women were duly informed through direct oral communication from the barangay core group, formal formation of KBB chapter followed and occasioned in the meeting which was patterned after the general assembly meeting concept. Barangay resident elementary teachers were also utilized as formative meetings were held in barangay schools. In order to motivate more barangay women to attend the meeting, Collado synchronized the formation of KBB in the Barangay with the field works of other government agencies such as Population Commission, (Pop Com), Ministry of Agrarian Reform (MAR), Bureau of Agricultural Extension (BAEX), Bureau of Animal Industry (BAI) and Ministry of Local Government and Community Development (MLGCD). This he was able to do by approaching and convincing each concerned agency individually. Collado argued that different government programs after all must be integrated into the life of the people so that there must not be any point of conflict among their respective agency's programs. Along the way of forming KBB in different barangays, Collado was assisted by Miss Emma Sta. Ana, San Miguel North District

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Supervisor of Ministry of Education and Culture (MEC), and Mrs. Lilia Rivera an active woman kind in Poblacion.

The idea of federation was thought by Collado all the while he was forming the different KBB's, "To federate the KBB's would strengthen them", quipped Collado. In general assembly meeting held in December, 1977 and attended by all the chairman of the KBB's, the idea of federating the different KBB's into Pambayang Katipunan ng Kababaihang Barangay (PKBB) was concretized.

In the intervening time that the KBB's were being organized, Collado was already pondering on assembling a group who would serve as an advisor to PKBB, when the number of organized KBB's reached 35, the advisory group was formed and named, Kababaihang Barangay Development Assistant Program (KBDAP) which was latter changed to Kababaihang Barangay Development Assistance Council (KBDAC).

Organization

Katipunan ng Kababaihang Barangay (KBB)

The KBB was conceived and established as a response to the felt need of organizing barangay women who, according to Collado, were a potent force which if properly guided could be harnessed to achieve goals of any development project. Prior to 1977 however, barangay women were dispersed and their efforts disconcerted as they were grouped into different organizations such as the Rural Improvement Club (RIC) put up by the Bureau of Agricultural Extension and the

Homemakers Club organized by the Ministry of Agrarian Reform. Members of the two above-mentioned organizations were selected and membership was mutually exclusive. Through KBB however, these built-in weaknesses in the two local women associations were perceived to be overcome as the former was designed to unify all barangay women aged 22 years and above irrespective of their women organizational affiliation. Membership was based solely on age criterion. KBB aimed to use women in tie-up projects such as beautification, nutrition, family planning, and backyard gardening and to improve livelihood of barangay women through income generating projects.

Except for nine, all the 45 barangays in the two had operational KBB. The federation had about 45,000 membership. Membership was for those barangay women 22 years old and above. The council women in each barangay simply listed the names of the qualified members in their respective barangay. Results showed that members who were not direct beneficiaries of PKKBB projects were complacent and many did not even know that they were members of an organization so named as KBB.

Pambayang Katipunan Kababaihang Barangay (PKKBB), as a federation bagot a set of officers which included Mrs. Liwayway Rivera, president, Felicitas de Gasman, first vice-president; Liwayway Cruz, second vice-president; Noemi Maniego, social secretary; Aida Estrera, secretary; Zenaida Barrientos, treasurer; Jesusa Trinidad business manager, and Lus T. Gomez, auditor. The president was a high school and vocational graduate. The first vice-president was a LLB graduate while the

second vice-president was a high school undergraduate. Except for the secretary who graduated from a secretarial and IEM courses, the social secretary, treasurer, business manager and auditor were all a high school graduate. Noemi Maniego, the social secretary, moved to another town of the province upon getting married. Aside from attendance in the meeting, it was the duty of PKKBB officers to participate in the formulation of the association's project and the implementation of the same. In as much as PKKBB, had no written Constitution and By-Laws as of the case study time, other specific duties and responsibilities of the officers and members alike could not be specified. The PKKBB sets its regular meeting every second Monday of the month.

Kababaihang Barangay Development Assistance Council (KBDAC)

As previously mentioned, KBDAC was established to act as an advisory body of PKKBB. It has a juridical personality to enter into a contract with any party interested in the PKKBB. KBDAC set also policies for implementation in the PKKBB. It met as the need arose. The officers of KBDAC included a chairman, a secretary, a treasurer, an auditor, a press relation officer, and four members.

Collado occupied the Chairman's position. Unmarried at his early forties, he had worked with the PACD for twelve years and Baguio Treasurer's office for five years. Although an Ilocano by origin and upbringing, Collado was able to adjust with the general lifestyle of San Miguel, a Tagalog town, as he had lived in this town as a local government official for almost 10 years. He was

an A.B. Sociology graduate with so many units in LLB. As the chairman of KEDAC, Collado represented the organization in any contract entered into by the same. More often than not, he formulated plan and policies for approval of the body. He likewise looked for possible funding or assistance from any outside party. The chairman kept the fund of PKKBB under his custody.

The elected secretary was Miss Emma Sta. Ana, the San Miguel North District Supervisor of MEC Region III. Like Collado, Sta. Ana was still an energetic single at her early forties. She had closely worked with Collado in the formulation and implementation of policies governing the different projects of PKKBB. Miss Sta. Ana called herself as the "trailer" of Collado as far as the Management of KEDAC/PKKBB projects were concerned.

Mr. Sergio Sison, president of the Association of Barangay Councils of San Miguel, was KEDAC treasurer while Mr. Leonardo Fernandez, Grand Knight of Saint Michael Knights of Columbus served as the auditor. The incumbent vice-mayor who was a press correspondent by training, Mr. Francisco Buencomino, was the PRO. The four members were Mr. Nicanor Baltran, representative of religious and civic organization in the town, Mrs. Ye. S. Ventura, San Miguel High School principal and Mrs. Liwayway Rivara and Felicitas de Gusman, both of the PKKBB.

Social Activities

The KEDAC, PKKBB and KBB officers were inducted in December, 1977 in San Miguel High School, a public school in the town. It was a ceremony attended by the Director General of the Commission on the

Role of Filipino Women and at the same time Philippine Women University (PWU) staffer, Mrs. Leticia de Gusman; Government of Bulacan, Ignacio Santiago; Program Secretary of the Commission on the Role of Filipino Women, Sonia Saldivar and the principal officers of MSSD, MAR, PC, NLGCD, NACIDA and Bulacan Provincial Hospital. The induction was actually a 2-day affair. The first day was spent in demonstration of KBB member's talent and skill in cooking and menu preparation. Induction proper was done in second day with the members contributing ten pesos each for the food.

In 1977, KBDAC toured the chairman of KBB's in the Export Processing Zone in Bataan Province with the objective of exposing the Federation to some aspects of the involvement of women in national development. The PKKBB also experienced to join political rally. At two different dates, KBDAC in behalf of PKKBB acted as host of the visiting Program Officer of the United Nations Economic and Social Commission for Asia and the Pacific (UNNESCAP), Ambassador of Canada to the Philippines and Philippine envoy to Japan, Leticia Suhani.

Sometime in 1978, all chairman and some council women of KBB's were made to undergo Leadership Training held in Bulacan Farmers Training Center (BFTC) in Doña Remedios Trinidad. It was a 4-day live-in seminar conducted to orient the women participants to organizational behavior and management concepts and dynamics.

In May, 1979, the PKKBB sponsored a beauty contest designed primarily to raise fund and to give more color to the town fiesta. Through the overall chairmanship of Collado, each KBB was mobilised

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to field in candidates and to sell or buy tickets which served as votes of the candidates themselves. The contest was able to take in a gross proceeds of ₱93,000 at ₱20,000 total expenses which included the commissions of the three winning candidates. The net proceeds went to the coffers of PKKBB.

Other activities of PKKBB included coordination and involvement with the programs of other agencies like "Operation Timbang" of the Nutrition Center of the Philippines.

Income - Generating Projects

"Operation Pig Dispersal 78"

At the case study time, pig dispersal project was the most popular on-going project of PKKBB. The project was undertaken by PKKBB under the management of KEDAC. It aimed at helping the barangay folks to improve their socio-economic status by giving them piglets to be obtained from any cheap local source and which would be grown as farrowing sows. Feeds were also supplied by the PKKBB. The project scheme called for the recipients to give back to PKKBB three piglets potential to become breeding sows either one for each of the first three farrowing or three piglets at the first farrowing. These piglets would in turn be redistributed in like manner and in accordance with the rules set forth by KEDAC.

Selection of recipients was undertaken by a committee formed in each KED. In each barangay involved in the project, KED chairman served as the chairman of the committee with the head teacher and

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barangay captain as members. Recommendations of KBB committee on selection were forwarded to the KBDAC committee on project evaluation for approval. Should the recommendation be approved, the chairman and three members of the committee on project evaluation signed on the approval sheet.

To qualify on the project, an applicant must: (1) be an active member of KBB and a resident of San Miguel; (2) have pigpen with appropriate size and orderliness; (3) have a houselot secured by fence and planted with fruit trees, vegetables and any plant which could be used as feeds for swine; (4) belong to a middle income family; (5) be willing to attend or had attended seminar on swine production and any subjects related to the project; (6) be recommended by the Committee on Evaluation of her respective KBB; and (7) not be involved in similar project of other agency/organization. Recipients were made to enter into a contract with the KBDAC. In the first cycle of the project, KBB chairman had priority in the list of recipients.

In June 1978, 100 piglets of Hyforized and landrace breeds were distributed to 99 recipients, a recipient having gotten two. Recipients hailed from the 36 chapters of PKKBB. About two of the recipients were noted to belong to the upper middle income family and the rest belonged to the upper low-income low and middle income family. Piglets were produced in bulk from the Connal Farm, a private commercial farm in the town, at P250 each. Feeds, on the other hand, were

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provided by B-MEG through the "end-user arrangement" entered into by the KEDAC. This arrangement was finalized even before the distribution of piglets to the recipients. "End-user arrangement" of B-MEG was but a package which included extension services of B-MEG animal scientists and veterinarians. B-MEG had already held two seminars on swine production with the pig dispersal piglet recipients as participants. The KEDAC could save one peso for every bag that is purchased from B-MEG. If there would be scarcity of feed, the arrangement provided first priority to the KEDAC. Each recipient was supplied with a bag of feed per month or more depending upon her option. Cost of feeds, however, were to be repaid to the KEDAC. Ordering of feeds was left to the disposition of KEDAC president. There was no regular placement of order such that there were times that no feed could be dispensed to the needful recipients.

The project was monitored principally by Miss Sta. Ana, Mrs. de Vera, and B-MEG veterinarians. B-MEG however, was about to withdraw its extension staff from the project in which case, animal scientist from Technology Resource Center (TRC) would take over. Parts of the extension service of B-MEG and TRC were to tell recipients when their sow would farrow and advise them as to the right kind and amount of feed to administer. Other recommended swine management practices were also extended from time to time.

Initial result showed that out of 100 piglets distributed and grown, 40% was disposed. Sixteen heads were sold out for having been observed to be in hit while 24 heads got sick and became deformed.

The remaining 60% either farrowed or was pregnant. The highest litter size registered was 11 and the lowest was 3. Marketing was left at the disposition of the recipients. They were, nevertheless, not discouraged to approach the KEDAC for possible help in getting good price for the piglets of their sows. Cost and return figures had so far been incomplete, hence profitability of the pig farrowing venture of each recipient and the whole project as well could scarcely be portrayed.

The pig farrowing or breeding project of PKKBB drew fund from the sum worth ₱121,000 donated by the Canadian Embassy to PKBB itself. The fund was obtained through the initiative and resourcefulness and at the request of Collado who in 1977 was the chairman of Youth and Student Travel Association of the Philippines (YSTAPHIL) in San Miguel, Bulacan. Collado approached Sylvia Muñoz, the National Managing director then of YSTAPHIL administered by Canada and the Philippines. Due to favorable feedback from Canadian youth about their stint in San Miguel under the Youth Exchange Program of YSTAPHIL, MEC, and Canada World Youth and Canadian Embassy in the Philippines and commitment of Canada to aid in the local development projects, PKKBB through YAFW was able to get a total of ₱121,000 worth of donation from Canadian Embassy. The total budget release of ₱110,000 was put under saving deposit in the Planters Bank located in the town in the name of PKKBB, with Collado and the two others as the signatories. Collado could however disburse fund without the knowledge of his co-signatories. According to him, "anyway, all deposits and withdrawals were reflected in the bank book."

Pig Fattening Project

This project was borne out of a proposal entitled Swine Production Project which formed part of National Women's Cooperatives Development Program prepared in 1976 by the Foundation for the Advancement of Filipino Women (GAFW) submitted to the Economic and Social Commission for Asia and the Pacific (ESCAP) in connection with the Voluntary Fund for the United Nations Decade of Women (VFDW). The project was based on the September, 1977 proposal on the "National Women's Cooperative Development Program prepared by the Development Academy of the Philippines (DAP) for YAFW for submission to the United Nations Commission on the Status of Women (UNCSW) through the National Commission on the Role of Filipino Women (NCRFW). The project was channeled to PKKB through YAFW who was coordinating with the Canadian Embassy as regards to the pig farming project of PKKB itself.

In the swine growing and fattening scheme, two month old weanlings are grown and fattened to seven month old size and then marketed. This scheme, based on financial studies, offers a better benefit - cost ratio and coverage while requiring a short payback period and non-recurring refinancing. It is also technically simpler to operate and less risky.

Swine production project was designed mainly to establish a workable model for a woman - operated and managed swine growing enterprise organized along cooperative principles and practices. As part of National Women's Cooperative Development Program, the project

was envisioned to contribute towards the attainment of the program's long-term objectives. The program aims to increase the productivity and income of rural families through undertaking a set of socio-economic activities intended to mobilize the surplus women labor for productive activities. The following specific objectives were set up:

1. To establish on a nationwide scope cooperatives for women and related types of institutions that will enable the Filipino women in the rural areas to fully participate in the national development of the country.

2. To adopt modern cooperative/organizational concepts to indigenous or existing socio-economic and political structures in order to enrich the lifestyle of the rural women folk and strengthen their collective for capital and technology generation or utilization and eventually in attaining socio-economic self-reliance and political maturity.

3. To establish an internal system of support in institutions that could provide sustained assistance to cooperatives, the women workers, and related types of organizations.

On the local level, the successful application of the project inputs would result into the following:

1. Increased pork production - The financial and technical training package would result in the growing and fattening of at least 420 pigs every 6 months. Total value added from weanling purchase was a weight gain of at least 65 kilos per head amounting, at 1978 prices, to P245,700;

2. Increased income for families of member-recipients -

The scheme would enable the beneficiaries to have an incremental income of ₱150 per six months for first 3 1/2 years; beyond this, they would have an additional ₱1,120 per six months;

Setting-up of a viable feed mill operation - With the operation of the feed mill, the member could lower their feed cost by at least 5% and enjoy patronage refund from the surplus and sales proceeds.

3. Organizational consolidation of women-member - The organization of the members into the cooperative would help them develop not only economically but also socially.

The project covered seventy (70) wives or daughters each of whom must have satisfied the following qualifications:

- (1) Had undertaken or was undertaking backyard gardening activities
- (2) Was an active member of the KBB
- (3) Was within the middle-lower income bracket
- (4) Was, preferably, with a suitable pigpen
- (5) Was not a recipient of a similar assistance

The selection, like in the swine farrowing project, was done by KEDAC through the Committee on Evaluation of Projects which at this juncture was actively supervised over by Sta. Ana. For easy monitoring purposes, recipients were limited to the 13 barangays near the Poblacion of San Miguel. The seventy recipients were initially proposed to be organized into a Swine Raisers Cooperatives to be registered as a producers cooperative with the Ministry of Local Government and Community Development (MLGD).

The cooperative would be the channel for commodity loan package consisting of the following: For individual members - six (6) two-month old weanlings, feeds for five months, transport cost for marketing, medicine and some miscellaneous expenses. This amount would be payable to the VAFW in 3 1/2 years. Interest charges might be agreed upon by the members and proceeds should be remitted to the cooperative coffers. The cooperative was to provide veterinary services, feed supply, collective marketing and auxiliary social services family planning nutrition for the members and would be venue for institutional and technical training.

The implementation of the project was directly supervised by Technology Resource Center (C) Castor Salazar, an animal scientist of TRC, together with P. ... also of TRC, were with the KINAC to have ... object get started for the technical ... the of pigpen and etc. ... received six piglets each with ... commercial farm in the area for \$250 each.

Fattened pigs to be sold to Hiyang Bulacan Slaughter House, a provincial government business project. It has a capacity of 400 ... Arrangement for this tie-up had already been made.

A total \$500,000 dollars was committed by UNESCAP/VFDW to the project. The cooperating government contribution, Philippines, amounted to \$17,719. The total budget of \$67,719 was broken down as follows:

Advisory services	\$3,900
Training	2,939
Project Operations	14,780
Others:	
1) Loans	44,750
2) R & D	<u>1,350</u>
	\$ 67,719

Any sum that would be extended to the recipient would be part and parcel of the commodity loan package which was interest-bearing. The scheme of commodity loan financing instead of straight dole-outs enabled recovery of public investment which could be reinvested in other areas or projects.

The project provided also for continuous monitoring and evaluation of activities and result. Initial baseline surveys would be undertaken to establish criteria for actual project results. Basically evaluation plan would cover the economic and social aspects of development. In the economic aspect, the system shall cover monitoring of changing consumption patterns of the beneficiaries. Monthly weighing of hogs would also be undertaken to determine weight gain results. The social aspect would cover monitoring existing project in relation to institutional and cultural arrangements, specifically in cooperatives and personal knowledge, attitude, and practice.

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Mushroom Culture

In November 1978, the KEDAC sponsored a training program in mushroom culture which was attended by PKKB members mostly from Barangay Pinambaran. Resource persons from NIST-NEDB were invited to give lecture and demonstration on the cultural practices of mushroom. Barangay Pinambaran was chosen as the project site primarily because of its strategic location serving eleven surrounding barangays. Moreover, it had been observed by the KEDAC/PKKB officers that Pinambaran residents specially the women, could rather easily be mobilized.

Immediately after the mushroom culture training, Pinambaran KBB members who attended the training embarked on the first actual mushroom in their respective backyards. Mushroom plots were prepared by proper cultivation and stock piling of rice hays and dried banana leaves. The KEDAC made arrangement with NIST to supply mushroom spawns for the former pilot mushroom culture project. The first mushroom culture attempt of the Pinambaran women was good enough in as much as they were able to harvest button-type mushroom for home consumption. Initial result of the mushroom culture reinforced the desire of the KEDAC/PKKB to gradually transform it to commercial scale operation. The second attempt, however, failed the expectation of the growers as spawns did not germinate. The failure was attributed to the defective spawns provided by the NIST. This outcome doused cold water to the enthusiasm of the KEDAC/PKKB over the project.

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Multi-Purpose Pavement

Through the head of KEDAC, PKKBB was able to request for the construction of two multi-purpose pavements, one in Barangay San Jose and the other in Barangay San Juan. Each cost about P300 provided by the governor's office while sand and gravel were answered by the mayor's office. Labor was provided for free by the barangay menfolk. The pavement would be used mainly for drying of palay for social and athletic purposes.

Tailoring/Dressmaking

Two of the vocational skills training conducted under the auspices of KEDAC/PKKBB were tailoring and dressmaking. About nine tailoring had been held through the Association. A total of 389 trainees were graduate from these tailoring classes held at nine different barangays at nine different times. Participants were not exclusive of PKKBB members but included all other qualified barangay residents. Oftentimes, almost all parties who indicated interest were accepted provided that there would be enough number of sewing machines to learn with. Some participants who had or could borrow sewing machines were requested to bring them to class. The PKKBB furnished some sewing machines. Usually, three students shared in a machine. A class was conducted for six continuous week frequently in barangay school.

Dressmaking on the other hand was conducted only once so far. A total of 32 students attended the dressmaking class held for a

period of four weeks. Certificates of attendance were issued not only for dressmaking graduates but also to tailoring and cosmetology graduates.

When asked where graduates of tailoring and dressmaking classes went after graduation, KBDAC/PKCBB officers who were interviewed said some attended the vocational skills training not really for the purpose of employment but just for learning purposes. A number of graduates landed on jobs within town and nearby localities. Others migrated to cities for employment rather than to remain unemployed in the town.

For each batch of trainees, KBDAC/PKCBB looked for sponsors. These sponsors were approached personally by KBDAC and/or PKCBB officers. Sponsors were to shoulder the salary of the instructors which ranged from ₱450-₱500 a month. The PKCBB itself sponsored four tailoring classes while NCCIDA sponsored the lone dressmaking class. The Bisig at Diwata de Mayuno, an elite youth group in the poblacion, accepted sponsorship of two tailoring classes.

Cosmetology

Another vocational skills training made available by the KBDAC/PKCBB to San Miguel female folks was cosmetology. Participants were trained in manique, hair science, and make-upping. Cosmetology was offered but once. The four-week cosmetology class was attended

by twenty nine participants. It was held under the sponsorship of the local Knight of Columbus Chapter. The training culminated at the contest where the participants did demonstration of their learned skills in manicure, hair science and make-upping. The participants were adjusted in terms of the finesse of their output by the local shopowners. Some students who excelled were immediately absorbed in some of the beauty parlors owned by those who served as judges in the cosmetology class contest.

Future Plans

There were still many other projects in store for the PKKBB. Some of them were as follows:

1. Camote culture - This project was in conjunction with the swine production projects of PKKBB. Because of soaring prices of corn, camote would be cultured and tried as substitute of corn in the mixed hog feeds.

2. Establishment of Feedmill - Since price of commercially mixed feed had been increasing, the Association was considering construction of its own feedmill. It would absorb and mix camote that would be produced by the Association itself in the feed formulation. Both camote culture and feedmill construction were part of the commodity loan package extended by UNESCAF/VSDP to PKKBB.

3. Marble Craft - The PKKBB was also contemplating on the possibility of initiating marble craft in the town. The project aimed at utilization of abundant marble refuse in the locality

which could still be further processed into marble crafts such as paper weights but were left unused. The project required an outlay of about ₱20,000 on the grinding machines.

4. Embroidery - It has been noticed by KRDAC/PICKEB officers that considerable number of town folks made a living out of embroidery. This motivated the Association planners to consider the instruction of embroidery training skills to San Miguel female folks.

Case 2

Natividad de Balen Carpio

Setting

Pinambaran is one of the barangays in the North District of San Miguel. About ten kilometers away from the Poblacion, it is surrounded as well by eleven other barangays that makes it strategically located. It is predominantly a farming community engaged specifically in rice production. Pinambaran is one of the five lucky barangays in the town whose ricelands are covered by irrigation. Nestled in it as of 1975 were about 246 households which included the family of Mrs. Natividad de Balen Carpio who is the subject of the study inipoint.

The Carpio's maintained a permanent one-story house built on a portion of a 1000 square meter lot. The house was constructed about fifteen meters away from the feeder road which links Pinambaran to the heart of the town. From the frontal main gate, the Carpio's house was flanked at the right side and at the back by paddy fields while at the left side was a neighbor's house and lot. Some young fruit trees were scattered and growing profusely in the lot.

The facade door would usher Carpio's visitor into a living room which was dotted by not less than ten pieces of wooden furniture. A little elevated was another main division which ran along the length of the house. Indeed, it was a spacious residence for the

Carpio's which was slightly divested of interior decorations. The source of power in the household was electricity. Water requirement, on the other hand, was supplied by the family-owned artesian well.

The Carpio's

Natividad de Balen, Maty as she was popularly known to the barangay folks, at her late forties had been married to Romeo Carpio, a carpenter earning about ₱200 per week, for 27 years. A native of San Miguel, Maty was a grade six graduate. She was born to a farming family. Forsaken for good by her husband for about one year and despite of her having a heart ailment, she was left alone looking after the welfare of her eight children, five of whom were female. The eldest child, a son aged 26, was a first year college student and working as well in an aluminum company in Metro Manila. All the seven elder siblings except the fourth were studying in Manila. The fourth child, a daughter, was with some physical defect and just preferred to stay with Maty by doing some sewing of handkerchiefs on a commission basis. The youngest who was to start primary schooling was the other child of Maty staying with her.

A Woman - Farmer - Entrepreneur

Maty had been responsive in performing her roles not only as a mother and a housekeeper but as a farmer as well. She maintained some 3.5 hectare rice farm divided into two parcels with a parcel 2 hectares and the other, 1.5 hectares. The bigger parcel was

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irrigated whereas the smaller one was not. Usually, two croppings could be effected in the area, the dry season and wet season croppings. In the 1977 dry season cropping, 150 cavans and 180 cavans were produced from the 1.5 hectare and 2 hectare farmlots, respectively. The wet season crop in the same year was damaged by typhoons such that only about 120 cavans of pelay were harvested from the total farm holdings.

The 3.5 farmlot was cultivated originally under the "kasama" system arrangement whereby the net of cost total produce was shared equally between the tenant and the landowner. Shortly before 1972, farming was done by the Carpio's under leasehold contract which required the family to set aside 55 cavans as annual lease for the land. Come 1972, the farmlot was covered by the "Operation Land Transfer" of the Department of Agrarian Reform. Naty became the owner of the riceland which had been under her custody for many years as she was issued with the Certificate of Land Transfer. The land transfer scheme called for Naty to amortize 37 cavans every year to be completed for 15 years as payment for the land.

As a farmer, Naty did not perform herself the cultural practices required of the rice crop. She, instead, asked her nephew to work in the farm for 15 cavans wage per cropping. Naty, however, drew out the plan of farm activities. Oftentimes, she would simply instruct her nephew as to when and how a farm activity would be done. Naty, nevertheless, was engaged in taking care of the carabao and a fattening native pig.

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Farm produce was marketed by Naty herself. She, more often than not, dealt with the rice-miller in the Poblacion and less frequently with NGA, in disposing of her harvest. Selling to NGA was least preferred as it took time before payment could be received due to a big number of small farmers selling produce at the same time. "I haven't disposed of my produce in the last dry season cropping because I'm waiting for a higher price," answered Naty when asked where she sold her produce in the last cropping.

Financing farm activities was another main concern of Naty. She availed of Masagana 99 credit package in the 1979 dry season in the amount of ₱2,400 from San Miguel Rural Bank at 12% interest. In 1977, she was able to loan from the Balacan Cooperative Rural Bank (BCRB) also at 12% interest, being an active member of Samahang Mayon of Pinabaran for seven years. As of the first quarter of 1979, Naty still owed ₱1,500 from the BCRB due to crop failure in 1977. The Samahang Mayon of Pinabaran of which Naty was a member, on the other hand, had collected ₱19,000 with the Barrio Guarantee Fund to answer for the amortization of defaulting and failing member in case of no other resort.

A KKB Member

In early 1979, Naty was one among the trainees selected to train in the KKB-sponsored mushroom culture training held at the Pinabaran Elementary School. The local KKB chairman, Zeny Barientos, approached her one day as to whether she was interested and willing

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to join in the training of nat. Learning that mushroom could be cultured for home consumption and commercial purposes, Naty immediately was convinced, to participate in the training. It was a-day training with half of the day spent in lectures and the other half consumed in laboratory or actual demonstration of cultural practices in mushroom production.

Shortly after the training, Naty tried her newly acquired know-how into actual mushroom culture. She did it by asking her nephew to prepare the mushroom bed for her. Preparation of bed was done by cultivating the soil on which the bed would be constructed as instructed by Naty. Three to six layers of rice hay and dried banana leaves soaked in water for three hours were put on top of the cultivated soil using some bamboo sticks and steel wires as bed braces. Spawns provided by NIST-NSDB for five pesos a pint-sized bottle, were planted into the bed by first placing some of them in a newspaper page 3/4 folded to let the growth cone come in the unfolded portion. Pesticide such as lanit, or azoxin and fertilizer such as urea were sprayed into the culture, afterwards. After twelve days, Naty harvested six pieces of button-type mushroom. The initial trial which produced concrete results induced Naty to try the mushroom bed for a second culture. In her second try, however, spawns did not germinate. She was not able to consult the non-germination of spawns with the NIST-NSDB technicians who gave them the training on mushroom culture, since the latter did not make any visit to the barangay during those

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days. She knew that the failure was caused by defective spawns supplied to her. Naty felt unhappy and disgusted about the failure of the project. If ever given another chance however, she would still be interested to culture mushroom. "I just doubt if I will still have time for that," she muttered.

Naty was aware of her being a member of KKB. As an ordinary KKB member, she was likewise aware of the on-going projects of PKKBB in the municipal and barangay levels alike. She just could not attend to all PKKBB projects in her barangay as she scarcely had time for them. When offered to partake in the swine fattening project of PKKBB, she responded in the negative. In her mouth, "I still am the one running the farm in addition to performance of domestic chores," to stress her tight time allocation. Naty was also knowledgeable of the forty graduates of PKKBB-sponsored tailoring class held in Pinambaran in April, 1978. She observed that some graduates learned and others did not. As often the case was, those who learned landed on jobs.

To Naty, it would be better to have a barangay women association like KKB. For one thing, she said, KKB was able to develop cooperation and unity among barangay women. Secondly, members could benefit from the association in terms of the privileges dispensed in the different PKKBB projects, she added. Should her time not be limiting, Naty could easily be tapped for help or participation in any community undertaking. Despite her performance of multi-purpose roles, she could still find time to join in some barangay organizations, such as the MLGDC's Ladies Brigade which was just formed last May, 1979.

PROJECT STAFF

Future Plans/Aspirations:

Naty was sold to all PKBB projects. She was just complaining of her lack of time and limiting health to attend to them. Notwithstanding this dilemma, she still aspired to learn some more technical knowledge like for example, ~~practices~~ practices on growing of organamentals, vegetables, and fruit trees. Naty was anxious to fill up her residential lot with fruit trees like mangoes and lemon.

As a farmer, Naty was looking forward to the complete turnover of the ~~ownership~~ ownership of ricaland under her care. That would be at the time of the ~~last payment~~ last payment of yearly amortisation. But the most cherished dream of Naty was to see all her children done with their college schooling and employed in good-paying jobs.

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