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Rural Labor and Rural Non-Agricultural Activities in the Philippines

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Rural Labor and Rural Nonagricultural Activities in the Philippines

Ma. Teresa C. Sanchez

DISCUSSION PAPER SERIES NO. 94-11

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August 1994

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**Rural Labor and Rural Non-agricultural
Activities in the Philippines**

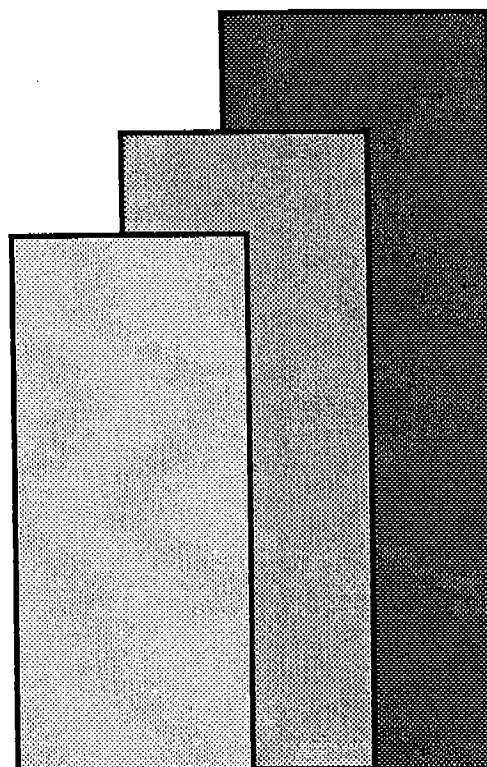
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**RURAL LABOR AND RURAL NONAGRICULTURAL ACTIVITIES
IN THE PHILIPPINES**

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Philippine Institute for Development Studies

The paper is part of the Dynamics of Rural Development (DRD) Project of the Philippine Institute for Development Studies.

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EXECUTIVE SUMMARY

The agricultural sector remains to play an important role in the development process of the country. However, the employment and income generation in the sector has been limited by the rapid growth of the rural population and the labor force. On the other hand, the urban sector-based industries also failed to provide the employment necessary to absorb the increasing rural labor force. These had led to the growing interest on the extent by which the rural sector can create employment outside the agricultural sector. Rural households redirect the allocation of their labor resources in response to the changing rural, agricultural, and macroeconomic environment.

The study examines the different aspects of labor in the rural household economy. It identifies the factors that significantly determine the rural households' labor allocation decisions. Moreover, it also looks at how the availability and growth of rural nonagricultural employment opportunities affect the rural households' labor allocation decisions and the rural labor markets particularly for hired labor. The paper also analyzes and examines rural nonagricultural households' pattern of labor allocation and their sources of income as well as the structure of employment. It also makes use of labor market indicators to trace the labor market links between the agricultural and rural nonagricultural sectors.

The study utilizes two data sets. The secondary data from the Integrated Survey of Households (ISH) and the Family Income and Expenditures Survey (FIES) of the National Statistics Office (NSO) provide aggregate rural labor force, employment, and income statistics. The data from these sources are used to describe and analyze the trends and changes in the composition of rural labor force, employment, and income in the country overtime. On the other hand, the micro-level data collected from the primary survey of households conducted for the Dynamics of Rural Development (DRD) Project in 1992 are utilized to provide information about labor allocation decisions as well as the importance and magnitude of the rural nonfarm employment. The micro-level data are examined to verify the general findings from the aggregate data. The household survey generated information about the supply side of the rural labor particularly on the availability of rural labor for farm and nonfarm work, the different categories of labor, and other characteristics of rural labor. The survey covered rural barangays in the provinces of Iloilo, Negros Occidental, Cebu, and Bohol. The survey areas were selected purposively on the basis of agricultural productivity, accessibility to industrial areas, presence and diversity of rural nonfarm enterprises, and proximity to nonfarm sources of employment. The conclusions derived from the observations based on the micro-level data are specific to the areas studied.

The rural nonagricultural sector has become an important component of the rural economy in terms of employment and income generation. The rural nonagricultural sector has provided employment to a significant proportion of excess labor in the rural sector. Observations from the aggregate and micro-level data indicate a considerably high proportion of rural labor force in nonagricultural activities but a lower proportion in rural manufacturing. The case study using micro-level data shows that retail trade and service activities which cater largely to local consumer demand dominate the rural nonagricultural sectors of the survey provinces. To explore the full potential of the linkages between the agricultural and the rural nonagricultural

sectors, policies and programs supporting the rural nonagricultural sector particularly rural manufacturing should be complemented with policies that will foster the growth of productivity and incomes in the agricultural sector.

The growth of employment in rural nonagricultural activities is not influenced so much by demand factors such as the availability of more productive nonagricultural activities. Employment in rural nonagricultural activities appears to be supply determined or characterized by the dominance of the push factors like limited access to agricultural productive resources, increasing rural labor force, increasing rural unemployment and underemployment, and widespread rural poverty.

In the more developed provinces like Cebu, the accessibility and proximity of rural households to urban centers have a significant direct employment effect on the rural workers. This type of rural-urban labor market link will be strengthened by better infrastructure and transportation facilities. Furthermore, the empirical model reveals that work location is a significant factor affecting wage and labor supplied to nonagricultural activities in the rural areas of the survey provinces. This indicates that the development of rural infrastructure in these areas will generate opportunities for nonagricultural employment by improving rural workers' mobility. Moreover, the rural households' labor supply decisions are strongly but negatively influenced by non-labor income and opportunities for self-employment in household-operated nonagricultural enterprises. Human capital variables like education and experience have insignificant effects on households' labor supply decisions.

The analysis of the aggregate rural employment and income data yields the following observations. The rural population has been continuously increasing but at declining rates. Likewise, the share of the rural population to the total population has also been declining through the years. The rural labor force and rural labor force participation rate rose significantly during 1975-1990. This has been attributed to the growth of the labor force and to the rise in the participation of women. Rural employment increased in absolute terms but its proportion to total rural labor force declined. Rural unemployment and underemployment rose and remained at high levels in 1990. Labor underutilization in the rural sector reflects in part the nature of farm activities where part-time work is common and the pattern of labor use is affected by seasonality.

Although the agricultural sector remained as the major employer of the rural work force, the sector's employment share to the total rural employment has been declining. Correspondingly, the employment in the nonagricultural sector has been increasing. Employment in the rural nonagricultural sector expanded but rural manufacturing employment remained low. The growth of employment in the rural nonagricultural sector has been spurred by the growth of the service sector employment. Service sector employment grew rapidly relative to other sectors.

Own-account workers comprise the largest proportion of employed in the rural sector. This reflects the importance of self-owned and household-based enterprises as a source of employment and income in the rural areas. The employment of wage and salary workers in the rural sector increased. Correspondingly, the proportion of unpaid family workers declined. The

decline resulted from the shift of the rural workforce towards nonagricultural pursuits and the rise in the use of hired workers in farms.

Aside from being a source of employment, evidences show that rural nonagricultural activities are also an important source of income of the rural households. Evidences from the aggregate data provide strong indications that the growth of the rural nonagricultural sector in terms of employment and income is a result of stronger push factors. The growing rural labor force have pushed people into nonagricultural activities with varying potential for income generation. The shift to nonagricultural activities in the rural sector can be regarded more as a response to the diminishing employment opportunities in the agricultural sector and to the pressure from increased rural poverty.

The analysis of the micro-level data from the household survey yields the following observations. Majority of the sample rural households are engaged in nonagricultural activities. Moreover, a clear gender division of labor exists in the rural sector. The agricultural sector is male dominated while the female workers participate more in nonagricultural activities. Rural manufacturing, and wholesale and retail trade activities are of special importance to women. Rural manufacturing activities include food processing, handicraft making, weaving, basketry, and other cottage industries. On the other hand, trading activities include retail trade in small stores and food vending. Work location is an important factor influencing rural women's participation in income-generating nonagricultural activities. Evidence shows that there is a strong preference for work which can done within the household or neighborhood. In Negros Occidental and Cebu for instance, the rising incidence of sub-contracting arrangements have encouraged more women to participate in manufacturing activities.

Sales and service activities dominate as primary occupations in the sample areas. However, workers in production activities are relatively large in Iloilo and Cebu. The location where primary occupation is carried out reflects the role of infrastructure and proximity of rural villages to more urbanized towns. The presence of more developed infrastructure like roads and bridges, the availability of transportation facilities, and the proximity of rural villages to urban centers increase the access of rural residents to nonagricultural job opportunities. These factors also facilitate the shift from agriculture to nonagricultural occupations without changing residences. The data show that Cebu has the highest proportion of workers from the rural areas whose primary occupations are carried out in municipalities outside the place of residence. The presence of more developed infrastructure and the availability of transportation in the province increased the workers' mobility and enabled them to take jobs outside the villages. On the other hand, Bohol, considered the least "urbanized" among the sample provinces has a very high proportion of workers working in own home and immediate neighborhood.

On the average, the earnings generated by rural households from nonagricultural work exceed those generated from agricultural activities. Furthermore, the wage differentials between the rural nonagricultural and agricultural occupations in the survey areas are large. This indicates the existence of labor market link between the agricultural and rural nonagricultural sectors. It appears that the labor market outcomes in the agricultural sector in the form of low wages and limited labor absorption have significantly influenced the existing structure of labor markets in the nonagricultural sector.

A considerable number of rural households in the sample areas earn income by hiring out labor. Among the sample provinces, the proportion of wage labor ranges from 25 to 55 percent. The presence of a large proportion of wage workers in the survey areas supports the view that a wage labor market exists in the rural sector of the sample provinces. On the average, the hired workers in the nonagricultural occupations worked longer hours and received higher wages relative to those in the agricultural occupations. A major factor which determined the supply of hired labor in the rural nonfarm sector is the distribution of productive assets. The distribution of landless households in the survey areas reveals that the provinces with large proportion of landless households have a relatively high proportion of hired workers.

Evidences also show that a significant proportion of rural households in the sample areas are engaged as owners and operators of farm and nonfarm enterprises. Moreover, these household-based enterprises have a considerable direct employment effect.

The results of the empirical model using the micro-level data are as follows. The probability of rural labor force participation in nonagricultural economic activities is significantly affected by the ownership of household-operated enterprises, non-labor income, and work location. The human capital and demographic variables are insignificant in explaining the probability of rural labor force participation in nonagricultural activities. Wages are significantly affected by the age variable which serve as proxy for years of work experience. However, the education dummy variables have insignificant impact on wages. This may imply low private returns to education in the rural areas. The rural labor supplied to nonagricultural activities in terms of hours of work is significantly affected by non-labor income. This reflects the dominance of the income effect and confirms the hypothesis that leisure is a normal good. The predicted wage has a positive and significant effect on hours of work. The rural labor supply in terms of work hours is inelastic with respect to wages. The results using number of work weeks as dependent variable are similar to those using work hours. However, the supply response of rural labor is weaker in terms of work weeks. Work week is less responsive to wage rates relative to hours of work.

Over the years, the rural nonagricultural activities have become important components of the rural economy in terms of employment and income generation. The rural nonagricultural sector has provided employment to a significant proportion of excess labor in the rural sector. Observations from the aggregate and micro-level survey data indicate a considerably high proportion of rural labor force in nonagricultural activities but a lower proportion in rural manufacturing. The case study using the micro-level data shows that retail trade and service activities which cater largely to local consumer demand dominate the rural nonagricultural sectors of the survey provinces. To explore the full potential of the linkages between the agricultural and the rural nonagricultural sectors, policies and programs supporting the rural nonagricultural sector particularly rural manufacturing should be complemented with policies that will foster the growth of productivity and incomes in the agricultural sector.

The growth of employment in rural nonagricultural activities is not influenced much by demand factors such as the availability of more productive nonagricultural activities. Employment in rural nonagricultural activities appears to be supply determined or characterized by the dominance of the push factors like limited access to agricultural productive resources,

increasing rural labor force, increasing rural unemployment and underemployment, and widespread rural poverty.

In the more developed provinces like Cebu, the accessibility and proximity of rural households to urban centers have a significant direct employment effect on the rural workers. This type of rural-urban labor market link will be strengthened by better infrastructure and transportation facilities. Moreover, the empirical model reveals that work location is a significant factor affecting wage and labor supply in the rural areas of the survey provinces. This indicates that the development of rural infrastructure in these areas will generate opportunities for nonagricultural employment by improving rural workers' mobility.

The analysis of the micro-level data reveal that the rural households' labor supply decisions are strongly but negatively influenced by non-labor income and opportunities for self-employment in household-operated nonagricultural enterprises. Policies that will provide incentives to these household-operated economic activities will not only ease the employment problem in the survey provinces but will also transform these activities into more dynamic ones. This will pave the way for rural industrialization in the areas.

Female labor supply responds strongly to demographic variables particularly the presence of young children in the household. Human capital variables like education do not have significant effects on rural labor supply. This may indicate that labor market opportunities in the rural nonagricultural sector of the survey areas require less education.

RURAL LABOR AND RURAL NONAGRICULTURAL ACTIVITIES IN THE PHILIPPINES¹

Maria Teresa C. Sanchez²

1. INTRODUCTION

The agricultural sector remains to play an important role in the development process of the country. From 1970-80, the agricultural gross value added grew at an average annual rate of 4.8 percent. Recent data show that a large proportion of the rural population is employed and derives income primarily from the agricultural sector. However, the employment and income generation in the agricultural sector has been limited by the rapid growth of the rural population and the labor force. The urban sector-based industries also failed to provide the employment opportunities necessary to absorb the increasing rural labor force. These had led to the growing interest on the extent by which the rural sector can create employment outside the agricultural sector. The rural nonagricultural sector becomes a vital component of the rural economy as stronger demand for nonagricultural employment in the rural sector is generated.

Nonagricultural activities arise from the rural households' search for employment and income generating opportunities that can be combined with agricultural work against the background of low labor absorption, diminishing productivity, seasonal unemployment, underemployment, and poverty in the agricultural sector. Rural households redirect the

¹ The paper is a component of the Dynamics of Rural Development Project of PIDS.

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allocation of their labor resources in response to the changing rural and agricultural environment. The emergence, availability, and growth of nonagricultural employment opportunities may have significant influence on the allocation decisions of rural households. On the supply side, the continuing growth of the rural labor force may result to pressure on the rural nonagricultural labor markets.

The study concerning rural labor aims to determine the role that rural labor markets play in the development process as the rural nonagricultural sector grows. In particular, it examines the different aspects of labor in the rural household economy. It attempts to answer the following questions: What are the factors that significantly determine the rural households' labor allocation decisions? How does the availability and growth of rural nonagricultural employment opportunities affect the rural households' labor allocation decisions and the rural labor markets particularly the market for hired labor?

Majority of the existing studies are concentrated on the farm households while the rural nonagricultural households received little attention. The paper attempts to analyze and examine the rural nonagricultural households' pattern of labor allocation and their sources of income as well as the structure of employment. It also attempts to present an overview of the rural nonagricultural sector and examines its importance, composition and location. The paper also aims to test the labor market links between the agricultural and rural nonagricultural sectors. Answers to the aforementioned questions and the observations relating to rural labor are relevant in designing policies and programs that may directly or indirectly influence the growth and development of the rural nonagricultural sector, the rural sector, and the economy as a whole.

The paper is organized as follows. The next section discusses the literature on rural labor, rural nonagricultural activities, and rural development. The existing literature on rural nonagricultural activities focus on their nature, growth, composition, their role in the development process, and their linkages with agriculture. Section three presents the theoretical framework and empirical model used in the analysis of rural household labor supply behavior. Section four focuses on the sources of data utilized in the study as well as the description of the household survey data including the limitations. Section five presents an overview of the rural labor in the Philippines focusing on the trends and structure of the rural labor force, employment, and income. Section six presents the findings of the case study of selected provinces in the Visayas. Section seven presents the empirical results, and finally, the last section gives the summary, conclusions, and policy implications of the study.

2. OVERVIEW OF THE LITERATURE

2.1. RURAL NONAGRICULTURAL ACTIVITIES: NATURE, GROWTH AND COMPOSITION

The existing body of literature which explains the relationship between nonagricultural economic activities and economic growth is dominated by the pioneering work of Hymer and Resnick (1969). Hymer and Resnick constructed an extended model of an agrarian economy with the inclusion of nonagricultural activities (Z-activities). The model describes the Z-goods sector as one which is dominated by home manufacturing and is an inferior source of income. The model predicts that Z-activities will decline with agricultural development. Such hypothesis is supported by historical evidence from Burma, Philippines, and Thailand for the period 1870 to 1938. Bautista (1971) extended the Hymer-Resnick model into a small open economy. He pointed out that the inferiority of the Z-goods is an insufficient cause of the eventual decline of the sector. Fabella (1985), on the other hand, stressed that the rise in the manufacturing sector and the decline in Z-goods sector in the rural economy are due to the specialization in commodities where the rural economy has some comparative advantage, not on the inferiority of the Z-goods sector.

Choe (1985) explains the structural significance of rural nonagricultural activities in the Asian monsoon economy in the macro perspective of agricultural and economic development. The study introduced the M-cycle hypothesis wherein the M-cycle pertains to the general phenomenon of cyclically repeating peak and slack seasons in agricultural labor utilization in the monsoon agriculture. The study put forward two empirical propositions that have important implications for the development of nonfarm and off-farm employment. (Choe, 1985:5-6)

- a) Given an M-cycle dominated agriculture in the monsoon economy and the limited urban-industrial labor absorption capacity, it is not possible to increase labor productivity of farmers without increasing the productive use of labor during the slack season through nonfarm/off-farm activities and diversification of agriculture.
- b) The reduction of rural agricultural labor results in labor shortage during the peak seasons with the underemployed idle labor in the slack season. This implies the impossibility of reducing agricultural labor without limitation and without raising the real farm wages, provided there is no structural change in the intensity of the M-cycle.

Empirical studies such as those conducted by Anderson and Leiserson (1978, 1980); Oshima (1984, 1986); Chinn (1979); Ho (1979); Chuta and Leidholm (1979); Liedholm (1988); Ranis, Stewart and Reyes (1989); Hazell and Haggblade (1990); Reyes (1991) reveal an increasing percentage of the rural labor force primarily engaged in nonagricultural work in developing countries. The findings attest to a rising share of the rural labor force engaged in nonagricultural work partly as a result of slow labor absorption in agriculture. On the other hand, it may partly be a result of the increasing division between farm and nonfarm work in the rural areas -- something which is said to be induced by the high elasticities of demand for nonfood goods and services with respect to changes in rural incomes and agricultural output. Moreover, the availability of hired labor which allows substitution for family labor, and the increasing range and declining costs of labor saving innovations in agriculture enhance the possibilities for off-farm and nonfarm work (Shand, 1986).

Estimates of the proportion of the rural labor force with primary employment in the nonagricultural sector for 15 developing countries ranged from 20 percent to 30 percent

(Anderson and Leiserson, 1980). In addition, other studies estimate the share of rural nonagricultural labor to total rural labor force at 25 percent and 35 percent (Liedholm, 1988), about 20 percent for India (Hazell, 1990), 25.4 percent for the Philippines in 1982 (Fabella, 1985), 29.1 percent for Bangladesh in 1981 (Ahmad and Ahmed, 1985), 27.9 percent for Korea in 1980 (Choe, 1985), and 31.8 percent for Pakistan in 1980 (Chaudhry, 1985). In a study of rural industrialization in the Philippines, Fabella (1985) found that the share of rural nonagricultural activities in total rural employment for both sexes is around 30 percent in the period 1977-1982. The share of male's rural nonagricultural employment to total rural employment is found to be between the range of 22.5 percent to 24.7 percent during the same period. However, the share of female's rural nonagricultural employment to total rural employment is found to be twice that of the males. The study also reveals that the share of rural nonagricultural activities of wage and salary workers representing the formal sector of the labor market in the rural areas increased from 58.6 percent in 1977 to 69.5 percent in 1982. Moreover, that of the own-account workers which are considered as representative of the rural informal sector rose slightly from 19.4 percent in 1977 to 20.2 percent in 1982. Rural nonagricultural activities also provide secondary employment to rural workers. According to Anderson and Leiserson (1980), a large proportion of small and landless farmers engage in nonagricultural activities during the slack season. This observation indicates that rural nonagricultural activities are important as a secondary source of employment for small and landless farmers. It has also been observed that farm and rural nonfarm employment varies countercyclically.

Anderson and Leiserson (1980) observed that nonagricultural activities in rural areas are a primary source not only of employment but also of income for approximately one-quarter of the rural labor force in most developing countries, and a significant source of secondary income in the slack seasons for the small and landless farmers. Examination of incomes data in Japan, Korea, and Taiwan by Oshima (1984) reveals that off-farm income in both levels and shares increased as these countries underwent various stages of development. Country studies in Mukhopadhyay and Lim (1985) and Shand (1986) contribute a significant body of information on the extent of dependence of rural households on rural nonagricultural activities as sources of income. Ahmad and Ahmed (1985) show that about 26 percent of the rural labor force in Bangladesh derive income from rural nonagricultural activities. In India, 46 percent of self-employed households in the rural areas depend totally on rural nonagricultural activities as the only source of income (Rao, 1985). In the Philippines, it has been observed that around 31.4 percent of total family income of agricultural households and 81 percent of total family income of rural nonagricultural households are contributed by rural nonagricultural activities (Fabella, 1985). In 1971, rural nonagricultural activities accounted for 55 percent of total income of rural households in the Philippines (Fabella, 1985).

From a set of micro data in the Philippines (Laguna survey), Reyes (1991) observed that the proportion of time that rural household members spend on nonagricultural activities has significantly increased. Moreover, nonagricultural income was found to have risen from 8 percent in 1974 to 36 percent in 1987. The bulk of the increase in nonagricultural income was shared proportionately by small and landless farmers. According to Reyes, the above

observations suggest that nonagricultural income has an equalizing effect on income distribution and that its growth has helped offset the growing imbalance in agricultural income.

There is an ample evidence which highlights the role of nonagricultural income in reducing inequality and smoothing rural household income over time. It was observed that since agricultural and nonagricultural activities tend to move in-opposite directions over the year, income from nonagricultural sources appears to complement the pattern of net agricultural income received.

On the sectoral composition, Chuta and Leidholm (1979) contend that the most important components of rural nonagricultural activities are manufacturing, services, and commerce activities. Mukhopadhyay and Lim (1985), meanwhile, consider manufacturing, construction, trade and commerce, and services as the major components of rural nonagricultural activities. Manufacturing is observed to be the most important sector in almost all developing countries in Asia except the Philippines and Malaysia. Hazell (1990) observes that the dominant rural nonagricultural activities in India are commerce, service, and small-scale manufacturing that cater largely to agricultural and rural consumer demands. In general, the compositional pattern of rural nonagricultural employment in developing countries appears to be between 20 percent and 30 percent in manufacturing; 20 percent and 35 percent in services including government services; 15 percent and 30 percent in commerce; 5 percent and 15 percent in construction; 5 percent in transport; and the rest in utilities and other activities (Anderson and Leiserson, 1980).

2.2 DETERMINANTS OF RURAL NONAGRICULTURAL ACTIVITIES AND LINKAGES OF RURAL NONAGRICULTURAL ACTIVITIES WITH AGRICULTURE AND OTHER SECTORS

The primary sources of demand for rural nonagricultural goods and services are those stemming from rural households and/or enterprises. The rural households' demand for consumer goods tends to be quantitatively the most significant, followed typically by their demand for intermediate goods and services that arise from backward and forward linkages.

The first economists to explore the potential linkages between agricultural and nonagricultural sectors were Hirschman (1958), Johnston and Mellor (1961) and Mellor (1976). Hirschman (1958) argued that weak linkages exist between agriculture and other sectors including rural nonagricultural activities. Mellor (1976) added that such linkages of agriculture with other sectors are essential to rural-led growth strategy. However, according to Shand (1986), these studies lacked the detailed knowledge of the characteristics of these linkages, and the explanation on how the linkages had developed. An understanding of how rural nonagricultural activities are linked not only with agriculture but also with other sectors of the economy is an important issue for policy. Likewise, it is also relevant for policy makers to determine how rural nonagricultural activities will react to changes elsewhere in the system.

Empirical evidence on the linkages between farm and rural nonfarm enterprises, and the strength of these linkages in the developing countries is still sparse. One of the few studies to examining these linkages was conducted by Gibb (1974). He found that each one-percent increase in agricultural income in the Nueva Ecija province in the Philippines generated a 1-2 percent increase in employment in most sectors of the local nonfarm economy from 1967-1971.

Ranis et al. (1990) observed that the linkage effects from additional agricultural output are very substantial, even as policies are not conducive to promoting them.

The study by Fabella (1985) revealed notable features of the linkage between agricultural and rural nonagricultural activities. It was observed that manufacturing, construction, commerce, and transport activities of male workers engaged in nonagricultural pursuits are cyclically linked with farm activities, while government and domestic services are countercyclical. It was also observed that female labor is always countercyclical or neutral to the cycles of farm operations. This indicates the absence of linkages between farm and nonfarm activities that most women engaged in rural Philippines.

Consumption and Production Linkages

Empirical evidence also shows that the largest and best documented linkage from agriculture to rural nonfarm activities is the one which arises from the rural households' expenditures on consumer goods and services produced by rural nonfarm enterprises. Consumption linkages are particularly important and agriculture is a vital element given the fact that farmers typically constitute the largest rural consumer group. The expansion of employment in absolute terms is found to be invariably the highest in consumption related activities (Liedholm, 1990). In the Philippines, rural nonagricultural employment is dominated by consumption linkage activities evidenced by the large shares of trade and services to total rural nonagricultural employment (Ranis et al., 1990).

The other important source of demand for rural nonfarm goods and services stems from their backward and forward linkages with agriculture and other sectors of the economy. Observations from developing countries' experiences reveal that among production-related

activities, forward linkages are of much greater significance for absolute employment and employment expansion than backward linkages.

The various studies indicate a strong linkage between agriculture and nonagricultural sectors of the economy. Consumption linkage is found to be the strongest and largest linkage from agriculture to rural nonfarm activities. Because of the strong linkages between agriculture and rural nonfarm activities, an important policy implication points to the possible impact of agricultural policies on the growth of the rural nonfarm sector.

2.3 STUDIES ON LABOR DEMAND, SUPPLY, AND THE LABOR MARKET

The neoclassical labor market theory predicts that agricultural labor demand is primarily affected by changes in wage, farmer's output supply, agriculture-related variables such as size of farm, proportion of land irrigated, multiple-cropping intensity, seasonality, bullock labor, capital used, and high-yielding variety, and human capital variables like age, education, and work experience. It also assumes that a farmer's output supply is responsive to prices and opportunities for technological innovation. Assuming that farmers exhibit rational behavior by being cost- and profit-conscious, agricultural labor demand becomes highly responsive to changes in wage rates and output prices (Evenson and Binswanger, 1984).

A few attempts have been made to test empirically the various models formulated to describe household labor supply behavior in the context of rural labor market in developing countries. Most of these studies are based on the standard neoclassical competitive framework. Developments in the analysis of household labor supply and demand have contributed to a better understanding of labor markets. The household labor model assumes that individuals in the rural

sector exhibit economically rational behavior in making labor allocation decisions given certain constraints. Household labor is allocated among on-farm agricultural production, household production activities, off-farm and nonfarm work, and leisure. The household maximizes its utility subject to human time, income, and farm production (Huffman, 1980). Maximum household income is obtained when the marginal utility from these four activities are equal.

Empirical evidence from various studies confirms the theoretical relationship between farm wage and agricultural labor demand. Farm wage rate has a negative effect on agricultural labor demand but the effect was found to be insignificant in some studies. Factors like size of farm, proportion of land irrigated, multiple cropping intensity, and seasonality positively affect labor demand in agriculture. Agricultural labor supply responds favorably to changes in farm wage. Land reform was found to have a positive effect on rural wages and to have benefitted the landless; meanwhile, education of farmers and agricultural extension were found to have a strong positive effect on off-farm and nonfarm labor supply. Generally, the empirical results from labor market studies show the importance of rural nonfarm variables in influencing the demand and supply of farm labor. It was found that the most influential factor that affects labor demand and supply has been the wage rate in nonfarm activities.

3. THEORETICAL FRAMEWORK AND EMPIRICAL MODEL IN THE ANALYSIS OF RURAL HOUSEHOLD LABOR SUPPLY BEHAVIOR

3.1 THEORETICAL FRAMEWORK

This section focuses on the theoretical framework for analyzing the determinants of rural labor supply. The neoclassical labor supply model is modified to consider the household members' options of participating as wage and salary workers in the rural nonagricultural sector. Following Huffman (1980), the rural household members' labor supply decisions are perceived as the outcome of the utility maximization of the household subject to income, farm production, and time constraints.

Utility Function:

(3.1.1)

$$U = u(L, G; Z)$$

$$\left(U_i = \frac{\partial U}{\partial I} > 0, \quad i = L, G \right)$$

where:

- L = vector of household members' leisure
- G = vector of purchased goods
- Z = vector of factors exogenous to current household consumption decisions
like the household members' age, education, work experience

Constraints on Resources:

Time Endowment:

The first constraint is human time wherein the vector of time endowments of household members is divided among the following activities: farm work, nonfarm work, and leisure.

(3.1.2)

$$T = T_F + T_{NF} + L$$

where:

T = vector of total time endowment of household members

T_F = household members' time allocated to farm work

T_{NF} = household members' time allocated to nonfarm work

Household Income:

The second constraint is household income. Household income is composed of income received from members' nonfarm work at given wage rates, net farm income and other household income.

(3.1.3)

$$W_{NF}T_{NF} + PQ - W_I I + V = P_G G$$

where:

$W_{NF}T_{NF}$ = household income received from members' nonfarm work at wage rates

$(PQ - W_I I)$ = net farm income

where:

P = price of farm output

Q = farm output

W_I = total variable cost of farm output

P_G = price vector for purchased goods

V = households' income from other sources

Farm Production Function:

The third constraint involves the production of farm output which restricts the potential size of the household's budget.

(3.1.4)

$$Q = F(T_F, I; H)$$

$$f_I = \frac{\partial Q}{\partial I} > 0$$

$$f_T = \frac{\partial Q}{\partial T_F} > 0$$

where:

T_F = vector of household members' farm labor inputs

I = vector of variable purchased inputs

H = vector of inputs that affect production (demographic and other characteristics)

The standard utility maximization problem is given as

$$\text{Max } U = u(L, G; Z)$$

s.t.

$$T = T_F + T_{NF} + L$$

$$W_{NF}T_{NF} + PQ - W_I I + V = P_G G$$

$$Q = F(T_F, I, H)$$

Lagrangian Function:

$$\begin{aligned} \mathcal{L} = & u(L, G; Z) + \gamma (T - T_F - T_{NF} - L) \\ & + \lambda (W_{NF}T_{NF} + PQ - W_I I + V - P_G G) \\ & + \delta [-Q + F(T_F, I; H)] \end{aligned}$$

The first-order conditions (FOCs) for an interior solution are as follows:

(3.1.6.a)

$$\frac{\partial \mathcal{L}}{\partial T_F} = -\gamma + \delta f_{TF} = 0$$

(3.1.6.b)

$$\frac{\partial \mathcal{L}}{\partial I} = -\lambda W_I + \delta f_I = 0$$

(3.1.6.c)

$$\frac{\partial \mathcal{L}}{\partial Q} = \lambda P - \delta = 0$$

(3.1.6.d)

$$\frac{\partial \mathcal{L}}{\partial L} = U_L - \gamma = 0$$

(3.1.6.e)

$$\frac{\partial \mathcal{L}}{\partial G} = U_G - \lambda P_G = 0$$

(3.1.6.f)

$$\frac{\partial \mathcal{L}}{\partial T_{NF}} = -\gamma + \lambda W_{NF} = 0$$

(3.1.6.g)

$$\frac{\partial \mathcal{L}}{\partial \lambda} = W_{NF} T_{NF} + P Q - W_I I + V - P_G G = 0$$

(3.1.6.h)

$$\frac{\partial \mathcal{L}}{\partial \gamma} = T - T_F - T_{NF} - L = 0$$

(3.1.6.i)

$$\frac{\partial \mathcal{L}}{\partial \delta} = Q - F(T_F, I; H) = 0$$

Solving the FOCs yields the leisure demand (3.1.7) and labor demand for farm production (3.1.8) equations as functions of the exogenous variables.

(3.1.7)

$$L^* = dL(W_{NF}, P_G, P, W_I, V, Z, H, T)$$

(3.1.8)

$$T_F^* = d_{TF} (W_{NF}, W_I, P, H)$$

where:

$$\frac{\partial T_F^*}{\partial W_{NF}} < 0$$

$$\frac{\partial T_F^*}{\partial P} > 0$$

From equation (3.1.2), the amount of time devoted to nonfarm work is

(3.1.9)

$$T_{NF} = T - L - T_F$$

Thus, substituting equations (3.1.7) and (3.1.8) into equation (3.1.9) yields the non-farm labor supply functions.

$$T_{NF}^* = T - L^* - T_F^*$$

$$T_{NF}^* = T - d_L (W_{NF}, P_G, P, W_I, V, Z, H, T) - d_{TF} (W_{NF}, W_I, P, H)$$

(3.1.10)

$$T_{NF}^* = S_{NF} (W_{NF}, P_G, P, W_I, V, Z, H, T) \geq 0$$

The rural nonfarm labor supply is a function of rural nonfarm wage, prices of purchased goods, price of farm output, prices of other variable inputs, household income from other sources, factors exogenous to current consumption decisions (e.g., household members' age, education, and work experience), demographic and other household characteristics, and total time endowments of the household.

3.2 EMPIRICAL MODEL AND METHODOLOGY

The supply response of rural labor in the nonfarm sector is analyzed using the two-stage wage determination model. The model is applied to determine the likelihood of rural labor market participation, and the factors that affect the wage rate and labor supply in rural nonagricultural jobs, and the implicit price of time. The likelihood of labor market participation and the number of hours supplied to the rural nonagricultural economic activities are dependent on the market wage and the demand for leisure. The labor market participation decision of individuals is made on the basis of the level of market wage relative to the individual's shadow wage (or implicit value of time). An individual chooses to participate in rural nonagricultural economic activities as wage worker or self-employed if the market wage is greater than or equal to the individual's implicit price of time. In this case, the individual's work hours adjust to

equate these two wage rates. Non-participation decision occurs when the market wage is less than the implicit price of time.

Following Kozel and Alderman (1990), the empirical model is presented as follows:

$$W = \alpha_0 + \alpha_n X_n + \mu_1$$

$$H = \beta_0 + \beta_1 W + \beta_m X_m + \mu_2$$

such that $H > 0$ when $W > W_s$, and $H = 0$, otherwise.

Where:

W = market wage

H = hours of work

W_s = implicit price of time (shadow wage)

X_n, X_m = vector of regressors

In the sample of rural working age population, only those individuals who participated in the labor market provided information about their wages. Self-employed individuals did not report wages but are included in the labor supply estimation. Problem arising from self-selection results when the reported wages of individuals are used to estimate the predicted wages of individuals in the non-wage sector (Kozel and Alderman, 1990). The correction for selectivity bias is done by estimating a probit labor market participation function which includes all

individuals belonging to the rural working age population in the sample. From the parameter estimates of the probit function, the inverse of Mills ratio is derived and included in the wage equation. The correction of the selection bias results to consistent parameter estimates in the wage equation (Heckman, 1976).

The second stage of the estimation involves the inclusion of the imputed wage from the wage equation into the labor supply function. In estimating the labor supply function, possible biases resulting from self-selection are corrected using the selectivity correlated ordinary least-squares regression.

3.3 MODEL SPECIFICATION

3.3.1 Probit Analysis of Rural Labor Force Activity

Using the sample of rural household members belonging to the working age population, the equation for rural labor force participation in nonagricultural activities is estimated using the following:

$$P [RLFP_{NF}] = 1 - F(-\beta X_{1i})$$

where:

$RLFP_{NF}$ = rural labor force participation in nonagricultural activities

X_{1i} = vector of regressors

The dependent variable $P[RLFP_{NF}]$, i.e., the probability of rural labor force participation in nonagricultural activities, is 1 if the household member is a wage worker or self-employed in

the rural nonagricultural sector; 0, otherwise. Separate regressions are estimated for male and female individuals. The independent variables include:

- a) Age and square of age as proxy variables for experience
- b) Education dummy
- c) Number of children in the household
- d) Number of other adult members in the household
- e) Non-labor income
- f) Civil status
- g) Land ownership
- h) Work location dummy
- i) Municipality of residence dummy
- j) Ownership of business.

3.3.2 Wage Equation

The wage equation which is conditional on positive work hours is given as follows:

$$\ln(W_i) = g(X_{2i}, M_i)$$

where:

$\ln(W_i)$ = natural logarithm of observed weekly wage

X_{2i} = vector of regressors which include the personal characteristics of individual household members such as age, civil status, and education; household characteristics; and work location dummy

M_i = inverse of the Mills ratio calculated from the probit estimation

Age and age-squared as proxy variables for job experience are expected to have positive impact on wages. Moreover, the human capital variables such as education and work experience are also expected to be positively related to wages.

3.3.3 Labor Supply Equation

The labor supply equation conditional on positive work hours is given as follows:

$$H_{NF_i} = h(X_{3i}, \ln \hat{W}_i, M_i)$$

where:

H_{NF_i} = number of hours worked per week in nonagricultural jobs

X_{3i} = vector of regressors which include personal and household characteristics; and non-labor income

$\ln \hat{W}_i$ = predicted wage derived from the wage equation

M_i = inverse of the Mills ratio derived from the probit estimation

The variables such as price of purchased goods, price of farm output, and price of other variables inputs are excluded in the empirical model which estimates the nonagricultural labor supply. Rural households included in the survey did not report farm output and price variables. Most of the farm workers are wage workers and majority of the households are primarily engaged in nonagricultural activities.

The predicted wage is expected to have a positive effect on labor supplied to nonagricultural work. The personal characteristics of the individual such as job experience (as

proxied by age) is expected to be positively related to nonagricultural labor supply. The household characteristics such as landlessness and the presence of large number of dependents are expected to affect labor supply positively. Furthermore, non-labor income is expected to have a negative effect on labor supply.

Using the same independent variables, the model is estimated using number of weeks worked (with past quarter as reference period) as the dependent variable. Heckman (1974) pointed out that the number of weeks worked is easier to adjust and thus, is more responsive to particular independent variables.

4. DATA SOURCES AND METHODOLOGY

4.1 SOURCES OF DATA

The study utilizes two data sets. The secondary data from the Integrated Survey of Households (ISH) and the Family Income and Expenditures Survey (FIES) of the National Statistics Office (NSO) provide aggregate rural labor force, employment, and income statistics. The data are useful in describing and analyzing the trends and changes in the composition of rural labor force, employment, and income in the country overtime. On the other hand, the micro-level data collected from the primary survey of households conducted for the Dynamics of Rural Development (DRD) Project in 1992 are utilized to provide information about labor in rural households, the factors that affect the households' labor allocation decisions as well as the importance and magnitude of the rural nonfarm employment. Moreover, the micro-level data are examined to verify the general findings from the aggregate data.

4.2 THE SURVEY

The survey is designed primarily to generate information on the supply side of the rural labor particularly on the availability of rural labor for farm and nonfarm work, the different categories of labor, and other characteristics of rural labor. It also takes into account part of the demand side by capturing the informal types of rural nonfarm enterprises which are usually household-based.

The study uses a broader definition of "rural". It extends the definition of "rural" to include towns which can be considered part of the rural sector because they are basically linked with agriculture and they provide markets and services to the rural population.

4.2.1 Scope of the Survey

The survey of households covering selected provinces in the Visayas was conducted during the months of August and September 1992. The survey areas were selected purposively on the basis of agricultural productivity, accessibility to industrial areas, presence and diversity of rural nonfarm enterprises, and proximity to nonfarm sources of employment. The survey covered rural barangays/areas in the provinces of Iloilo, Negros Occidental, Cebu and Bohol. The provinces of Iloilo and Negros Occidental are part of Region VI while Cebu and Bohol are in Region VII. On the aggregate, the growth performance of the two regions vary significantly during the past years. Region VII has grown moderately relative to Region VI. Region VI is a predominantly agricultural region with a relatively large share of agricultural output to the total regional output. On the other hand, Region VII has strong industrial base and the manufacturing industry has a competitive advantage (Lamberte et al., 1993). Agricultural productivity in Region VI was gravely affected by the collapse of the sugar industry. In terms of the differences across provinces, Region VII's growth has been contributed mostly by Cebu. The decline in agricultural production in Negros Occidental can partly explain the slowdown in the overall growth of Region VI.

The highlighted differences between the two Visayan regions as well as among the provinces covered by such regions allow comparisons with respect to the existing importance of the nonfarm sector as a source of employment and income.

The survey involved a sample of 451 households. (See Table 4.1) The households were chosen following a proportionate purposive sampling procedure. The sample size was determined on the basis of the total population and the proportion of rural households in the selected provinces to the total number of rural households in the Philippines.

The sample municipalities were selected from a list of municipalities that were ranked in descending order according to the number of rural nonfarm enterprises in the area. The sample municipalities from each province were selected randomly with probability proportional to the number of nonfarm enterprises. Within each municipality, the sample barangays were randomly chosen with probability proportional to the number of enterprises in each barangay. The distribution of sample households by municipality and barangay was determined in proportion to the number of households per province in the 1990 Census of Population. The sample households were chosen (with replacement) with a random start from the list of households using a sampling interval.

Data were collected through personal interview of respondent household members on household characteristics, demographic and economic characteristics of households and household members, labor force and employment, wage and salary, income from various sources, consumption expenditures, migration, time allocation, and household-operated economic activities. The survey questions used past week and past quarter as reference period except for a few questions concerning income and expenditures.

4.2.2 Problems and Limitations

The most serious difficulty in the survey was encountered in the section involving time allocation and consumption expenditures. The responses were affected by the respondent's ability to recall the amount of time that each household member has devoted to a particular activity as well as the household's expenditure on specific items. In this case, it is more reliable to refer to tables showing the distribution of time and expenditures across activities and time rather than the mean amount of time and expenditures spent on various activities and items. Caution must be exercised in using these data sets as well as in deducing conclusions and policy implications. The conclusions derived from the observations based on the micro-level data are specific to the areas studied.

5. THE RURAL LABOR IN THE PHILIPPINES

As discussed in the previous section, the rural sector is characterized by the presence of various linkages between the agricultural and the nonagricultural sectors. The potential for growth of the rural nonagricultural sector in terms of employment and income generation largely depends on the agricultural sector. Labor has the tendency to move out of agriculture with the increase in agricultural productivity and reduced labor requirements per unit of output especially when the rural population is increasing (Islam, 1988). A rise in farm income increases the demand for nonfarm goods and services being produced in the local economy. A higher demand for these goods provides the incentive to rural nonfarm enterprises to expand output and hire more workers. The expansion of employment is possible since most of the rural nonfarm enterprises are small requiring less capital relative to labor (Edgren and Muqtada, 1990; p. 33).

The experience of the rural sector in the Philippines diverges from the aforementioned view. As presented in the following discussions, it appears that the proportion of the rural labor force engaged in agriculture tends to decline not so much in response to increased agricultural productivity, but rather due to low labor absorption in the agricultural sector, pressure from increased poverty, and overall unemployment and underemployment in the rural sector.

This section examines the overall nature and structure of the rural labor in the Philippines. In particular, it looks at how the presence and growth of rural nonagricultural activities have affected the structure of the labor markets.

5.1 THE RURAL LABOR FORCE

The country's rural population continues to grow and remains high relative to the urban population. (See Table 5.1) From 25 million in 1970, the rural population increased to 30.2 million in 1980 to 36.1 million in 1992. The average annual growth rate of rural population was highest during 1970-75 at 2.3 percent. Between 1970 and 1990, the rural population posted an average annual growth rate of 1.7 percent. In spite of the positive growth of rural population, its share to the total population has been declining through the years. This has been the result of the continuous increase in rural-urban migration. Moreover, the decline in the share of rural population can be partly attributed to the widespread urbanization which led to the reclassification of rural areas into urban areas in the censuses and surveys. From 68.2 percent in 1970, the share of rural population to the total population fell to 62.7 percent in 1980 to 57.3 percent and 56.2 percent in 1990 and 1992, respectively.

The rural working age population rose from 19.4 million in 1980 to 22.7 million in 1990. (See Table 5.2) During the period 1980-90, the number of persons who are 15 years old and above in the rural areas grew at an annual average of 1.8 percent. The growth of the rural working age population was slightly faster than the rural population which grew at an annual average of 1.7 percent during the same period. The age structure of the rural working age population reflects a younger composition. About one-third of the working age population belongs to the 15-24 years age group. Moreover, the labor force participation rate of the younger age group increased from 41.2 percent in 1980 to 45.3 percent in 1990 (for 15-19 years) and 60.9 percent in 1980 to 66.6 percent in 1990 (for 20-24 years). However, the older age groups have a relatively higher labor force participation rates than the younger age groups.

With the growing rural population and working age population, the rural labor force also registered significant positive changes. (Table 5.3) The rural labor force grew from 10.3 million in 1975 to 12.1 million in 1980 to 15.2 million in 1990. The labor force participation rate also increased from 52.8 percent in 1975 to 66.8 percent in 1990. The increase in the labor force participation has been attributed to the growth of the labor force and to the rise in the participation of women in the rural areas. A marked rise in the labor force participation rate of women can be observed in the 1980s. This indicates the dominance of the effects of the push factors in the labor force participation decisions of women. The economic crisis, the corresponding reduction in per capita income, and the worsening of rural poverty have forced more women to seek employment to help out in meeting the needs of their households.

5.2 RURAL EMPLOYMENT STRUCTURE

The total number of rural employed persons increased in absolute terms. From 8.7 million in 1971, the number of rural employed persons rose to 11.6 million in 1980 to 14.3 million in 1990. However, the proportion of rural employment to the total rural labor force declined from 97.4 percent in 1975 to 96.3 percent in 1980 to 94.0 percent in 1990. Correspondingly, the decline in employment rate was accompanied by the rise in the proportion of the unemployed persons to the total labor force. (Table 5.3) From 2.6 percent in 1975, the unemployment rate rose to 3.7 percent in 1980 to 6.4 percent in 1990. A more relevant indicator of the labor market condition in the rural sector is the number of underemployed persons. The underemployed are identified as persons who worked less than 40 hours during the reference period. The underemployment rate, i.e., the proportion of the underemployed to

total employed, has continuously increased over the years. The proportion of the underemployed rose from 9.5 percent in 1975 to 23.2 percent in 1980 to 25.1 percent in 1985. As of 1990, the rural underemployment rate is recorded at 25.4 percent. Underemployment as an indicator of labor under-utilization reflects in part the nature of farm activities where part-time work is common and the pattern of labor use is affected by seasonality. On the other hand, the increase in the number of rural unemployed and underemployed can also be attributed to the rapid growth of the rural labor force and the slow down in the employment generation in the agricultural sector (Balisacan, 1993).

Changes in labor market outcomes are reflected in different levels of employment. Moreover, they are also reflected in the changing composition of the labor force or in the shift in the employment structure.

5.2.1 Sectoral Composition of the Rural Employment

On the sectoral composition of rural employment, the figures show that the agricultural sector remained as the major employer of the rural work force. (Table 5.4) However, the share of agricultural employment to the total rural employment has been declining. Correspondingly, the employment in the nonagricultural sector has been increasing. As of 1990, 64.2 percent of the rural labor force are employed in agriculture while 35.8 percent are in the nonagricultural sector. Male employment in agriculture comprises three-fourths of the total male employment while the females have more or less an equal distribution between the two sectors over the years. The distribution of wage and salary workers by sector shows that a larger proportion of wage and salary workers are employed in the nonagricultural sector. (See Table 5.5) The same can

be observed for the female wage and salary employment. However, the shares of female nonagricultural employment to the total female employment are much higher than the share of nonagricultural employment to the total employment. The employment shares of male wage and salary workers are only slightly higher in the nonagricultural sector.

Generally, both the agricultural and the nonagricultural employment in the rural sector increased in absolute terms. Significant absolute increases in employment was posted by the agricultural sector. In 1975, the number of employed persons in agriculture was 7.1 million. The employment in the sector increased to 7.8 million in 1980 to 8.5 million in 1985. In 1990, employment in agriculture was recorded at 9.2 million. The proportion of employed in the sector, however, declined. From 74.3 percent in 1975 the share of agricultural employment to total employment fell to 67.9 percent in 1980 to 64.2 percent in 1990.

The growth of the nonagricultural sector employment in the rural areas has been spurred by the growth of the service sector employment. Service sector employment grew more rapidly relative to the other sectors. Growing at an average annual rate of 8.9 percent, the sector's employment rose from 1.5 million in 1975 to 3.6 million in 1990. Correspondingly, the share of the service sector to total employment increased from 15.5 percent in 1975 to 25.1 percent in 1990. Within the sector, the community, social and personal services sub-sector accounted for the largest proportion of employment with its share registered at 6.5 percent in 1975, 9.6 percent in 1980, and 11.5 percent in 1990. This sub-sector is followed by the wholesale and retail trade with shares recorded at 6.5 percent in 1975, 7.2 percent in 1980, and 9.6 percent in 1990.

The dominance of the services and trade activities in the total rural nonagricultural employment is an indicator of a strong consumption linkage in the rural sector (Ranis et al., 1990). Moreover, the growing service sector employment may imply a dynamic economy, or an adaptation to the overall poor employment performance of the rural sector. Part of the growth of the service sector may be attributed to the growth of the public sector which is part of the community, social and personal services sub-group. Likewise, the service sector is also characterized by informal sector petty services and trading, transport, and simple repairs --- activities with no barriers to entry. These activities are by their nature linked to the local markets. There are also evidences that these activities are characterized by low productivity.

Employment in the industrial sector grew slowly at an average annual rate of 3.8 percent. A share of about 10 percent has consistently been posted by the industrial sector over the 16-year period. Rural manufacturing accounted for the largest share of the rural industrial sector employment. The share of manufacturing to total employment rose slightly from 7.5 percent in 1975 to 8.0 percent in 1980. Although rural manufacturing employment increased in absolute terms, the share to total rural employment fell to 7.2 percent in 1985 to 6.7 percent in 1990. The share of the rural labor force employed in manufacturing is much lower than the nonfarm proportion. The share of construction to total employment rose slightly from 2.1 percent in 1975 to 3.0 percent in 1990. Mining and quarrying and utilities accounted for very small proportion of the total rural employment.

The employment shares in the sub-sectors of rural manufacturing from 1971-88 is presented in Table 5.7. The figures show that textile, wearing apparel and leather industry accounts for the largest share of employment in rural manufacturing although its share to total

rural manufacturing employment has been declining. Aside from the more established enterprises that employ ten workers or more, this sub-industry covers the small and cottage industries. The types of activities under this sub-industry are usually done by women and has important implications for increased female employment. Manufacture of wood and wood products including furniture and fixtures and the manufacture of food, beverages and tobacco also have considerable contribution to total rural manufacturing employment. The shares of these two sub-industries to the total rural manufacturing employment have been rising. The rest of the rural manufacturing sub-industries have little contribution to the sector in terms of employment.

5.2.2 Occupational Structure of Rural Employment

The composition of primary employment by occupation shows similar pattern relative to employment composition by industry. (Table 5.8) Employed workers in agricultural, animal husbandry, forestry, fishing and hunting occupations increased from 7.0 million in 1975 to 7.8 million in 1980 to 9.0 million in 1990. The agricultural, animal husbandry, forestry workers, fishermen and hunters have the largest share to total employment. The occupations' share to the total employment, however, declined continuously from 74.0 percent in 1975 to 67.5 percent in 1980 to 63.3 percent in 1990. The number of employed production and related workers, transport equipment operators and laborers also increased. From 1.9 million in 1975, the employment of these types of workers is recorded at 2.2 million in 1990. The share of these workers to total rural employment rose slightly ranging from 12.6 percent to 15.1 percent over the 16 year period. The employment of sales and service workers also posted positive changes

with their shares to the total employment increasing significantly over the years. Professional, clerical , administrative, executive and managerial workers posted low shares to total employment in the rural sector. These types of occupations require higher educational qualifications and offer few opportunities for employment in the rural areas.

5.2.3 Rural Employment by Class of Worker

Own-account workers comprise the largest proportion of employed in the rural sector. (Table 5.9) This group includes the self-employed and the employers. As of 1990, 43.3 percent of employed are own-account workers. The large proportion of own-account workers reflects the importance of self-owned and household-based enterprises as a source of employment and income. On the other hand, the wage and salary workers in the rural sector increased significantly from 2.5 million in 1975 to 5.0 million in 1990. The proportion of the wage and salary workers to total rural workers grew from 26.8 percent in 1975 to 35.0 percent in 1990. The proportion of unpaid family workers declined from 28.7 percent in 1975 to 21.6 percent in 1990. The decline resulted from the shift of the rural workforce towards nonagricultural pursuits and the rise in the use of hired workers in farms.

The comparison of rural employment in the agricultural and nonagricultural sectors by class of workers (Table 5.10) shows that the proportion of wage and salary workers is much higher in the nonagricultural sector than in the agricultural sector. Hired labor dominates the nonagricultural sector. On the other hand, the agricultural sector has a bigger proportion of own-account workers although the proportion of these types of workers in the nonagricultural sector is rising. The increasing proportion of own-account workers in the nonagricultural sector

reflects the growth of self-employment and entrepreneurship in the rural nonfarm sectors. The decline in the share of unpaid family workers in the agricultural sector is accompanied by the rise in the share of unpaid family workers in the nonagricultural sector.

The distribution and percent changes in rural employment by sector and class of workers are presented in Table 5.11. The figures suggest that the agricultural sector is still dominated by own-account workers with a share of 49.5 percent in 1990. Large increases in the number of own-account workers in agriculture were observed during 1971-75 and 1975-80 at 20.9 percent and 17.5 percent, respectively. The share of wage workers in agriculture has been increasing over time. From 13.6 percent in 1971, the proportion of wage and salary workers in the sector rose to 19.9 percent in 1990. The number of wage and salary workers in agriculture increased by 27.8 percent in 1971-75. Moreover, a marked increase was posted during the period 1980-85 at 55.6 percent. Correspondingly, the share of the unpaid family workers in agriculture has declined from 39.1 percent in 1971 to 30.6 percent in 1990. A sharp decline in the number of unpaid family workers in agriculture was observed in 1980-85 at 8.1 percent.

In the nonagricultural sector, the wage and salary workers dominate with a 62.2 percent share in the total nonagricultural employment in 1990. The number of wage and salary workers increased significantly during the periods 1975-80 and 1985-90. Own-account workers also have a considerable share in nonagricultural employment. The share of own-account workers in the nonagricultural sector fluctuated from 36.0 percent in 1971 to 28.4 percent in 1980 to 32.3 percent in 1990. In terms of employment levels, the number of own-account workers declined by 18.2 percent in 197-75, rose by 24.5 percent, 38.7 percent, and 12.7 percent in 1975-80,

1980-85, and 1985-90, respectively. The share of unpaid family workers in the nonagricultural sector is small relative to those in the agricultural sector. As of 1990, only 5.6 percent of workers in the nonagricultural sector are unpaid family workers. Just like its counterpart in the agricultural sector, the number of unpaid family workers in the nonagricultural sector declined significantly during the period 1980-85.

5.2.4 Gender and Age Composition of Rural Employment

The gender composition of the employment structure reflects the types and nature of activities that exist in the rural sector. (Table 5.12) The proportion of employed persons by gender in the various industry groups shows the increasing participation of females in the majority of the industries. Over the years, the female workers consistently dominate the three major industry groups namely: manufacturing, wholesale and retail trade, and community, social and personal services. This pattern reflects the types of activities that female rural workers engage into. The rural manufacturing industry is commonly composed of activities dominated by women like handicraft making, weaving, basketry, and food processing. On the other hand, agriculture, fishery and forestry, construction, and transport industries are consistently dominated by males.

Rural employment is also dominated by younger individuals belonging to the 15-24 years age group (Table 5.13). Persons in the age group 15-24 years comprise one-fourth of the total rural employment. Considerable shares can also be observed in the age groups which cover the productive years of the workers.

5.3 AGRICULTURAL WAGES

Table 5.17 shows the average daily nominal and real wages without meals in agriculture by crop and for all crops while Table 5.18 shows the percentage growth rates of the wage rates during the period 1974-1989. Nominal wages in agriculture for all crops as well as for each of the major crop rose during the period under consideration: The nominal wage increases in agriculture reflect the overall inflationary trend in the economy and possibly the imposition of minimum wage in the sector. However, the real agricultural wages fluctuated during the period under consideration. In particular, real agricultural wages for all crops increased from 1975-1977, declined from 1977-1981, increased from 1981-1983, declined from 1983-1984, and rose continuously until 1989. Real wages for all crops suffered the worst fall in 1984 at 7.44 pesos per day. During the same year, real wages in palay and sugarcane production also dropped sharply at 7.93 and 7.50 pesos per day, respectively.

The real agricultural wage rates for the major crops as well as for all crops showed some degree of downward flexibility declining by as much as 13 percent for rice in 1978-1980, 18.7 percent for corn in 1983-1984, 11 percent for coconut in 1978-1980, 25.1 percent for sugarcane in 1983-1984. The biggest declines in real agricultural wages for corn, sugarcane, and all crops were observed during the period 1983-1984. In 1983, agricultural output declined by 2.1 percent and its share to GDP fell to 24.0 percent. Apart from the overall economic crisis, the fall in the world price of sugar, the increase in the prices of agricultural inputs like fertilizer, and the bad weather conditions also contributed to the decline in agricultural output.

5.4 SOURCES OF INCOME IN THE RURAL SECTOR

The rural households have various sources of income. The composition of rural household income is shown in Figure 5.1. Income can be derived from farming activities in the form of wage work or self-employment. Farm income from wage work refers to the wage received as hired laborer in another farm. Farm income from self-employment is the net earnings from crop farming on the household's own farm. The nonfarm sources of income include income from other agricultural activities such as fishing, livestock production, hunting and forestry; and nonagricultural activities. Farm income and income from other nonagricultural activities comprise the total income of rural households.

In terms of income, the data also reveal the increasing importance of the nonfarm sector. (Tables 5.14 and 5.15) As of 1988, the rural nonfarm activities accounted for about 43.6 percent of the total income of the rural households. Entrepreneurial activities remained to be the dominant major source of income of the larger proportion of rural families. Crop farming and gardening accounts for the largest share of rural household income but has declined over the years. The proportion of income from service activities, in particular, wholesale and retail trade, has increased. On the other hand, the proportion of income from wages and salaries has posted a significant change from 35.1 percent in 1975 to 41.9 percent in 1988. The bulk of income from wages and salaries comes from the nonagricultural sources. These observations show that the nonfarm activities have become the primary sources not only of employment but also of income of a significant portion of the rural labor force.

5.5 DETERMINANTS OF THE GROWTH OF RURAL NONFARM ACTIVITIES

The aggregate statistics on the rural sector labor reveal the significance of the nonfarm sector in employment and income generation. A growing number of employed persons have shifted to nonfarm activities as primary source of employment and income. The statistics do not include households or persons who engage in nonfarm work as secondary employment. In this case, one can deduce that as a whole, the actual contribution of the nonfarm sector to total employment in the rural sector is even higher than what the figures reveal.

The emergence and growth of the rural nonfarm activities result from the combination of a number of pull and push factors. The net effect on the rural economy is determined by the strength of such factors.

Evidences from aggregate data provide strong indications that the growth of the rural nonfarm sector in terms of employment and income is a result of stronger push factors. The growing rural labor force have pushed people into nonagricultural activities with varying potential for income generation. The employment and income generation potential of the rural nonfarm activities is dependent on the agricultural and the overall economic environment. The growth in agricultural productivity can spur the growth in the nonfarm sector through the various linkages. The present structure of the rural sector employment can be partly attributed to the experience of the agricultural sector in general. In terms of output growth, the agricultural sector posted positive productivity gains with the introduction of the HYVs in the 60s and the 70s. Evidence show that various support services, pricing and incentive structures were implemented to put more land under cultivation. These efforts, however, has resulted to decreased rural employment due to early mechanization which was brought about by the effect

of factor price distortions on HYV cultivation (Edgren and Muqtada, 1990). Farm sizes remained small and the average farm size declined from 3.6 hectares in 1960 and 1970 to 1.4 hectares in 1991. (See Table 5.16) The decline in the average farm size was a result of a more rapid increase in the rural population and the number of farm operators relative to the increase in the farm area cultivated. Moreover, the highly skewed distribution of productivity gains with the existing structure of landownership characterized by substantial landlessness have hampered the growth of the rural sector. Rural poverty and underemployment continued to exist. Thus, the potential for further productive employment creation in agriculture has considerably diminished and has given rise to the low labor absorption in the sector.

The shift to nonfarm activities in the rural sector can be regarded more as response to the diminishing employment opportunities in the agricultural sector and to the pressure from increased poverty. The availability of productive work in the rural nonfarm sector raises the opportunity cost of working as hired or part-time laborer in farms or as idle worker waiting for work opportunities in farms. Moreover, it opens up opportunities to rural households, specifically the landless, to reallocate their labor to other activities.

6. LABOR IN THE RURAL HOUSEHOLD ECONOMY: CASE STUDY OF ILOILO, NEGROS OCCIDENTAL, CEBU AND BOHOL

6.1 PROFILE OF SAMPLE PROVINCES

All the provinces included in the case study are located in the Visayas region. Iloilo and Negros Occidental are part of Region VI (Western Visayas) while Cebu and Bohol are part of Region VII (Central Visayas). The provinces differ with respect to the physical, demographic, and socio-economic characteristics. (See Table 6.1)

The province of Iloilo is composed of a city, i.e., the provincial capital, 46 municipalities, and 1,996 barangays. With a total land area of 532,397 hectares, Iloilo ranks second to Negros Occidental relative to the other sample provinces in terms of land area. The province is a major producer of palay and has a growing fishing industry. A large proportion of the arable land in the province is utilized in palay production. The population of the province is estimated at 1,765,476 as of the 1990 Census of Population and Housing while the population density is about 332 persons per square kilometers. The population of the province grew at an annual average growth rate of 2.1 percent during the period 1980-1990. About 72.8 percent of the total number of households are in the rural sector. As of 1990, 743,803 persons in Iloilo comprise the working age population 54.7 percent of which are members of the labor force. Agriculture, fishery, and forestry sector is the major employer of the rural labor force absorbing about 59.2 percent of the rural employed persons while 12.1 percent are in the services sector. Among the sample provinces, Iloilo has the highest rural unemployment rate at 14.9 percent.

The province of Negros Occidental is the top producer of sugarcane in the country. Negros Occidental has 6 cities, 26 municipalities, and 656 barangays. In terms of land area,

the province is the largest among the sample provinces with 792,607 hectares. About 517,417 hectares of land are considered arable 63 percent of which is being utilized for agricultural purposes. A large portion of the agricultural land is being used in sugarcane production. Population, as of 1990, is estimated at 2,256,908. Over the 10-year period, the population grew at an annual average of 1.6 percent. About 54 percent of the population are found in the rural areas while 64.9 percent of the total households are rural households.

In the Visayas region, Cebu is considered the most urbanized and industrialized province. The province has a growing business, commercial, and industrial establishments. Cebu is well-known for its small- and medium-scale industries which cater not only to the demands of the domestic markets but more importantly of the export markets. The province has 57.4 percent of households in the rural sector, the lowest among the sample provinces. Cebu's land area is estimated at 508,839 hectares. As of 1990, the population is estimated at 2,645,735 persons. A large portion of the population reside in the five cities of the province known as Metro Cebu. Cebu registered the highest annual population growth rate relative to the other sample provinces at 2.4 percent during the period 1980-1990. This high growth rate of population has been partly due to high in-migration rate in the province. The rural working age population as of 1990 is 741,088 and the rural labor force participation rate is 59.0 percent. About 47.5 percent of the rural labor force is employed in agriculture, fishery, and forestry. Second to agriculture, the manufacturing sector employed 9.1 percent of the rural labor force. Rural unemployment rate is estimated at 8.4 percent.

Among the sample provinces, Bohol is the smallest in terms of land area and population. The total land area of the province is estimated at 411,726 hectares while population as of 1990

is 948,315. Over the 10-year period, the population grew at an annual rate of 1.6 percent. Bohol has the largest proportion of rural households and the highest rural labor force participation relative to the other sample provinces at 85.3 percent and 62.2 percent, respectively. Agriculture, fishery, and forestry employed about 42.2 percent of the rural labor force while rural unemployment rate is 10.1 percent.

6.2 CHARACTERISTICS OF SURVEY RURAL HOUSEHOLDS

Table 6.2 summarizes the relevant information about the rural households included in the sample. The sample of 451 rural households in the four provinces are distributed as follows: Cebu-132, Bohol-78, Iloilo-112, and Negros Occidental-129. The sample rural households involves 2,374 people of whom 1,556 belong to the working age population, i.e., persons who are 15 years old and over. Of the 1,556 working age population, 813 persons or 52.2 percent are in the labor force. Among the sample provinces, the rural labor force participation rates ranged from 49.0 percent to 56.3 percent. Cebu posted the highest rural labor force participation rate while Iloilo has the lowest. The number of employed persons is recorded at 725 or 89.2 percent of the labor force. Bohol posted the highest employment rate at 94.8 percent while Negros Occidental has the lowest at 85.1 percent. On the other hand, 88 persons are unemployed or reported to be actively looking for work during the time of the survey. Equivalently, the unemployment rate is 10.8 percent. The highest unemployment rate is posted by Negros Occidental at 14.9 percent while Bohol registered the lowest at 5.2 percent.

Among the sample households, the average family size is 5.2. The dependency ratio (i.e., the share of population below 15 years old and above 55 years old to the working age

population) is highest in Cebu at 58.3 percent. This indicates that Cebu has a relatively younger population in the sample households compared with the other provinces. Landlessness characterizes majority of the households in the sample. Only about 38.6 percent of the sample households reported to own a parcel of land. In Negros Occidental, only 7 percent of the sample rural households own land. Relative to the other sample provinces, Bohol has the highest proportion of rural households with land.

6.3 RURAL HOUSEHOLD LABOR USE AND ALLOCATION

The composition of the working age population by sex in each province is presented in Table 6.3. The figures show that the females dominate the working age population. In the four provinces, the share of female working age population to the total ranged from 52.2 percent to 56 percent.

The employment and unemployment indicators are presented in Tables 6.4 and 6.5. The figures show that although the province of Bohol has the lowest employment level with 128 employed persons, it has the highest employment rate at 94.8 among the sample provinces. Cebu has the highest employment level with 90.5 percent employment rate which is slightly higher than the rate for the total sample in all the provinces. On the average, the rural household members in Iloilo and Negros Occidental started working at a later age relative to those in Cebu and Bohol. Negros Occidental posted the highest unemployment rate at 14.9 percent followed by Iloilo with 11.2 percent. The unemployment rate for the total sample household is 10.8 percent. The members of the rural sample households who are actively looking for work, on the average, have spent about 14 months in job search. In Iloilo, the unemployed spent 23.5

months on the average in job search. The period of job search appears to be shorter in Cebu at an average of 5.3 months.

The rural economy is composed of the farm and the nonfarm sectors. The rural households may engage in two major types of activities namely: the income-generating and the non-income generating activities. The non-income-generating activities include domestic/household activities and leisure. The income-generating activities include farm and nonfarm work where nonfarm work includes food and non-food production, services and trade activities. Figure 6.1 shows the various types of labor in income-generating activities. The farm sector is composed of landowners, tenants, owner-cultivator, lessee, and hired workers. On the other hand, the nonfarm sector is composed of wage and salary workers in the government and private sectors, self-employed, and employers. Rural households combine farm and nonfarm income-generating activities or engage solely in farm or nonfarm work.

6.3.1 RURAL EMPLOYMENT BY SECTOR

The composition of employment by sector shows that the bulk of the sample households are in the nonagricultural sector. This implies that the extent of dependence of rural households on rural nonfarm activities is very substantial. (See Table 6.6) In Negros Occidental, 95.2 percent of employed persons in the sample are in the nonagricultural sector. The proportion of the employed in the nonagricultural sector are 85.2, 84.6 and 75 percent for Cebu, Iloilo, and Bohol, respectively. In the four provinces, the agricultural sector is male dominated as evidenced by a very high proportion of male employment to the total agricultural employment. The comparison of sample provinces revealed that Iloilo and Negros Occidental have higher

proportion of female workers in agriculture than Cebu and Bohol. This is accounted for by activities other than crop farming. Most of the females employed in agriculture are engaged in livestock and poultry raising, and gardening. It appears that female workers participate more in nonagricultural activities. The proportion of female employed in the sector ranged from 40.4 to 58.3 percent. However, the proportion of female employed in the nonagricultural sector is higher than that of the male only for Bohol.

6.3.2 RURAL EMPLOYMENT BY INDUSTRY

Tables 6.7 and 6.8 show the number and the distribution of employed persons by industry group. In the sample provinces, services accounted for the biggest share of total employment with 29.9 percent followed by wholesale and retail trade with 21.2 percent and manufacturing with 16.7 percent. Agriculture, fishery and forestry accounts for 15.6 percent of employed household members. In Iloilo, the bulk of the employed male are in services, agriculture, and manufacturing, whereas, the bulk of female workers are in services and wholesale and retail trade. In Negros Occidental, the larger proportion of male workers are in services, wholesale and retail trade, and transportation. A bigger proportion of female workers are in the wholesale and retail, and services activities. In Cebu and Bohol, the male workers are predominantly in agriculture, manufacturing, and services. On the other hand, the female workers are largely engaged in manufacturing, wholesale and retail trade, and service activities.

The structure of rural employment in the sample provinces confirms the general observation that a strong consumption linkage exists in the rural sector. Services and trade activities also dominate the nonagricultural component of employment in the survey areas. The

expenditure pattern of the survey households shows that the largest proportion of the households' income was spent on food (See Table 6.28).

The composition of rural employment by industry and sex reflects the special importance of rural manufacturing for women. Rural manufacturing is composed mostly of small and cottage industries. In particular, rural manufacturing is composed of a variety of activities which include food processing, handicraft making, weaving, basketry, and other cottage industries. Most rural women possess the traditional skill required by these activities. Wholesale and retail trade is also an important source of employment for rural women. These commercial activities usually involve retail trade in small stores (petty commodity trading) and food vending. Although wholesale and retail trade activities are predominantly female occupation, the males also participate as evidenced by considerably high male participation in these activities. Rural manufacturing and wholesale and retail trade activities are small-scale, labor intensive, and are usually owner-operated.

There is a clear gender division of household labor. Males are involved in income-generating activities which are done away from the household. For instance, farming activities are male dominated. Majority of the women are engaged in rural manufacturing and wholesale and retail trade activities which are mostly household-operated. With the rising incidence of sub-contracting arrangements in rural manufacturing activities, the female participation in these activities has a tendency to increase over time. Rural women have strong preference for work which can be done within the household or neighborhood so that there would still be time left to devote to domestic household work.

6.3.3 RURAL EMPLOYMENT BY OCCUPATIONAL GROUP

Tables 6.9 and 6.10 present the number and the distribution of employed persons in sample households by major occupational group. In the four provinces, the bulk of the workers are engaged as laborers in production and transport equipment operations (34.7 percent). Sales and service occupations also comprise the majority of rural employment in the sample households.

In Iloilo, a larger proportion of males are in production, agricultural, and sales occupation. The women are mostly in sales, service, and professional occupations. In Negros Occidental, the majority of the male workers are in production, sales and clerical occupations. The female workers dominate the sales, professional, and clerical occupations. In Cebu, the male workers are mostly in production, agriculture, and sales occupations. The women are mostly engaged in production, service, and sales occupations. In Bohol, the larger proportion the male workers are engaged in agriculture, production, and sales activities, whereas, the women are in professional, sales, and production activities.

6.3.4 RURAL EMPLOYMENT BY CLASS OF WORKERS

The number and distribution of workers by class (Tables 6.11 and 6.12) show that majority of the workers in all the provinces are wage and salary workers. The proportion of wage and salary workers to the total rural employed workers ranges from 25.0 percent to 34.6 percent. A larger proportion of wage and salary workers are male, although females have significant share in the group. The self-employed workers also have a considerable share in the total rural employment except for Cebu. The self-employed are more or less equally shared by males and

females, while unpaid family workers are mostly males. Bohol has the largest share of unpaid family workers at 41.4 percent.

Wage work is an important source of employment and income particularly of the landless and small holder households. Participation in nonfarm wage work is related to the size of land holdings and access to the means of production. Generally, the primary sources of employment for males are wage work in manufacturing and agriculture. Women also make up a significant proportion of total participation in the labor market as wage and salary workers. There are more women in the professional occupations than men which indicates that they are more educated than the males.

6.3.5 RURAL EMPLOYMENT IN PRIMARY AND SECONDARY OCCUPATIONS

The employment structure of individual rural household is characterized by a wide range of activities. This condition arises as farm work and nonagricultural jobs are combined by the individual household member to meet specific income targets. Employment in secondary occupations are found to be prevalent in most rural villages (G. Bautista, 1987; Hayami et al., 1986).

The survey collected information about the primary and secondary occupation of rural workers, the location where primary occupation is carried out, and the average weekly wage from primary as well as secondary jobs. Table 6.13 (A-D) present the distribution of employed household members by primary occupation and class of worker by province. It can be observed that sales, production, and service occupations dominate as primary occupations in the sample provinces. The provinces of Iloilo and Cebu have the highest number of workers engaged in

production activities while primary occupation in Negros Occidental is dominated by sales workers.

The location where the primary occupation is carried out reflects the role infrastructure and proximity of rural villages to more urbanized towns. The presence of infrastructure like roads, the availability of transportation facilities, and the proximity of rural villages to more urbanized towns. The presence of infrastructure like roads, the availability of transportation facilities, and the proximity of rural villages to urban centers increase the access of rural residents to nonagricultural job opportunities. These factors also facilitate the shift from agriculture to nonagricultural occupations without changing residences. The province of Cebu has the highest proportion of workers whose primary occupation are carried out in municipalities outside the place of residence. On the other hand, Bohol, considered the least "urbanized" among the sample provinces has a very high proportion of workers working in own home and immediate neighborhood.

6.4 EARNINGS OF RURAL LABOR

The earnings in the rural areas are paid in cash and/or in kind. This mode of payment which combines cash with payments in kind are common in farming, service, and trade occupations wherein free meals and lodging comprise the kind components of the earnings. Table 6.18 and 6.19 present the average weekly earnings of workers by sector and in nonagricultural activities. caution must be taken in analyzing the kind component of the average earnings because of the difficulty in estimating the cash value of such payments.

On the average, the earnings generated by rural households from nonagricultural work exceed those generated from agricultural activities. The cash values of the payments in kind are small and negligible relative to the cash payment except for the agricultural activities in Cebu. Average weekly earnings in the nonagricultural sector vary across types of activities and province. It can also be observed that the average rural earnings reported by the sample households are lower relative to the urban earnings as reported by various surveys covering the urban areas.

6.5 WAGE LABOR IN SURVEY PROVINCES

The number and distribution of wage workers in the sample provinces are presented in Table 6.20. A considerable number of rural households in the sample areas earn income by hiring out labor. The data show that 55 percent of the total rural employed persons in Cebu are wage workers. Wage labor accounts for 46.6 percent, 34.6 percent, and 25.0 percent of the rural workers in Negros Occidental, Iloilo, and Bohol. The presence of a large proportion of wage workers in the survey areas supports the view that a wage labor market exists in the rural sector of the sample provinces. Opportunities for wage labor are available to rural households to hire out their labor both in farming and non-farming activities along with the other alternatives such as work in own farm and self-employment in the nonfarm sector.

Wage employment data based on the past quarter reference period reveal high figures. (See Table 6.21) A total of 421 employed persons in the survey areas reported to be working as hired labor. In terms of occupational classification, production and related workers, transport, equipment operators, and laborers account for the largest proportion of wage workers.

Service and professional workers also have a significant share to total wage employment. Majority of the wage workers in these occupational groups are workers engaged in personal services, employees in the government, and teachers. The provincial data show similar composition with production, professional, and service activities as the dominant occupations of the wage workers. These observations may roughly reflect the presence of rural labor markets which are characterized by the combination of formal and informal types of activities.

On the average, the hired workers in the nonagricultural occupations worked longer hours and received higher wages relative to those in the agricultural occupations. (See Tables 6.22 and 6.23) Sales and service workers in the survey areas spent an average of 48 hours a week in the labor market. However, the average weekly earnings of these types of workers are relatively low compared with the other nonagricultural occupations. These observations can be partly explained by the nature of activities in sales and service occupations which are most commonly in the low productivity informal sector.

The varying agricultural wages across sample provinces is reflective of the variations in agricultural productivity as well as the nature of agricultural operations undertaken by the hired workers.

It can also be observed that the wage differentials between the nonagricultural and agricultural occupations in the survey areas are large. This observation reveals the kind of labor market linkage between the agricultural and the nonagricultural sectors in the survey areas. It appears that the labor market outcomes in the agricultural sector in the form of low wages and limited labor absorption have significantly influenced the existing structure of labor markets in the nonfarm sector.

The major factor which determines the supply of hired labor in the nonfarm sector is the distribution of productive assets. In the rural areas, agricultural land is the most important productive asset of households. The distribution of landless households in the survey areas reveals that provinces with large proportion of landless households have a relatively high proportion of hired workers. In particular, the percentage of landless households in the surveys areas of Negros Occidental and Iloilo are estimated at 93.0 percent and 63.4 percent, respectively. On the other hand, hired labor accounts for 29.5 percent and 24.0 percent of employment in the survey areas of the two provinces. The observations from the survey areas confirm the hypothesis that the lack of productive resources is the main factor that gave rise to larger share of hired labor in the nonfarm sector. The nonfarm sector is an important source of employment of the landless households in the survey areas.

6.6 ENTREPRENEURIAL ACTIVITIES OF SURVEY HOUSEHOLDS

A significant proportion of rural households are engaged as producers, owners and operators of farm and nonfarm enterprises. (Table 6.24) Out of 451 rural households, 250 are engaged in entrepreneurial activities. Only 10.4 percent or 26 households are operating farm enterprises. The remaining 89.6 percent households are operating nonfarm enterprises. The bulk of the enterprises (45.2 percent) are in wholesale and retail trade comprising mostly of sari-sari stores and markets stalls. Livestock and poultry raising , and manufacturing have considerable shares to the total number of enterprises at 15.6 percent and 11.2 percent, respectively.

Majority of the sample rural households in the four provinces are engaged in wholesale and retail trade. Negros Occidental has the highest share of households engaged in wholesale and

retail trade at 69.2 percent. About 43.8 percent, 33.3 percent, and 27.1 percent of the household enterprises are engaged in wholesale and retail trade in Iloilo, Bohol, and Cebu, respectively. In Cebu, 20.8 percent of rural households engaged in entrepreneurial activities are in crop farming and gardening business. Bohol, on the other hand, has a bigger proportion of household enterprises in manufacturing with 18.8 percent.* A larger proportion of enterprises in Iloilo are engaged in livestock and poultry. These observations reveal that majority of the household-based enterprises serve the local markets.

Table 6.25 shows the number and the type of labor utilized in the household-operated enterprises. The 250 enterprises in the sample provinces employed 267 workers. This indicates that household-based enterprises have a considerable direct employment effect in the survey areas. The number employed by the household-operated enterprises excludes the owner-operators. It appears that the use of family workers is still a common practice in the rural areas. About 56.6 percent or 151 of the total employed in household-operated enterprises are family labor. Hired labor is estimated at 43.4 percent. In particular, the rural household-operated enterprises in Cebu has the highest share of family labor at 74.6 percent. On the other hand, the proportion of hired workers in the rural household-operated enterprises in Negros Occidental is highest at 57 percent. The data suggest that although most rural household-based enterprises in the sample areas still rely on family labor, the share of hired workers are considerably high particularly in Negros Occidental and Iloilo.

It is also interesting to know which type of activities employ greater proportion of hired workers. Table 6.26 presents the number of employed in household-operated enterprises by type of activity and type of worker. The data revealed that household-based enterprises engaged in

crop farming and gardening, and fishing activities employ a greater proportion of hired workers. Wholesale and retail enterprises have greater proportion of family labor. The data by province showed the same observations. For instance, hired labor dominates employment in household-based enterprises engaged in crop farming and gardening in Iloilo and Negros Occidental. On the other hand, family labor dominates employment in wholesale and retail trade enterprises in all the sample provinces.

The employment data in the household-based enterprises are supported by the data on the average number of hours worked. (Table 6.27) On the average, hired labor worked longer hours in household-based enterprises engaged in crop farming and gardening while family labor worked longer hours in wholesale and retail trade enterprises. These observations are partly explained by the nature of work in these activities. Wholesale and retail trade activities are mostly composed of sari-sari stores and markets stalls usually located within the confines of the household or within the neighborhood. Given this kind of set up, family members can easily substitute for each other in performing their tasks. Trust is a major factor that explains the employment of family workers in these enterprises while experience or skills are not necessarily required. On the other hand, the small farmers usually hire workers to perform specific tasks that may require skills and experience.

7. EMPIRICAL RESULTS

The following empirical results provide information on the determinants of rural labor force participation in nonagricultural economic activities and wage rates as well as the rural nonagricultural labor supply response to human capital, demographic, and economic variables in the sample rural areas of the provinces of Iloilo, Negros Occidental, Cebu, and Bohol.

7.1 RURAL LABOR FORCE PARTICIPATION

The probit estimates of the equations explaining the probability of rural labor force participation in nonagricultural activities for all working age individuals, and for male and female are given in Table 7.3. The equations were fitted to 1,482 observations for all working age individuals, 698 for males, and 778 for females in the survey areas. The results show that most of the variables carried the expected signs but are statistically insignificant. The human capital variables such as AGE, AGEQ (both used as proxy for years of work experience) and EDUC (dummy variables for the different educational levels) are not significant in explaining the probability of labor force participation of rural household members in nonagricultural activities. The demographic variables such as the number of children below 6 years old (CHILD6), the number of children aged 7 to 14 years old (CHLD14), the number of other adult male and female family members (NOMALE, NOFEMAL), and civil status (CS) do not have significant influence on the probability of labor force participation in nonagricultural activities for both sexes. These results deviate from the findings of studies in other developing countries (e.g., Kozel and Alderman, 1990; Sahn and Alderman, 1988). Significant income and substitution effects are contributed by the demographic variables in Pakistan and Sri Lanka. For

instance, the probability of female labor force participation in economic activities is significantly affected by the presence of other adult members in the household. The presence of other female adult household members who can substitute to perform household work increases the probability of the mother's labor market participation. On the other hand, more male adult members which imply more probable workers decreases the probability of female labor market participation.

The dummy variable for the ownership of farm land appears to have no significant influence on the decision to participate in the rural nonagricultural activities. On the other hand, the ownership of household-operated enterprises or businesses has a significant negative effect on the probability of participation. This observation contradicts the hypothesis that the ownership of household-operated enterprises or businesses particularly the nonagricultural types increases the participation of rural household members in nonagricultural economic pursuits. Individuals whose households received non-labor income have a lower probability of labor participation in nonagricultural activities as confirmed by the negative and significant parameter estimates of non-labor income.

Majority of the dummy variables for work location (WORK1, WORK2, WORK3, WORK4) have significant impact on the probability of labor force participation in nonagricultural activities. These imply that the individual's decision to participate in nonagricultural activities is strongly affected by the location and proximity of the place of residence to the place of work. The greater the distance of residence from the place of work, the lower the probability of labor force participation in nonagricultural activities.

7.2 SELECTIVITY CORRECTED WAGE DETERMINATION EQUATIONS

The parameter estimates of the selectivity corrected wage equations are shown in Table 7.4. The estimates show that wages significantly increase with the age variables particularly in the total and male wage equations. These suggest that wages increase significantly with years of work experience. The dummy variables for education has an insignificant effect on the wages of all workers as well as on the wages of male and female individuals. These may imply low private returns to education in the rural sector.

The demographic variables such as the presence of young children in the household has a negative but insignificant effect on wages. The dummy variables for work location has significant effect on wages. Shorter distances between the place of residence and work has negative affect on the wage rates of rural workers. This indicates that work done at home or within the neighborhood offer lower wages. Likewise, greater distances of work location also negatively affects wages.

7.3 NONAGRICULTURAL LABOR SUPPLY EQUATIONS

The estimates of the nonagricultural labor supply equations using hours of work and number of work weeks as dependent variables are presented in Tables 7.5 and 7.6. The equations using hours of work yield parameter estimates which carried the expected signs but some are statistically insignificant. The indicators of goodness of fit are 70.9 percent for total, 80.7 percent for male, and 60.4 for female. The demographic variables appear to have insignificant effect on the nonagricultural labor supply of workers in the total and male equations. However, age has a positive significant effect on the hours of work of females. This result partly captures the cycle in the female work life where older women re-enters the labor

market after undergoing the phase in which child care and household work are substituted for labor market work.

Children below 6 years of age has a significant negative impact only on female hours of work. This suggests the presence of a strong substitution effect between child care and hours of work in the labor market. The effect of non-labor income is consistent with the standard labor supply theory. Hours of work decrease significantly in response to non-labor income. These results reflect the dominance of the income effect and confirm the hypothesis that leisure is a normal good.

The log of the predicted wage has a positive and significant effect on hours of work in all equations. These results indicate a strong substitution effect of a wage increase. The rural labor supply in terms of work hours is inelastic with respect to wage rate. This is reflected in the elasticity values which are less than one.

The estimates of the nonagricultural labor supply parameters with weeks work as the dependent variable are shown in Table 7.6. The results are similar to those in the hours of work equations with few exceptions. Non-labor income is found to have a negative effect on weeks work but the coefficients are statistically significant only in the total and female equations. The coefficients of non-labor income are smaller relative to those in the hours of work equations. These results imply that the supply response to non-labor income is weaker in terms of the number of work weeks. Likewise, the log of the predicted wage carried the expected sign but is statistically significant only in the total and female equations. The rural labor supply in terms of work weeks is also inelastic with respect to wages. The magnitude of the elasticities suggests that work weeks is less responsive to wage rates relative to hours of work.

8. SUMMARY, CONCLUSIONS, AND POLICY IMPLICATIONS

8.1 SUMMARY OF FINDINGS

Observations from the aggregate rural employment and income data are as follows:

- a) The rural population has been continuously increasing but at declining rates. The share of the rural population to the total population has also been declining through the years. This has been attributed to the continuous increase in rural-urban migration and partly to the reclassification of rural areas into urban areas as a result of urbanization.
- b) The rural labor force and rural labor force participation rate rose significantly during 1975-1990. The significant increase in the labor force and rural labor force participation rate has been attributed to the growth of the labor force and to the rise in the participation of women. The worsening of rural poverty as a result of the reduction in per capita income and the overall economic crisis have forced more women to seek employment.
- c) Rural employment increased in absolute terms but its proportion to total rural labor force declined. Rural unemployment and underemployment rose and remained at high levels in 1990. Labor underutilization in the rural sector reflects in part the nature of farm activities where part-time work is common and the pattern of labor use is affected by seasonality. The rapid growth of the rural labor force also contributed to rural unemployment and underemployment.

- d) Although the agricultural sector remained as the major employer of the rural work force, the sector's employment share to the total rural employment has been declining. Correspondingly, the employment in the nonagricultural sector has been increasing. Employment in the rural nonagricultural sector expanded but rural manufacturing employment remained low. The growth of the rural nonagricultural sector employment has been spurred by the growth of the service sector employment. Service sector employment grew rapidly relative to other sectors. In 1990, the sector's share to total rural employment is estimated at 25.1 percent. The dominance of the services and trade activities in the total rural nonagricultural employment is an indicator of a strong consumption linkage in the rural sector. Moreover, the growing service sector employment may imply a dynamic economy, or an adaptation to the overall poor employment performance of the rural sector and the economy as a whole. Part of the growth of the service sector may be attributed to the growth of the public sector. Likewise, the service sector is also characterized by informal sector petty services and trading, transport, and simple repairs --activities with no barriers to entry. These activities are by their nature linked to the local markets. There are also evidences that these activities are characterized by low productivity.

The rural industrial sector grew slowly at an average annual rate of 3.8 percent. Rural manufacturing employment increased slightly over the years but the sub-sector's share to total rural employment declined from 7.2 percent in 1985 to 6.7 percent in 1990. Rural manufacturing is dominated by textile,

wearing apparel and leather industry in terms of employment. This partly explains the rise in female employment in the rural areas.

- e) In terms of occupational composition, the rural sector employment is dominated by agricultural, animal husbandry, forestry, fishing, and hunting occupations, although employment in these occupations has been declining. Employment of production, sales, and services workers increased. Employment in occupations which require higher educational qualifications posted low share to total rural employment.
- f) Own-account workers comprise the largest proportion of employed in the rural sector. This reflects the importance of self-owned and household-based enterprises as a source of employment and income in the rural areas. The employment of wage and salary workers in the rural sector increased. As of 1990, its share to total rural employment reached 35 percent. Correspondingly, the proportion of unpaid family workers declined. The decline resulted from the shift of the rural workforce towards nonagricultural pursuits and the rise in the use of hired workers in farms. Hired labor dominates the rural nonagricultural sector while own-account workers still dominates the agricultural sector. The proportion of own-account workers in the nonagricultural sector increased. This reflects the growth of self-employment and entrepreneurship in the sector.
- g) Rural employment is significantly characterized by the increasing participation of women. Female workers dominate manufacturing, wholesale and retail trade, and

services activities. This pattern reflects the types of activities performed by female rural workers.

- h)** Nominal agricultural wages rose from 1974-1989. This reflects the overall inflationary trend in the economy and possibly the imposition of minimum wage in the sector. Real agricultural wages fluctuated during the period under consideration. However, real wages for all agricultural crops suffered the worst fall in 1984. In particular, the real wages of palay and sugarcane workers dropped sharply in 1984. During this period, agricultural output declined by 2.1 percent and its share to GDP fell to 24 percent. The decline in agricultural output resulted from the combined effects of the overall economic crisis, the fall in the world price of sugar, the increase in the prices of agricultural inputs like fertilizer, and the bad weather condition.
- i)** Rural nonagricultural activities is also an important source of income of the rural households accounting for about 43.6 percent of the total income.
- j)** Evidences from the aggregate data provide strong indications that the growth of the rural nonagricultural activities have become an important source of employment and income in the rural sector. Moreover, the rural nonagricultural sector in terms of employment and income is a result of stronger push factors. The growing rural labor force have pushed people into nonagricultural activities with varying potential for income generation. The shift to nonagricultural activities in the rural sector can be regarded more as a response to the

diminishing employment opportunities in the agricultural sector and to the pressure from increased rural poverty.

Observations from the household survey data covering the provinces of Iloilo, Negros Occidental, Cebu, and Bohol are as follows:

- a) Majority of the sample households are engaged in nonagricultural activities. A clear gender division in economic activities exists in the rural sector. The agricultural sector is male dominated while female workers participate more in nonagricultural activities.
- b) In the survey areas, services accounted for the biggest share of total rural employment followed by wholesale and retail trade and manufacturing. This suggests that the structure of rural employment in the sample provinces confirms the general observation that a strong consumption linkage exists in the rural sector.
- c) The composition of rural employment by industry and sex reflects the special importance of rural manufacturing for women. Rural manufacturing is composed of a variety of activities which include food processing, handicraft making, weaving, basketry, and other cottage industries. Wholesale and retail trade is also an important source of employment for rural women. These activities include retail trade in small stores and food vending. Rural manufacturing and wholesale and retail activities are small-scale, labor intensive, and usually owner-operated.

- d) Males are involved in income-generating activities which are done away from the household, for instance, farming activities. Majority of the women are engaged in rural manufacturing and wholesale and retail trade activities which are mostly household-operated. Work location is an important factor influencing rural women's participation in income-generating activities. Rural women have strong preference for work which can be done within the household or neighborhood. In Negros Occidental and Cebu for instance, the rising incidence of sub-contracting arrangements have encouraged more women to participate in manufacturing activities.
- e) Hired workers dominate the sample areas with the proportion to rural employed ranging from 25 percent to 34.6 percent. The self-employed workers also have a considerable share in the total rural employment except for Cebu.
- f) Farm work and nonagricultural jobs are combined by household members to meet specific income targets. Sales and service occupations dominate as primary occupations in the sample provinces. The provinces of Iloilo and Cebu have the highest number of workers engaged in production activities as primary occupation while Negros Occidental is dominated by sales workers.

The location where primary occupation is carried out reflects the role of infrastructure and proximity of rural villages to more urbanized towns. The presence of infrastructure like roads, the availability of transportation facilities, and the proximity of rural villages to urban centers increase the access of rural residents to nonagricultural job opportunities. These factors also facilitate the

shift from agriculture to nonagricultural occupations without changing residences. The data from the sample provinces show that Cebu has the highest proportion of workers from the rural areas whose primary occupations are carried out in municipalities outside the place of residence. The presence of a more developed infrastructure and the availability of transportation facilities in the province increased the workers mobility and enabled them to take jobs outside the village. On the other hand, Bohol, considered the least "urbanized among the sample provinces has a very high proportion of workers working in own home and immediate neighborhood.

- g)** On the average, the earnings generated by rural households from nonagricultural work exceed those generated from agricultural activities. The cash values of the payments in kind are small relative to cash payment except for the agricultural activities in Cebu.
- h)** A considerable number of rural households in the sample areas earn income by hiring out labor. Among the sample provinces, the proportion of wage labor ranges from 25 percent to 55 percent. The presence of a large proportion of wage workers in the survey areas supports the view that a wage labor market exists in the rural sector of the sample provinces. On the average, the hired workers in the nonagricultural occupations worked longer hours and received higher wages relative to those in the agricultural occupations. Sales and service workers in the survey areas spent an average of 48 hours a week in the labor market. However, the average weekly earnings of these types of workers are

relatively low compared with the other nonagricultural occupations. These observations can be partly explained by the nature of activities in sales and service occupations which are most commonly in the low productivity informal sector.

- i) The wage differentials between the nonagricultural and agricultural occupations in the survey areas are large. This reflects an important labor market link between the agricultural and the rural nonagricultural sectors. It appears that the labor market outcomes in the agricultural sector in the form of low wages and limited labor absorption have significantly influenced the existing structure of labor markets in the nonagricultural sector.
- j) The major factor which determined the supply of hired labor in the nonfarm sector is the distribution of productive assets. The distribution of landless households in the survey areas reveals that provinces with large proportion of landless households have a relatively high proportion of hired workers. In particular, the percentage of landless households in the survey areas of Negros Occidental and Iloilo are estimated at 93.0 percent and 63.4 percent, respectively. On the other hand, hired labor accounts for 29.5 percent and 24.0 percent of employment in the survey areas of the two provinces.
- k) A significant proportion of rural households are engaged as producers, owners and operators of farm and nonfarm enterprises. Majority of the enterprises are in wholesale and retail trade, livestock and poultry raising, and manufacturing. The household-based enterprises have a considerable direct employment effect in

the survey areas. However, it is also observed that the use of family workers is still a common practice in the rural areas. About 56.6 percent of the total employed in household-operated enterprises are family labor. Household-based enterprises engaged in crop farming and gardening, and fishing activities employ greater proportion of hired workers. Wholesale and retail enterprises have greater proportion of hired workers.

- I) Evidences from the micro-level data provide strong indication that the rural nonagricultural activities have considerable direct employment effects in the survey areas.

The results of the empirical model are as follows:

- a) The probability of rural labor force participation in nonagricultural activities is significantly affected by the ownership of household-operated enterprises, non-labor income, and work location. The ownership of household-operated enterprises decreases the probability of labor force participation in rural nonagricultural activities. Likewise, non-labor income lessens the likelihood of rural labor force participation in such activities. Work location and proximity of the place of residence to the place of work strongly affects the probability of rural labor force participation in nonagricultural activities. The shorter the distances between the residence and work place, the greater the likelihood of labor force participation in rural nonagricultural activities. The human capital and demographic variables are insignificant in explaining the probability of labor force

participation of rural household members in nonagricultural activities.

- b) Wages are significantly affected by the age variable which serve as a proxy for years of work experience. However, the education dummy variables do not have significant impact on wages. This may imply low private returns to education in the rural areas.
- c) The rural nonagricultural labor supply in terms of hours of work is significantly affected by non-labor income in all equations. Hours of work decreases in response to non-labor income. These results reflect the dominance of the income effect and confirm the hypothesis that leisure is a normal good. The predicted wage has a positive and significant effect on hours of work in all equations. The rural nonagricultural labor supply in terms of work hour is inelastic with respect to wages. Among the demographic variables, children below 6 years of age has a significant negative impact only on female hours of work. Moreover, age has a positive significant effect only on the hours of work of females.

In terms of number of work weeks, non-labor income is found to have a negative effect on weeks work but the coefficients are significant only in the total and female equations. The coefficients of non-labor income are smaller relative to those in the hours of work equations. These imply a weaker supply response in terms of work week. Likewise, the predicted wage carried the expected sign but is significant only in the equations for the total and female workers. The rural labor supply in terms of work weeks is also inelastic with respect to wages. The

magnitude of the elasticities suggests that work week is less responsive to wage rates relative to hours of work.

8.2 CONCLUSIONS AND POLICY IMPLICATIONS

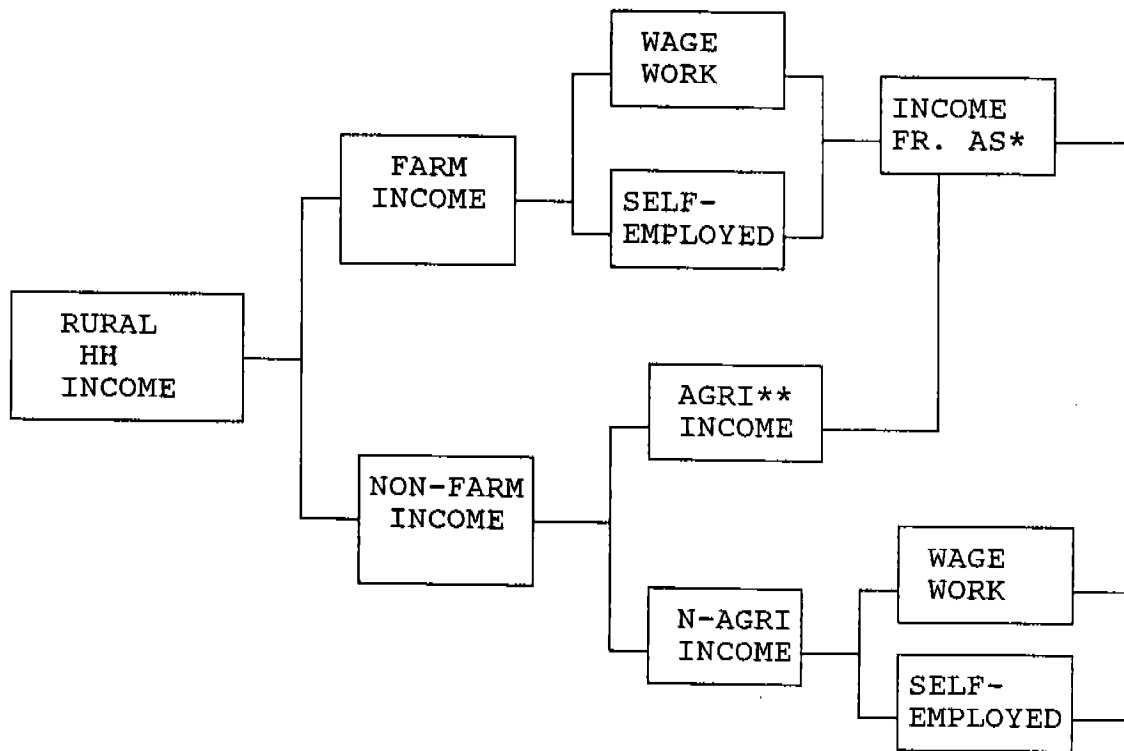
A number of important conclusions and policy implications emerge from the study.

- a) Over the years, the rural nonagricultural activities have become important components of the rural economy in terms of employment and income generation. The rural nonagricultural sector has provided employment to a significant proportion of excess labor in the rural sector. Observations from the aggregate and micro-level survey data indicate a considerably high proportion of rural labor force in nonagricultural activities but a lower proportion in rural manufacturing. The observations also reveal that the economic activities in the rural nonagricultural sector are characterized by low productivity and are by their nature limited to the domestic markets. In particular, the case study using the micro-level data shows that retail trade and service activities which cater largely to local consumer demand dominate the rural nonagricultural sectors of the survey provinces. It is also quite evident that the rural nonagricultural sector is linked with the agricultural sector. To explore the full potential of the linkages between the agricultural and the rural nonagricultural sectors, policies and programs supporting the rural nonagricultural sector particularly rural manufacturing should be complemented with policies that will foster the growth of productivity and incomes in the agricultural sector.

- b) The growth of employment in rural nonagricultural activities is not influenced much by demand factors such as the availability of more productive nonagricultural activities. Employment in rural nonagricultural activities appears to be supply determined or characterized by the dominance of the push factors like limited access to agricultural productive resources, increasing rural labor force, increasing rural unemployment and underemployment, and widespread rural poverty. The findings also indicate that access to land determines agricultural employment and rural nonagricultural activities are of particular importance to small and landless rural households.
- c) In the more developed provinces like Cebu, the accessibility and proximity of rural households to urban centers have a significant direct employment effect on the rural workers. This type of rural-urban labor market link will be strengthened by better infrastructure and transportation facilities. Moreover, the empirical model reveals that work location is a significant factor affecting wage and labor supply in the rural areas of the survey provinces. This indicates that the development of rural infrastructure in these areas will generate opportunities for nonagricultural employment by improving rural workers' mobility.
- d) The analysis of the micro-level data reveal that the rural households' labor supply to nonagricultural activities is strongly but negatively influenced by non-labor income and opportunities for self-employment in household-operated nonagricultural enterprises. Policies that will provide incentives to these household-operated economic activities will not only ease the employment

problem in the survey provinces but will also transform these activities into more dynamic ones. This will pave the way for rural industrialization in the areas. Female labor supply responds strongly to demographic variables particularly the presence of young children in the household. Human capital variables like education do not have significant effects on rural labor supply. This may indicate that labor market opportunities in the rural nonagricultural sector of the survey areas require less education.

FIGURE 5.1
 INCOME SOURCES OF RURAL HOUSEHOLDS



- * AS - Agricultural Sources
- ** AGRI - includes fishing, livestock production, hunting and forestry activities

FIGURE 6.1

TYPES OF LABOR IN INCOME-GENERATING ACTIVITIES

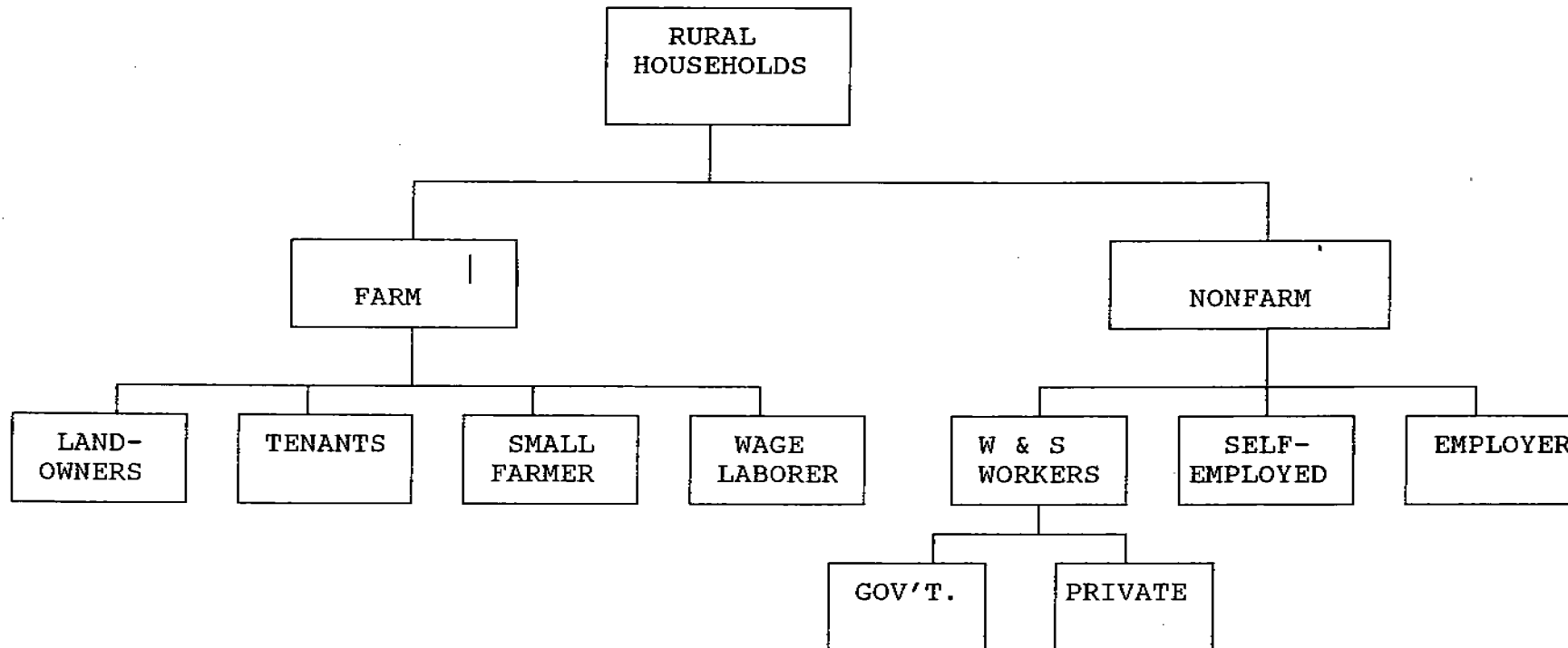


TABLE 5.1
RURAL POPULATION
1970-1992

Year	Population (000) a/	% Share to Total
1970	25,007	68.2
1975	28,024	66.7
1980	30,155	62.7
1985	32,847	60.1
1990	35,245	57.3
1991	35,681	56.8
1992	36,114	56.2
	Average Annual Growth Rate (%)	
1970-75	2.3	
1975-80	1.48	
1980-85	1.72	
1985-90	1.42	
1990-92	1.23	
1970-80	1.89	
1980-90	1.57	
1970-90	1.73	

a/ 1970, 1980, 1990 Census

Source: NEDA 1992 Phil. Statistical Yearbook
Tab5-1.wk1

TABLE 5.2

**RURAL POPULATION 15 YEARS AND OVER, LABOR FORCE PARTICIPATION RATE
BY AGE GROUP: 1980, 1985 AND 1990**

Age Group	1980		1985		1990	
	Popn. 15 Years & Over (000)	LFPR (%)	Popn. 15 Years & Over (000)	LFPR (%)	Popn. 15 Years & Over (000)	LFPR (%)
TOTAL – RURAL	19,384	62.2	20,352	66.0	22,729	66.8
15 – 19 Years	4,062	41.2	4,014	44.9	4,284	45.3
20 – 24 Years	2,486	60.9	2,605	64.8	2,869	66.6
25 – 34 Years	3,762	69.1	4,375	72.0	4,661	72.2
35 – 44 Years	3,748	72.5	3,539	78.1	4,133	76.7
45 – 54 Years	2,614	75.1	2,616	80.0	3,032	79.7
55 – 64 Years	1,673	70.0	1,780	72.9	2,088	74.5
65 Years & Over	1,267	48.4	1,421	44.6	1,659	49.7
Not Reported	42	2.4	1	–	3	–

Source: Labor Force Survey, NSO, various years

Tab5-2.wk1

TABLE 5.3
RURAL LABOR FORCE AND EMPLOYMENT INDICATORS
1975–1990

Year	Total LF (000)	LFPR (%)	Employed		Unemployed		Underemployed	
			No. (000)	% of LF	No. (000)	% of LF	No. (000)	% of LF
1975	10,339	52.8	10,073	97.4	266	2.6	957	9.5
1980	12,056	62.2	11,614	96.3	442	3.7	2,691	23.2
1985	13,426	66.0	12,841	95.6	585	4.4	3,218	25.1
1990	15,185	66.8	14,273	93.6	948	6.4	3,089	25.4

Source: NEDA, Philippine Statistical Yearbook, various years

Tab5–3.wk1

Note: All data on years 1975, 1980, and 1985 were based on the Third Quarter Reference period; 1990 data were based on Past Week Reference period

TABLE 5.4

**DISTRIBUTION OF RURAL EMPLOYMENT IN
AGRICULTURAL AND NON-AGRICULTURAL SECTORS
(IN PERCENT)**

YEAR	TOTAL		MALE		FEMALE	
	AGRI	NON-AGRI	AGRI	NON-AGRI	AGRI	NON-AGRI
1971	66.3	33.7	74.9	25.1	45.6	54.4
1975	73.0	27.0	80.1	19.2	54.5	45.5
1980	67.9	32.1	75.2	24.8	52.2	47.8
1985	66.6	33.4	74.8	25.2	50.7	49.3
1990	64.2	35.8	71.6	28.4	49.5	50.5

Source: NSO, Labor Force Survey, various years

Note: 1971 & 1975 August; 1980 & 1985 Third Quarter; 1990 October

Tab5-4.wk1

TABLE 5.5

**DISTRIBUTION OF RURAL EMPLOYED WAGE AND SALARY WORKERS
IN AGRICULTURAL AND NON-AGRICULTURAL SECTORS
(IN PERCENT)**

YEAR	TOTAL		MALE		FEMALE	
	AGRI	NON-AGRI	AGRI	NON-AGRI	AGRI	NON-AGRI
1971	31.5	68.5	58.4	41.6	19.1	80.9
1975	38.9	61.1	44.9	55.1	26.7	73.3
1980	31.0	69.0	35.9	64.1	20.7	79.3
1985	39.2	60.8	45.4	54.6	26.9	73.1
1990	36.4	63.6	42.0	58.0	24.7	75.3

Source: NSO, Labor Force Survey, various years
Tab5-5.wk1

TABLE 5.6

RURAL EMPLOYMENT BY SECTOR, INDUSTRY: 1975-1990

INDUSTRY GROUP	1975		1980		1985		1990	
	No. (000)	%	No. (000)	%	No. (000)	%	No. (000)	%
AGRICULTURAL SECTOR	7,053	74.3	7,885	67.9	8,546	66.6	9,157	64.2
Agriculture, Fishery and Forestry	7,053	74.3	7,885	67.9	8,546	66.6	9,157	64.2
NONAGRICULTURAL SECTOR	2,422	25.5	3,725	32.0	4,295	33.5	5,107	35.9
INDUSTRIAL SECTOR	947	10.0	1,345	11.6	1,381	10.7	1,524	10.8
Mining & Quarrying	27	0.3	80	0.7	100	0.8	111	0.8
Manufacturing	711	7.5	925	8.0	931	7.2	953	6.7
Electricity, Gas & Water	9	0.1	27	0.2	28	0.2	36	0.3
Construction	200	2.1	313	2.7	322	2.5	424	3.0
SERVICES SECTOR	1,475	15.5	2,380	20.4	2,914	22.8	3,583	25.1
Wholesale & Retail Trade	614	6.5	839	7.2	1,112	8.7	1,366	9.6
Transport, Storage & Com.	241	2.5	336	2.9	407	3.2	486	3.4
Financing, Insurance, Real Estate & Bus. Services	—	—	87	0.7	86	0.7	88	0.6
Community, Social & Personal Services	620	6.5	1,118	9.6	1,309	10.2	1,643	11.5
TOTAL	9,491	100.0	11,614	100.0	12,841	100.0	14,273	100.0

Note: 1975 Feb., 1980, 1985 3rd Quarter; 1990 Oct.

Source: Labor Force Survey, NSO, various years

Tab5-6.wk1

TABLE 5.7

RURAL MANUFACTURING EMPLOYMENT, 1971-1988

SUB-INDUSTRY	NUMBER (000)				PERCENT DIST. (%)			
	1971	1975	1985	1988	1971	1975	1985	1988
MANUFACTURING	706	579	940	1,050	100.0	100.0	100.0	100.0
Manufacture of Food, Beverages and Tobacco	74	90	207	214	10.5	15.5	22.0	20.4
Manufacture of Textile, Wearing Apparel and Leather	462	270	384	387	65.4	46.6	40.9	36.9
Manufacture of Wood and Wood Products, including Furniture and Fixtures	82	72	240	297	11.6	12.4	25.5	28.3
Manufacture of Paper and Paper Products; Printing and Publishing	6	6	6	11	0.8	1.0	0.6	1.0
Manufacture of Chemicals and Other Chemical Products, Petroleum, Coal, Rubber and Plastic Products	6	13	18	17	0.8	2.2	1.9	1.6
Manufacture of Non-Metallic Mineral Products (Except Products of Petroleum and Coal)	11	14	21	21	1.6	2.4	2.2	2.0
Manufacture of Basic Metal Industries	5	5	12	8	0.7	0.9	1.3	0.8
Manufacture of Fabricated Metal Products, Machinery and Equipment	44	44	32	49	6.2	7.6	3.4	4.7
Other Mfg. Industries	8	59	21	48	1.1	10.2	2.2	4.6

Figures are annual averages.

Source: Integrated Survey of Households, NSO (various years)

tab5-7.wk1

TABLE 5.8

RURAL EMPLOYMENT BY OCCUPATION, 1975-1990

MAJOR OCCUPATIONAL GROUP	1975		1980		1985		1990	
	No. (000)	%	No. (000)	%	No. (000)	%	No. (000)	%
Professional, Technical and and Related Workers	241	2.5	460	4.0	504	3.9	584	4.1
Administrative, Executive and Managerial Workers	29	0.3	37	0.3	42	0.3	68	0.5
Clerical Workers	100	1.1	230	2.0	268	2.1	293	2.1
Sales Workers	590	6.2	844	7.3	1,100	8.6	1,316	9.2
Service Workers	292	3.1	467	4.0	597	4.6	785	5.5
Agricultural, Animal Husbandry, and Forestry workers, Fishermen and Hunters	7,025	74.0	7,838	67.5	8,466	65.9	9,037	63.3
Production and Related Workers, Transport Equipment Operators and Laborers	1,199	12.6	1,735	14.9	1,865	14.5	2,158	15.1
TOTAL	9,491	100.0	11,614	100.0	12,841	100.0	14,273	100.0

Source: Labor Force Survey, NSO, various years
Tab5-8.wk1

TABLE 5.9

RURAL EMPLOYMENT BY CLASS OF WORKERS, 1975–1990

CLASS OF WORKERS	1975		1980		1985		1990	
	No. (000)	%	No. (000)	%	No. (000)	%	No. (000)	%
Wage and Salary Workers	2,548	26.8	3,498	30.1	4,315	33.6	5,001	35.0
Own–Account Workers	4,210	44.4	5,761	44.5	5,845	45.5	6,187	43.3
Unpaid Family Workers	2,720	28.7	2,954	25.4	2,681	20.9	3,085	21.6
TOTAL	9,491	100.0	11,614	100.0	12,841	100.0	14,273	100.0
	PERCENTAGE CHANGE							
	1975–80		1980–85		1985–90			
Wage and Salary Workers	37.3		23.4		15.9			
Own–Account Workers	36.8		1.5		5.9			
Unpaid Family Workers	8.6		–9.2		15.1			

Source: Labor Force Survey, NSO, various years
Tab5–9.wk1

TABLE 5.10

**DISTRIBUTION OF RURAL EMPLOYMENT IN AGRICULTURE AND
NON-AGRICULTURE BY CLASS OF WORKERS, 1975-1990**

	1975	1980	1985	1990
TOTAL				
AGRICULTURE	74.3	67.9	66.6	64.2
NON-AGRICULTURE	25.7	32.1	33.4	35.8
WAGE AND SALARY WORKERS				
AGRICULTURE	42.0	31.1	39.2	36.4
NON-AGRICULTURE	58.0	69.0	60.8	63.6
OWN-ACCOUNT WORKERS				
AGRICULTURE	81.0	79.5	74.9	73.3
NON-AGRICULTURE	19.0	20.5	25.1	26.7
UNPAID FAMILY WORKERS				
AGRICULTURE	94.4	91.2	92.4	90.8
NON-AGRICULTURE	5.6	8.8	7.0	9.2

Source: NSO, Labor Force Survey, various years

Tab5-10.wk1

TABLE 5.11

**DISTRIBUTION AND PERCENT CHANGE IN RURAL EMPLOYMENT
BY SECTOR AND CLASS OF WORKERS**

SECTOR/ CLASS OF WORKERS	DISTRIBUTION (%)					PERCENT CHANGE			
	1971	1975	1980	1985	1990	1971- 1975	1975- 1980	1980- 1985	1985- 1990
AGRICULTURE	100.0	100.0	100.0	100.0	100.0	20.5	7.3	8.4	7.1
Wage and Salary Workers	13.6	14.4	13.8	19.8	19.9	27.8	2.4	55.6	7.7
Own-Account Workers	47.3	47.5	52.0	51.2	49.5	20.9	17.6	6.7	3.6
Unpaid Family Workers	39.1	38.1	34.2	29.0	30.6	17.4	-3.6	-8.1	13.1
NON-AGRICULTURE	100.0	100.0	100.0	100.0	100.0	-6.1	37.7	15.2	19.1
Wage and Salary Workers	57.3	61.5	64.7	61.1	62.2	1.0	44.8	8.8	21.2
Own-Account Workers	36.0	31.4	28.4	34.1	32.3	-18.2	24.5	38.7	12.7
Unpaid Family Workers	6.7	7.1	6.9	4.7	5.6	0.0	34.2	-21.2	39.2

Source: NSO, Labor Force Surveys
Tab5-11.wk1

TABLE 5.12

Distribution of Rural Employment by Industry and Sex, 1975–1990

MAJOR INDUSTRY GROUP	1975		1980		1985		1990	
	Male	Female	Male	Female	Male	Female	Male	Female
Agriculture, Fishery and Forestry	79.6	20.4	75.7	24.3	73.8	26.2	74.0	26.0
Mining and Quarrying	96.3	0.6	92.5	7.5	93.0	7.0	90.1	9.9
Manufacturing	41.9	58.1	46.5	53.4	43.9	56.1	50.6	49.4
Electricity, Gas and Water	100.0	—	92.6	7.4	78.6	21.4	80.6	19.4
Construction	99.0	1.0	98.7	1.0	98.4	1.6	98.3	1.7
Wholesale and Retail Trade	33.6	66.4	28.1	71.9	27.2	72.8	29.0	71.0
Transport, Storage and Com.	97.9	2.1	98.5	1.5	97.5	2.5	98.8	1.2
Financing, Insurance, Real Estate and Bus. Services	—	—	74.7	25.3	70.9	29.1	67.0	33.0
Community, Social and Personal Services	43.9	56.8	44.9	55.1	39.6	60.4	44.0	56.0
TOTAL	72.3	27.7	68.3	31.7	65.6	34.4	66.3	33.7

Source: Labor Force Survey, NSO, various years

Tab5–12.wk1

TABLE 5.13

**DISTRIBUTION OF RURAL EMPLOYED PERSONS
BY AGE GROUP**

AGE GROUP	1980		1985		1990	
	No. (000)	%	No. (000)	%	No. (000)	%
TOTAL - RURAL	11,614	100.0	12,841	100.0	14,273	100.0
15 - 19 YEARS	1,565	13.5	1,660	12.9	1,753	12.3
20 - 24 YEARS	1,393	12.0	1,506	11.7	1,691	11.8
25 - 34 YEARS	2,499	21.5	3,002	23.4	3,159	22.1
35 - 44 YEARS	2,469	21.3	2,700	21.0	3,069	21.5
45 - 54 YEARS	1,927	16.6	2,063	16.1	2,349	16.5
55 - 64 YEARS	1,155	9.9	1,282	10.0	1,491	10.4
65 YEARS & OVER	604	5.2	630	4.9	761	5.3

Source: NSO Labor Force Surveys
Tab5-13.wk1

TABLE 5.14

**DISTRIBUTION OF FAMILIES AND INCOME IN THE RURAL SECTOR BY
MAIN SOURCE OF INCOME: 1971, 1985, 1988**

MAIN SOURCE OF INCOME	% FAMILIES			% INCOME		
	1971	1985	1988	1971	1985	1988
RURAL						
Wages and Salaries	33.1	32.7	37.1	35.1	34.0	41.9
Agriculture	14.0	12.9	13.4	10.6	9.8	10.5
Non-Agriculture	19.0	19.8	23.7	24.5	24.2	31.4
Entrepreneurial Activities	61.7	50.7	47.9	48.9	47.1	43.1
AGRICULTURE	52.6	41.6	37.9	37.2	35.2	30.7
Crop farming and Gardening	47.3	33.2	29.6	31.8	28.4	24.1
Livestock and Poultry Raising	—	1.1	1.2	—	1.0	1.2
Fishing, Forestry and Hunting	5.3	7.3	7.1	5.4	5.8	5.4
INDUSTRY	2.7	2.1	2.4	2.8	2.1	2.3
Mining and Quarrying	—	0.3	0.4	—	0.3	0.3
Manufacturing	2.7	1.7	1.7	2.8	2.0	1.8
Construction	—	0.1	0.3	—	0.1	0.2
SERVICE	6.0	7.0	7.5	8.2	9.5	9.9
Wholesale and Retail Trade	4.3	5.5	5.5	5.5	7.0	7.3
Community, Social Services	0.4	0.6	0.9	0.7	0.9	1.1
Transport, Storage & Com.	1.3	0.9	1.1	2.0	1.6	1.5
Other Sources of Income	5.2	16.6	15.0	15.1	19.0	15.0

Source: FIES, various years

Tab5-14.wk1

TABLE 5.15

**DISTRIBUTION OF INCOME AND FAMILIES
IN THE RURAL SECTOR BY MAIN SOURCE**

MAIN SOURCE	1971	1985	1988
	% INCOME		
AGRICULTURE	47.8	45.0	41.2
NON-AGRICULTURE	35.5	35.8	43.6
OTHER SOURCES	15.1	19.0	15.0
	% FAMILIES		
AGRICULTURE	66.6	54.5	51.3
NON-AGRICULTURE	27.7	28.9	33.6
OTHER SOURCES	5.2	16.6	15.0

Source: FIES, various years

Tab5-15.wk1

TABLE 5.16

SELECTED CHARACTERISTICS OF THE FARM SECTOR, 1960–1991

	1960	1971	1980	1991
NUMBER OF FARMS	2,166,216	2,354,469	3,420,323	A/
FARM AREA (HA.)	7,772,485	8,493,735	9,725,200	10,002,163
NO. OF AGRICULTURAL OPERATORS	2,159,027	2,359,371	3,473,286	6,948,292
AVERAGE FARM AREA (HA.)	3.6	3.6	2.8	.1.4

A/ Not available

Source: Census of Agriculture, various census years

Tab5–16.wk1

TABLE 5.17

**AVERAGE DAILY WAGE RATES OF FARM WORKERS WITHOUT MEALS BY CROP,
PHILIPPINES: 1974-1989
(PESOS)**

YEAR	OMM CPI (1978=100)	Palay		Corn		Coconut		Sugarcane		All Crops	
		NOMINAL	REAL	NOMINAL	REAL	NOMINAL	REAL	NOMINAL	REAL	NOMINAL	REAL
1974	71.8	5.56	7.74	5.56	7.74	6.46	9.00	5.58	8.19	5.79	8.06
1975	76.6	6.59	8.60	8.41	8.37	7.33	9.57	7.78	10.16	7.14	9.32
1976	84.7	8.97	10.59	8.77	10.35	9.17	10.83	7.90	9.33	8.57	10.12
1977	93.3	9.86	10.57	9.35	10.02	9.95	10.66	7.96	10.68	9.98	10.70
1978	100.0	10.42	10.42	9.96	9.96	10.18	10.18	11.00	11.00	10.18	10.18
1979	117.2	10.71	9.14	10.38	8.86	10.62	9.06	11.85	9.81	10.68	9.11
1980	138.4	11.00	7.95	10.66	7.70	11.59	8.37	11.97	8.65	11.15	8.06
1981	156.8	11.91	7.60	10.80	6.89	13.45	8.58	12.88	8.21	12.38	7.90
1982	172.6	13.42	7.78	12.74	7.38	15.60	9.04	15.80	9.15	13.90	8.05
1983	189.3	15.85	8.37	15.20	8.03	17.75	9.38	18.95	10.01	16.33	8.63
1984	285.4	22.64	7.93	18.65	6.53	24.00	8.41	21.40	7.50	21.24	7.44
1985	352.7	30.20	8.56	22.07	6.26	28.18	7.99	26.75	7.58	27.46	7.79
1986	352.3	31.80	9.03	27.04	7.68	31.00	8.80	28.90	8.20	29.69	8.43
1987	363.6	32.44	8.92	28.01	7.70	35.36	9.72	33.93	9.33	31.62	8.70
1988	394.4	36.31	9.21	32.46	8.23	41.04	10.41	36.22	9.19	35.96	9.12
1989	437.0	41.98	9.61	37.89	8.69	47.49	10.87	42.20	9.66	41.72	9.55

n.a. -- not available

Source : Bureau of Agricultural Statistics, (various years)

Tab5-17.wk1

TABLE 5.18

GROWTH RATES OF REAL AGRICULTURAL WAGES OF FARM WORKERS
(IN PERCENT)

PERIOD	PALAY	CORN	COCONUT	SUGARCANE	ALL CROPS
1974-75	11.1	8.1	6.3	24.1	15.6
1975-76	23.1	23.7	13.2	-8.2	8.6
1976-77	-0.2	-3.2	-1.6	14.5	5.7
1977-78	-1.4	-0.1	-4.5	3.0	-4.9
1978-79	-12.3	-11.0	-11.0	-10.8	-10.5
1979-80	-13.0	-13.1	-7.6	-11.8	-11.5
1980-81	-4.0	-10.5	2.5	-5.1	-2.0
1981-82	2.4	7.1	5.4	11.4	1.9
1982-83	7.6	8.8	3.8	9.4	7.2
1983-84	-5.3	-18.7	-10.3	-25.1	-13.8
1984-85	7.9	-4.1	-5.0	1.1	4.7
1985-86	5.5	22.7	10.1	8.2	8.2
1986-87	-1.2	0.3	10.5	13.8	3.2
1987-88	3.3	6.9	7.1	-1.5	4.8
1988-89	4.3	5.6	4.4	5.1	4.7

Source: Computed from Table 5.17
TAB5-18.WK1

TABLE 6.1

PROFILE OF SAMPLE PROVINCES

	ILOILO	NEGROS OCC.	CEBU	BOHOL
NUMBER OF: CITIES	1	6	5	1
MUNICIPALITIES	46	26	48	47
BARANGAYS	1,996	656	1,193	1,114
LAND AREA (HECTARES)	532,397	792,607	508,839	411,726
POPULATION a/	1,765,476	2,256,908	2,645,735	948,315
POPULATION GROWTH RATE b/	2.1	1.6	2.4	1.6
RURAL POPULATION c/	1,038,126	1,232,878	1,166,048	683,099
PERCENT OF RURAL HOUSEHOLDS TO TOTAL NUMBER OF HOUSEHOLDS (%)	72.8	64.9	57.4	85.3

a/ 1990 Census of Population and Housing

b/ Average Annual Growth Rate 1980–1990

c/ 1980 Census of Population and Housing

Sources: Census of Population and Housing 1980 & 1990

Provincial Profile of the Philippines, (DA), 1988

tab6–1.wk1

TABLE 6.2

CHARACTERISTICS OF SAMPLE RURAL HOUSEHOLDS

	PROVINCE				TOTAL
	ILOILO	NEGROS OCC.	CEBU	BOHOL	
NUMBER OF HOUSEHOLDS	112	129	132	78	451
HOUSEHOLD POPULATION	607	720	649	398	2,374
WORKING AGE POPULATION	418	464	410	264	1,556
LABOR FORCE	205	242	231	135	813
LABOR FORCE PARTICIPATION RATE (%)	49.0	52.2	56.3	51.1	52.2
EMPLOYED PERSONS	182	206	209	128	725
EMPLOYMENT RATE (%)	88.8	85.1	90.5	94.8	89.2
UNEMPLOYED PERSONS	23	36	22	7	88
UNEMPLOYMENT RATE (%)	11.2	14.9	9.5	5.2	10.8
AVERAGE FAMILY SIZE	5.4	5.6	4.9	5.1	5.2
DEPENDENCY BURDEN a/	45.2	55.2	58.3	50.8	52.6
% OF LANDLESS HOUSEHOLDS	63.4	93.0	56.8	44.1	64.3

a/ Population below 15 year old and above 65/WAP x 100

Source: DRD Survey of Rural Households 1992

Tab6-2.wk1

TABLE 6.3

WORKING AGE POPULATION BY SEX

SEX	P R O V I N C E								TOTAL	
	ILOILO		NEGROS OCCIDENTAL		CEBU		BOHOL			
	No.	%	No.	%	No.	%	No.	%	No.	%
Male	184	44	222	47.8	193	47.1	123	46.6	722	46.4
Female	234	56	242	52.2	217	52.9	141	53.4	834	53.6
Total	418		464		410		264		1,556	

Source: DRD Survey of Rural Households 1992
Tab6-3.wk1

TABLE 6.4

WORK PATTERNS OF HOUSEHOLD MEMBERS

	PROVINCE				TOTAL
	ILOILO	NEGROS OCCIDENTAL	CEBU	BOHOL	
Average Age Started Working	28	28	22	24	
Number of Household Members Who Worked in the Past Quarter	182	206	209	128	725
% of Labor Force	88.8	85.1	90.5	94.8	89.2

Source; DRD Survey of Rural Households 1992

Tab6-4.wk1

TABLE 6.5

**DISTRIBUTION OF HOUSEHOLD MEMBERS WHO
ARE NOT WORKING**

	PROVINCE				TOTAL
	ILOILO	NEGROS OCCIDENTAL	CEBU	BOHOL	
Number of Household Members Looking for Work	23	36	22	7	88
% of Labor Force	11.2	14.9	9.5	5.2	10.8
Number of Household Members Not Looking for Work	244	407	272	132	1,055
% of Household Population	40.2	56.5	41.9	33.2	44.4
Average Number of Months of Search (in months)	23.5	13.7	5.3	14.1	14.0

Source: DRD Survey of Rural Households 1992
Tab6-5.wk1

TABLE 6.6

**Distribution of Employed Household Members by Classification
Agriculture and Non-Agriculture by Province**

Province	Classification											Total		
	Agriculture					Non-Agriculture								
	Sex				Total		Sex				Total			
	Male		Female				Male		Female					
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Iloilo	25	86.2	4	13.8	29	15.4	86	54.1	73	45.9	159	84.6	188	25.6
Negros Occidental	8	80.0	2	20.0	10	4.8	116	58.6	82	41.4	198	95.2	208	28.4
Cebu	29	93.5	2	6.5	31	14.8	106	59.6	72	40.4	178	85.2	209	28.5
Bohol	31	96.9	1	3.1	32	25.0	40	41.7	56	58.3	96	75.0	128	17.5
Total	93		9		102		348		283		631		733	

Source: DRD Survey of Rural Households 1992

Tab6-6.wk1

TABLE 6.7

**Distribution of Employed Household Members
by Major Industry Group by Province**

Major Ind. Group	Province												Total
	Iloilo			Negros Occidental			Cebu			Bohol			
	Sex		Total	Sex		Total	Sex		Total	Sex		Total	
	Male	Female		Male	Female		Male	Female		Male	Female		
Agri., Fish., For.	26	5	31	13	5	18	30	2	32	31	1	32	113
Manufacturing	20	3	23	13	1	14	37	29	66	6	12	18	121
Elec., Gas & Water	1	0	1	1	0	1	0	0	0	0	0	0	2
Construction	14	0	14	14	0	14	13	0	13	4	0	4	45
Wholesale & R Trade	15	29	44	24	40	64	11	14	25	8	13	21	154
Transportation	2	1	3	15	1	16	19	1	20	5	0	5	44
Financing	0	0	0	2	3	5	3	2	5	1	1	2	12
Services	31	30	61	42	32	74	18	24	42	14	26	40	217
Ind. Inadec. Def.	4	3	7	0	1	1	3	2	5	2	1	3	16
Total	113	71	184	124	83	207	135	74	209	71	54	125	725

Source: DRD Survey of Rural Households 1992

Tab6-7.wk1

TABLE 6.8

**Distribution of Employed Household Members
by Major Industry Group by Province**

Major Industry Group	Province												Total
	Iloilo			Negros Occidental			Cebu			Bohol			
	Sex		Total	Sex		Total	Sex		Total	Sex		Total	
	Male	Female		Male	Female		Male	Female		Male	Female		
Agri., Fish., For.	23.0	7.0	16.8	10.5	6.0	8.7	22.2	2.7	15.3	43.7	1.9	25.6	15.6
Manufacturing	17.7	4.2	12.5	10.5	1.2	6.8	27.4	39.2	31.6	8.5	22.2	14.4	16.7
Elec., Gas & Water	0.9	0.0	0.5	0.8	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Construction	12.4	0.0	7.6	11.3	0.0	6.8	9.6	0.0	6.2	5.6	0.0	3.2	6.2
Wholesale & R Trade	13.3	40.8	23.9	19.4	48.2	30.9	8.1	18.9	12.0	11.3	24.1	16.8	21.2
Transportation	1.8	1.4	1.6	12.1	1.2	7.7	14.1	1.4	9.6	7.0	0.0	4.0	6.1
Financing	0.0	0.0	0.0	1.6	3.6	2.4	2.2	2.7	2.4	1.4	1.9	1.6	1.7
Services	27.4	42.3	33.2	33.9	38.6	35.7	13.3	32.4	20.1	19.7	48.1	32.0	29.9
Ind. Inadec. Def.	3.5	4.2	3.8	0.0	1.2	0.5	2.2	2.7	2.4	2.8	1.9	2.4	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: DRD Survey of Rural Households 1992

Tab6-8.wk1

TABLE 6.9

**Distribution of Employed Household Members
by Major Occupational Group by Sex**

Major Occupation Group	Province												Total
	Iloilo			Negros Occidental			Cebu			Bohol			
	Sex		Total	Sex		Total	Sex		Total	Sex		Total	
	Male	Female		Male	Female		Male	Female		Male	Female		
Prof.,Tech. Worker	11	12	23	3	17	20	3	9	12	5	16	21	76
Ad.,Exec.,Man. Wker	2	2	4	3	1	4	1	0	1	1	0	1	10
Clerical Worker	4	8	12	18	14	32	2	5	7	7	4	11	62
Sales Worker	13	26	39	21	37	58	11	15	26	8	14	22	145
Service Worker	12	19	31	10	10	20	5	16	21	1	10	11	83
Ag.,Fish. Worker	25	4	29	8	2	10	29	2	31	31	1	32	102
Prod.,Trans., Lab. Members of the AFP	43	6	49	61	3	64	84	27	111	18	12	30	254
	1	0	1	0	0	0	0	0	0	0	0	0	1
Total	111	77	188	124	84	208	135	74	209	71	57	128	733

Source: DRD Survey of Rural Households 1992

Tab6-9.wk1

TABLE 6.10

**Distribution of Employed Household Members
by Major Occupational Group by Sex**

Major Occupation Group	Province												Total
	Iloilo			Negros Occidental			Cebu			Bohol			
	Sex		Total	Sex		Total	Sex		Total	Sex		Total	
	Male	Female		Male	Female		Male	Female		Male	Female		
Prof.,Tech. Worker	9.9	15.6	12.2	2.4	20.2	9.6	2.2	12.2	5.7	7.0	28.1	16.4	10.4
Ad.,Exec.,Man. Wker	1.8	2.6	2.1	2.4	1.2	1.9	0.7	0.0	0.5	1.4	0.0	0.8	1.4
Clerical Worker	3.6	10.4	6.4	14.5	16.7	15.4	1.5	6.8	3.3	9.9	7.0	8.6	8.5
Sales Worker	11.7	33.8	20.7	16.9	44.0	27.9	8.1	20.3	12.4	11.3	24.6	17.2	19.8
Service Worker	10.8	24.7	16.5	8.1	11.9	9.6	3.7	21.6	10.0	1.4	17.5	8.6	11.3
Ag.,Fish. Worker	22.5	5.2	15.4	6.5	2.4	4.8	21.5	2.7	14.8	43.7	1.8	25.0	13.9
Prod.,Trans., Lab.	38.7	7.8	26.1	49.2	3.6	30.8	62.2	36.5	53.1	25.4	21.1	23.4	34.7
Members of the AFP	0.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: DRD Survey of Rural Households 1992

Tab6-10.wk1

TABLE 6.11

**Distribution of Employed Household Members
by Class of Worker by Province**

Province	Class of Worker												Total
	Wage & Salary Worker			Self-Employed			Unpaid Family Worker			Others			
	Sex		Total	Sex		Total	Sex		Total	Sex		Total	
	Male	Female		Male	Female		Male	Female		Male	Female		
Iloilo	39	26	65	25	19	44	24	18	42	23	14	37	188
Negros Occ.	66	31	97	19	16	35	30	33	63	9	4	13	208
Cebu	73	42	115	5	7	12	43	15	58	14	10	24	209
Bohol	15	17	32	13	17	30	32	21	53	11	2	13	128
Total	193	116	309	62	59	121	129	87	216	57	30	87	733

Source: DRD Survey of Rural Households
Tab6-11.wk1

TABLE 6.12

**Distribution of Employed Household Members
by Class of Worker by Province**

Province	Class of Worker												Total
	Wage & Salary Worker			Self-Employed			Unpaid Family Worker			Others			
	Sex		Total	Sex		Total	Sex		Total	Sex		Total	
	Male	Female		Male	Female		Male	Female		Male	Female		
Iloilo	60.0	40.0	34.6	56.8	43.2	23.4	57.1	42.9	22.3	62.2	37.8	19.7	25.6
Negros Occ.	68.0	32.0	46.6	54.3	45.7	16.8	47.6	52.4	30.3	69.2	30.8	6.3	28.4
Cebu	63.5	36.5	55.0	41.7	58.3	5.7	74.1	25.9	27.8	58.3	41.7	11.5	28.5
Bohol	46.9	53.1	25.0	43.3	56.7	23.4	60.4	39.6	41.4	84.6	15.4	10.2	17.5
Total	62.5	37.5	42.2	51.2	48.8	16.5	59.7	40.3	29.5	65.5	34.5	11.9	100.0

Source: DRD Survey of Rural Households: 1992

Tab6-12.wk1

TABLE 6.13-A

**DISTRIBUTION OF HOUSEHOLD MEMBERS WHO WORKED
DURING THE PAST WEEK BY PRIMARY
OCCUPATION AND BY CLASS OF WORKER**

OCCUPATION	ILOILO										TOTAL	
	CLASS OF WORKER											
	Worked for Private Employee		Worked for Govt/Govt Corporation		Self-Employed w/o any Employee		Employer		Unpaid Family Worker			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Professional, Technical and Related Workers	33	35.9	2	5.0	0	0.0	0	0.0	0	0.0	35	21.0
Administrative, Executive and Managerial Workers	4	4.3	3	7.5	1	3.3	0	0.0	0	0.0	8	4.8
Clerical and Related Workers	2	2.2	1	2.5	0	0.0	0	0.0	0	0.0	3	1.8
Sales Workers	5	5.4	22	55.0	8	26.7	2	66.7	1	50.0	38	22.8
Service Workers	11	12.0	1	2.5	1	3.3	0	0.0	0	0.0	13	7.8
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	4	4.3	5	12.5	14	46.7	1	33.3	0	0.0	24	14.4
Production and Related Workers Transport, Equipment Operators and Laborers	33	35.9	6	15.0	6	20.0	0	0.0	1	50.0	46	27.5
TOTAL	92	100.0	40	100.0	30	100.0	3	100.0	2	100.0	167	100.0

Source: DRD Survey of Rural Households 1992

Tab6-13a.wk1

TABLE 6.13-B

**DISTRIBUTION OF HOUSEHOLD MEMBERS WHO WORKED
DURING THE PAST WEEK BY PRIMARY
OCCUPATION AND BY CLASS OF WORKER**

OCCUPATION	NEGROS OCCIDENTAL										TOTAL	
	CLASS OF WORKER											
	Worked for Private Employee		Worked for Govt/Govt Corporation		Self-Employed w/o any Employee		Employer		Unpaid Family Worker		No.	%
	No.	%	No.	%	No.	%	No.	%	No.	%		
Professional, Technical and Related Workers	39	33.9	1	1.4	0	0.0	0	0.0	0	0	40	20.4
Administrative, Executive and Managerial Workers	7	6.1	2	2.8	0	0.0	0	0.0	0	0	9	4.6
Clerical and Related Workers	11	9.6	0	0.0	0	0.0	0	0.0	0	0	11	5.6
Sales Workers	9	7.8	45	63.4	5	71.4	0	0.0	0	0	59	30.1
Service Workers	31	27.0	10	14.1	0	0.0	1	33.3	0	0	42	21.4
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	4	3.5	5	7.0	2	28.6	0	0.0	0	0	11	5.6
Production and Related Workers Transport, Equipment Operators and Laborers	14	12.2	8	11.3	0	0.0	2	66.7	0	0	24	12.2
TOTAL	115	100.0	71	100.0	7	100.0	3	100.0	0	0	196	100.0

Source: DRD Survey of Rural Households 1992

Tab6-13b.wk1

TABLE 6.13-C

**DISTRIBUTION OF HOUSEHOLD MEMBERS WHO WORKED
DURING THE PAST WEEK BY PRIMARY
OCCUPATION AND BY CLASS OF WORKER**

OCCUPATION	CEBU										TOTAL	
	CLASS OF WORKER											
	Worked for Private Employee		Worked for Govt/Govt Corporation		Self-Employed w/o any Employee		Employer		Unpaid Family Worker			
	No.	%	No.	%	No.	%	No.	%	No.	%		No.
Professional, Technical and Related Workers	10	8.5	1	1.9	0	0.0	0	0.0	0	0.0	11	5.8
Administrative, Executive and Managerial Workers	2	1.7	1	1.9	2	25.0	0	0.0	0	0.0	5	2.6
Clerical and Related Workers	12	10.3	0	0.0	0	0.0	0	0.0	0	0.0	12	6.3
Sales Workers	11	9.4	16	30.8	0	0.0	6	50.0	0	0.0	33	17.4
Service Workers	21	17.9	8	15.4	0	0.0	0	0.0	0	0.0	29	15.3
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	3	2.6	15	28.8	2	25.0	3	25.0	1	100.0	24	12.6
Production and Related Workers												
Transport, Equipment Operators and Laborers	58	49.6	11	21.2	4	50.0	3	25.0	0	0.0	76	40.0
TOTAL	117	100.0	52	100.0	8	100.0	12	100.0	1	100.0	190	100.0

Source: DRD Survey of Rural Households 1992

Tab6-13c.wk1

TABLE 6.13-D

**DISTRIBUTION OF HOUSEHOLD MEMBERS WHO WORKED
DURING THE PAST WEEK BY PRIMARY
OCCUPATION AND BY CLASS OF WORKER**

OCCUPATION	BOHOL										Total	
	CLASS OF WORKER											
	Worked for Private Employee		Worked for Govt/Govt Corporation		Self-Employed w/o any Employee		Employer		Unpaid Family Worker			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Professional, Technical and Related Workers	22	44.9	1	1.8	0	0.0	0	0.0	0	0	23	19.8
Administrative, Executive and Managerial Workers	0	0.0	1	1.8	0	0.0	0	0.0	0	0	1	0.9
Clerical and Related Workers	1	2.0	0	0.0	0	0.0	0	0.0	0	0	1	0.9
Sales Workers	2	4.1	14	25.0	1	11.1	0	0.0	0	0	17	14.7
Service Workers	14	28.6	8	14.3	0	0.0	0	0.0	0	0	22	19.0
Agricultural, Animal Husbandry and Forestry Workers, Fishermen	5	10.2	15	26.8	8	88.9	0	0.0	0	0	28	24.1
Production and Related Workers Transport, Equipment Operators and Laborers	5	10.2	17	30.4	0	0.0	2	100.0	0	0	24	20.7
TOTAL	49	100.0	56	100.0	9	100.0	2	100.0	0	0	116	100.0

Source: DRD Survey of Rural Households 1992

Tab6-13d.wk1

TABLE 6.14

**DISTRIBUTION OF HOUSEHOLD MEMBERS BY LOCATION
WHERE PRIMARY OCCUPATION IS CARRIED OUT**

WORK LOCATION	PROVINCE								TOTAL	
	ILOILO		NEGROS OCCIDENTAL		CEBU		BOHOL			
	No.	%	No.	%	No.	%	No.	%	No.	%
Own Home/Immediate Neighborhood	40	23.8	44	22.4	45	24.9	64	44.4	193	28.0
Same Barangay of Residencebut beyond Immediate Neighborhood	47	28.0	45	23.0	45	24.9	43	29.9	180	26.1
Different Barangay but in the same Municipality	51	30.4	51	26.0	36	19.9	21	14.6	159	23.1
Different Municipality but in the same Province	29	17.3	55	28.1	53	29.3	16	11.1	153	22.2
Different Province outside Visayas	1	0.6	1	0.5	1	0.6	0	—	3	0.4
At Various Locations in the Province or in the Visayas	0	—	0	—	1	0.6	0	—	1	0.1
TOTAL	168	100.0	196	100.0	181	100.0	144	100.0	689	100.0

Source: DRD Survey of Rural Households 1992

Tab6-14.wk1

TABLE 6.16-A

**DISTRIBUTION OF EMPLOYED HOUSEHOLD MEMBERS
WITH SECONDARY OCCUPATION BY OCCUPATION
AND CLASS OF WORKER**

OCCUPATION	ILOILO											
	CLASS OF WORKER										Total	
	Worked for Private Employee		Worked for Govt/Govt Corporation		Self-Employed w/o any Employee		Employer		Unpaid Family Worker			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Professional, Technical and Related Workers	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0.0
Administrative, Executive and Managerial Workers	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0.0
Clerical and Related Workers	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0.0
Sales Workers	0	0.0	2	28.6	1	7.1	0	0	0	0	3	12.5
Service Workers	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0.0
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	0	0.0	4	57.1	11	78.6	0	0	0	0	15	62.5
Production and Related Workers	3	100.0	1	14.3	2	14.3	0	0	0	0	6	25.0
Transport, Equipment Operators and Laborers	3	100.0	1	14.3	2	14.3	0	0	0	0	6	25.0
TOTAL	3	100.0	7	100.0	14	100.0	0	0	0	0	24	100.0

Source: DRD Survey of Rural Households 1992

Tab6-16A.WK1

TABLE 6.16-B

**DISTRIBUTION OF EMPLOYED HOUSEHOLD MEMBERS
WITH SECONDARY OCCUPATION BY OCCUPATION
AND CLASS OF WORKER**

OCCUPATION	NEGROS OCCIDENTAL											
	CLASS OF WORKER										TOTAL	
	Worked for Private Employee		Worked for Govt/Govt Corporation		Self-Employed w/o any Employee		Employer		Unpaid Family Worker			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Professional, Technical and Related Workers	0	0.0	1	16.7	0	0.0	0	0.0	0	0.0	1	12.5
Administrative, Executive and Managerial Workers	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	1	12.5
Clerical and Related Workers	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sales Workers	0	0.0	2	33.3	0	0.0	0	0.0	0	0.0	2	25.0
Service Workers	0	0.0	1	16.7	0	0.0	0	0.0	0	0.0	1	12.5
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Production and Related Workers	0	0.0	2	33.3	0	0.0	1	50.0	0	0.0	3	37.5
Transport, Equipment Operators and Laborers	0	0.0	2	33.3	0	0.0	1	50.0	0	0.0	3	37.5
TOTAL	0	0.0	6	100.0	0	0.0	2	100.0	0	0.0	8	100.0

Source: DRD Survey of Rural Households 1992

Tab6-16b.wk1

TABLE 6.16-C

**DISTRIBUTION OF EMPLOYED HOUSEHOLD MEMBERS
WITH SECONDARY OCCUPATION BY OCCUPATION
AND CLASS OF WORKER**

OCCUPATION	CEBU										TOTAL	
	CLASS OF WORKER											
	Worked for Private Employee		Worked for Govt/Govt Corporation		Self-Employed w/o any Employee		Employer		Unpaid Family Worker			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Professional, Technical and Related Workers	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Administrative, Executive and Managerial Workers	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clerical and Related Workers	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sales Workers	2	50.0	0	0.0	1	25.0	0	0.0	0	0.0	3	30.0
Service Workers	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	1	25.0	3	75.0	1	25.0	0	0.0	0	0.0	5	50.0
Production and Related Workers												
Transport, Equipment Operators and Laborers	1	25.0	1	25.0	0	0.0	0	0.0	0	0.0	2	20.0
TOTAL	4	100.0	4	100.0	2	50.0	0	0.0	0	0.0	10	100.0

Source: DRD Survey of Rural Households 1992

Tab6-16c.wk1

TABLE 6.16-D

**DISTRIBUTION OF EMPLOYED HOUSEHOLD MEMBERS
WITH SECONDARY OCCUPATION BY OCCUPATION
AND CLASS OF WORKER**

OCCUPATION	BOHOL										TOTAL	
	CLASS OF WORKER											
	Worked for Private Employee		Worked for Govt/Govt Corporation		Self-Employed w/o any Employee		Employer		Unpaid Family Worker			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Professional, Technical and Related Workers	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Administrative, Executive and Managerial Workers	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clerical and Related Workers	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sales Workers	1	33.3	3	30.0	0	0.0	0	0.0	0	0.0	4	26.7
Service Workers	1	33.3	0	0.0	0	0.0	1	100.0	0	0.0	2	13.3
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	0	0.0	4	40.0	1	100.0	0	0.0	0	0.0	5	33.3
Production and Related Workers Transport, Equipment Operators and Laborers	1	33.3	3	30.0	0	0.0	0	0.0	0	0.0	4	26.7
TOTAL	3	100.0	10	100.0	1	100.0	1	100.0	0	0.0	15	100.0

Source: DRD Survey of Rural Households 1992

Tab6-16d.wk1

TABLE 6.15

**AVERAGE WEEKLY WAGE/SALARY OF EMPLOYED
HOUSEHOLD MEMBER BY PRIMARY OCCUPATION
AND BY PROVINCE
(IN PESOS)**

OCCUPATION	PROVINCE			
	ILOILO	NEGROS OCC.	CEBU	BOHOL
Professional, Technical and Related Workers	1,991.8 (1466.3)	829.1 (605.4)	495.1 (534.7)	3,121.8 (930.3)
Administrative, Executive and Managerial Workers	1,381.2 (1072.4)	2,102.4 (3222.4)	1,000.0 (1414.2)	2,880.0 -
Clerical and Related Workers	1,600.0 (2116.6)	593.2 (200.7)	512.9 (671.8)	1,200.0 -
Sales Workers	874.9 (1366)	407.4 (578.9)	343.8 (429.7)	175.3 (450.4)
Service Workers	1,160.2 (1477.7)	448.5 (348)	383.6 (786.3)	736.9 (1082.3)
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	177.0 (256.1)	449.9 (479.7)	80.0 (105.5)	132.3 (175.9)
Production and Related Workers Transport, Equipment Operators and Laborers	569.4 (1006.6)	502.7 (320.4)	332.6 (317.5)	276.9 (523.8)
TOTAL	984.0	617.4	348.8	731.8

Source: DRD Survey of Rural Households 1992

* Numbers in parenthesis are standard deviation

Tab6-15.wk1

TABLE 6.17

**AVERAGE WEEKLY WAGE/SALARY OF EMPLOYED
HOUSEHOLD MEMBER IN SECONDARY OCCUPATION
(IN PESOS)**

OCCUPATION	PROVINCE			
	ILOILO	NEGROS OCC.	CEBU	BOHOL
Professional, Technical and Related Workers	— —	250.0 —	— —	— —
Administrative, Executive and Managerial Workers	— —	2,325.0 —	— —	— —
Clerical and Related Workers	— —	— —	— —	— —
Sales Workers	166.7 (152.8)	87.5 (123.7)	149.3 (133.1)	31.2 (31.7)
Service Workers	— —	— —	— —	35.0 (7.1)
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	356.7 (1152.5)	— —	60.0 (134.2)	20.0 (44.7)
Production and Related Workers Transport, Equipment Operators and Laborers	212.5 (392.4)	16.7 (28.9)	690.0 (551.5)	146.2 (179.0)
TOTAL	296.9 (922.1)	425.0 (933.3)	212.8 (332.6)	58.7 (103.3)

Source: DRD Survey of Rural Households 1992

*Numbers in parenthesis are standard deviation

Tab6-17.wk1

TABLE 6.18

**AVERAGE WEEKLY EARNINGS OF WORKERS IN AGRICULTURAL
AND NON-AGRICULTURAL ECONOMIC ACTIVITIES
BY PROVINCE
(PAST WEEK; IN PESOS)**

PROVINCE	AGRICULTURE		NON-AGRICULTURE	
	CASH	KIND	CASH	KIND
ILOILO	— —	— —	1,550.2 (1320.1)	— —
NEGROS OCCIDENTAL	445.2 (318.6)	22.2 (11.3)	674.8 (413.3)	34.0 (20.3)
CEBU	653.3 (435.8)	346.7 (219.1)	807.6 (617.5)	37.0 (28.5)
BOHOL	685.0 (280.1)	— —	2,221.0 (1,800.5)	— —
TOTAL	544.2	77.5	1,129.5	—

Source: DRD Survey of Rural Households 1992

Note: Figures in parenthesis are standard deviation

Tab6-18.wk1

TABLE 6.19

**AVERAGE WEEKLY EARNINGS OF WORKERS IN
NON-AGRICULTURAL ACTIVITIES BY INDUSTRY AND PROVINCE
(PAST WEEK)**

INDUSTRY	PROVINCE							
	ILOILO		NEGROS OCC.		CEBU		BOHOL	
	CASH	KIND	CASH	KIND	CASH	KIND	CASH	KIND
Manufacturing	635.7 (603.4)	— —	817.5 (513.7)	40.0 (38.1)	576.2 (418.1)	— —	480.0 (335.5)	— —
Construction	602.6 (513.0)	— —	536.3 (409.7)	— —	555.6 (520.7)	— —	1,680.0 (1,288.9)	— —
Transportation	720.0 (301.0)	— —	577.5 (318.0)	— —	761.2 (526.9)	— —	1,663.3 (1,569.4)	— —
Services	2,016.9 (2,003.1)	— —	719.3 (610.4)	— —	783.6 (650.0)	37.0 (50.1)	2,479.8 (2,317.1)	— —
Wholesale & Retail Trade	858.3 (415.1)	— —	486.9 (325.4)	28.0 (55.2)	1,650.8 (1,598.7)	— —	1,200.0 (1,001.1)	— —
Financing	— —	— —	416.7 (532.8)	— —	1,478.0 (1,202.6)	— —	3,450.0 (2,853.4)	— —

Source: DRD Survey of Rural Households 1992

Note: Figures in parenthesis are standard deviation

Tab6-19.wk1

TABLE 6.20

WAGE LABOR IN SAMPLE PROVINCES

	P R O V I N C E				TOTAL
	ILOILO	NEGROS OCC.	CEBU	BOHOL	
TOTAL SAMPLE HOUSEHOLDS	132	78	112	129	451
NUMBER OF WAGE AND SALARY WORKERS	65	97	115	32	309
% OF WAGE WORKERS TO TOTAL EMPLOYMENT	34.6	46.6	55.0	25.0	42.2

Source: DRD Survey of Rural Households 1992
Tab6-20.wk1

TABLE 6.21

**DISTRIBUTION OF HOUSEHOLD MEMBERS WHO WORKED AS
WAGE/SALARY WORKERS BY OCCUPATION AND PROVINCE**

OCCUPATION	PROVINCE								TOTAL	
	ILOILO		NEG. OCC.		CEBU		BOHOL			
	No.	%	No.	%	No.	%	No.	%	No.	%
Professional, Technical and Related Workers	19	18.8	19	15.3	12	9.0	21	33.9	71	16.9
Administrative, Executive and Managerial Workers	2	2.0	1	0.8	1	0.7	0	—	4	1.0
Clerical and Related Workers	5	5.0	16	12.9	5	3.7	7	11.3	33	7.8
Sales Workers	7	7.0	8	6.5	7	5.2	6	9.7	28	6.7
Service Workers	27	26.7	34	27.4	13	9.7	11	17.7	85	20.2
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	6	5.9	2	1.6	4	3.0	2	3.2	14	3.3
Production and Related Workers Transport, Equipment Operators and Laborers	35	34.7	44	35.5	92	68.7	15	24.2	186	44.2
TOTAL	101	100.0	124	100.0	134	100.0	62	100.0	421	100.0

Source: DRD Survey of Rural Households 1992

Tab6-21.wk1

TABLE 6.22

**AVERAGE NUMBER OF HOURS WORKED OF WAGE/SALARY
WORKERS BY OCCUPATION AND PROVINCE
(PAST WEEK)**

OCCUPATION	PROVINCE				TOTAL
	ILOILO	NEGROS OCC.	CEBU	BOHOL	
Professional, Technical and Related Workers	37.8 (9.7)	40.7 (9.5)	39.6 (10.9)	37.7 (10.5)	38.9 (9.9)
Administrative, Executive and Managerial Workers	28.0 (28.3)	48.0 —	40.0 —	— —	36.0 (19.1)
Clerical and Related Workers	41.6 (3.6)	42.3 (9.6)	41.0 (8.4)	47.7 (10.8)	43.2 (9.1)
Sales Workers	45.9 (25.0)	61.3 (11.7)	46.6 (12.8)	40.0 (21.0)	48.1 (20.2)
Service Workers	36.3 (23.2)	47.2 (16.2)	44.8 (35.3)	39.3 (43.5)	48.5 (30.6)
Agricultural, Animal Husbandry, and Forestry Workers, Fishermen and Hunters	40.2 (14.8)	30.0 (25.5)	33.5 (20.0)	28.0 (17.0)	35.1 (16.5)
Production and Related Workers, Transport, Equipment Operators and Laborers	38.5 (21.5)	45.3 (15.9)	45.2 (16.1)	34.3 (18.9)	43.1 (17.7)
TOTAL	38.1 (19.6)	45.6 (14.8)	48.0 (21.8)	38.2 (22.3)	43.4 (19.9)

Source: DRD Survey of Rural Households 1992

Note: Figures in parenthesis are standard deviation
Tab6-22.wk1

TABLE 6.23

**AVERAGE WEEKLY AMOUNT RECEIVED OF WAGE/SALARY
WORKERS BY OCCUPATION AND PROVINCE
(PAST WEEK)**

OCCUPATION	PROVINCE				Total
	ILOILO	NEGROS OCC.	CEBU	BOHOL	
Professional, Technical and Related Workers	808.2 (715.0)	750.0 (635.1)	560.5 (511.0)	905.5 (889.1)	779.5
Administrative, Executive and Managerial Workers	836.3 (908.3)	1,500.0 (1,738.0)	1,500.0 (1607.1)	-- -	1,168.1
Clerical and Related Workers	697.7 (531.1)	551.0 (502.7)	578.0 (488.7)	1,032.9 (1,200.7)	679.5
Sales Workers	228.6 (100.5)	478.6 (438.9)	705.7 (673.1)	303.3 (292.0)	435.3
Service Workers	523.7 (334.5)	501.5 (476.6)	191.2 (301.1)	317.6 (281.3)	437.3
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	216.6 (157.8)	50.0 (69.1)	222.5 (250.1)	190.0 (203.7)	190.7
Production and Related Workers Transport, Equipment Operators and Laborers	488.6 (303.6)	628.7 (599.8)	394.0 (301.1)	310.0 (298.1)	460.6
TOTAL	548.1	590.4	415.5	590.1	524.6

Source: DRD Survey of Rural Households 1992
Tab6-23.wk1

TABLE 6.24

**DISTRIBUTION OF HOUSEHOLD MEMBERS ENGAGED
IN ENTREPRENEURIAL ACTIVITIES
BY TYPE OF ACTIVITY**

ENTREPRENEURIAL ACTIVITY	PROVINCE								TOTAL	
	ILOILO		NEGROS OCC.		CEBU		BOHOL			
	No.	%	No.	%	No.	%	No.	%	No.	%
Crop Farming & Gardening	6	6.7	4	6.2	10	20.8	6	12.5	26	10.4
Livestock & Poultry	24	27.0	2	3.1	6	12.5	7	14.6	39	15.6
Fishing	8	9.0	4	6.2	5	10.4	7	14.6	24	9.6
Manufacturing	8	9.0	4	6.2	7	14.6	9	18.8	28	11.2
Wholesale & Retail Trade	39	43.8	45	69.2	13	27.1	16	33.3	113	45.2
Transport, Storage & Com.	2	2.2	4	6.2	2	4.2	0	0.0	8	3.2
Construction	0	0.0	0	0.0	1	2.1	0	0.0	1	0.4
Services	1	1.1	2	3.1	2	4.2	0	0.0	5	2.0
Other Non-Agr'l. Activities	1	1.1	0	0.0	2	4.2	3	6.2	6	2.4
TOTAL	89	100.0	65	100.0	48	100.0	48	100.0	250	100.0

Source: DRD Survey of Rural Households 1992

Tab6-24.wk1

TABLE 6.25

**EMPLOYMENT IN HOUSEHOLD-OPERATED ECONOMIC ACTIVITY
BY TYPE OF LABOR**

TYPE OF LABOR	P R O V I N C E								Total	
	ILOILO		N. OCC.		CEBU		BOHOL			
	No.	%	No.	%	No.	%	No.	%	No.	%
HIRED	42	44.7	45	57	16	25.4	13	41.9	116	43.4
FAMILY	52	55.3	34	43	47	74.6	18	58.1	151	56.6
TOTAL	94		79		63		31		267	

Source: DRD Survey of Rural Households 1992

Tab6-25.wk1

TABLE 6.26

**EMPLOYMENT IN HOUSEHOLD-OPERATED ECONOMIC ACTIVITY
BY TYPE OF ACTIVITY AND TYPE OF LABOR**

TYPE OF ACTIVITY	P R O V I N C E															TOTAL														
	ILOILO					NEGROS OCC.					CEBU					BOHOL			TOTAL											
	HIRED		FAMILY		TOTAL	HIRED		FAMILY		TOTAL	HIRED		FAMILY		TOTAL	HIRED		FAMILY		TOTAL										
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%								
Crop Farming & Gardening	11	26.2	3	5.8	14	14.9	13	28.9	1	2.9	14	17.7	9	56.3	13	27.7	22	34.9	1	7.7	4	22.2	5	16.1	34	29.3	21	13.9	55	20.6
Livestock & Poultry	0	0.0	5	9.6	5	5.3	0	0.0	1	2.9	1	1.3	0	0.0	1	2.1	1	1.6	0	0.0	0	0.0	0	0.0	0	0.0	7	4.6	7	2.6
Fishing	3	7.1	5	9.6	8	8.5	10	22.2	3	8.8	13	16.5	0	0.0	2	4.3	2	3.2	1	7.7	0	0.0	1	3.2	14	12.1	10	6.6	24	9.0
Manufacturing	9	21.4	12	23.1	21	22.3	1	2.2	3	8.8	4	5.1	4	25.0	14	29.8	18	28.6	0	0.0	0	0.0	0	0.0	14	12.1	29	19.2	43	16.1
Wholesale & Retail Trade	19	45.2	26	50.0	45	47.9	16	35.6	24	70.6	40	50.6	3	18.8	12	25.5	15	23.8	8	61.5	13	72.2	21	67.7	46	39.7	75	49.7	121	45.3
Other NonAgr'l Activities	0	0.0	1	1.9	1	1.1	5	11.1	2	5.9	7	8.9	0	0.0	5	10.6	5	7.9	3	23.1	1	5.6	4	12.9	8	6.9	9	6.0	17	6.4
TOTAL	42	100.0	52	100.0	94	100.0	45	100.0	34	100.0	79	100.0	16	100.0	47	100.0	63	100.0	13	100.0	18	100.0	31	100.0	116	100.0	151	100.0	267	100.0

Source: DRD Survey of Rural Households 1992

Tab6-26.wk1

TABLE 6.27

**AVERAGE HOURS WORKED PER DAY IN HOUSEHOLD-BASED
ECONOMIC ACTIVITIES BY TYPE OF LABOR**

ACTIVITY/ TYPE OF LABOR	PROVINCE				TOTAL
	ILOILO	NEGROS OCC.	CEBU	BOHOL	
CROP FARMING					
Family Labor	6	5	5	3	5
Hired Labor	7	9	10	0	8
LIVESTOCK & POULTRY RAISING					
Family Labor	7	4	4	0	5
Hired Labor	0	0	0	0	0
FISHING					
Family Labor	8	4	4	0	6
Hired Labor	7	0	0	8	7.5
MANUFACTURING					
Family Labor	8	9	9	0	8
Hired Labor	0	0	0	0	0
WHOLESALE & RETAIL TRADE					
Family Labor	6	12	8	9	9
Hired Labor	7	9	9	9	8.5
OTHER HOUSEHOLD-BASED ECONOMIC ACTIVITIES					
Family Labor	5	4	7	8	6
Hired Labor	0	12	0	8	9

Source: DRD Survey of Rural Households 1992
Tab6-27.wk1

TABLE 6.28

**EXPENDITURE PATTERN OF SURVEY HOUSEHOLDS
(PAST WEEK)**

PROPORTION SPENT ON (%)	ILOILO	NEGROS OCC.	CEBU	BOHOL
Food Consumed at Home	44.6	35.3	53.7	36.1
Fuel, Light & Water	9.8	8.7	9.7	7.2
Transportation & Communication	4.9	6.9	5.9	4.0
Household Operations	2.6	2.0	4.3	1.8
Personal Effects	2.5	2.6	3.9	1.5
Clothing & Footwear	6.1	7.6	8.0	3.7
Education	18.7	17.8	9.1	24.0
Recreation	0.3	—	0.5	—
Medical Care	10.4	18.8	4.6	20.4
Durables	0.1	—	—	—

Source: DRD Survey of Rural Households 1992
Tab6-28.wk1

TABLE 7.1
DEFINITION OF VARIABLES

VARIABLE	DEFINITION
LMPALL	Equals 1 if the individual participated in rural nonagricultural activities, and 0 otherwise
LMPML	Equals 1 if the male individual participated in nonagricultural activities, and 0 otherwise
LMPFL	Equals 1 if the female individual participated in nonagricultural activities, and 0 otherwise
WWAGE	Weekly wage
WWAGEM	Weekly wage, male
WWAGEF	Weekly wage, female
HRWD	Number of hours worked per week in nonagricultural jobs
HRWDM	Number of hours worked per week, male
HRWDF	Number of hours worked per week, female
WKWD	Number of weeks worked in nonagricultural jobs
WKWDM	Number of weeks worked, male
WKWDF	Number of weeks worked, female
AGE	Age in years (proxy for experience)
AGEQ	Age in years squared (proxy for experience)
EDUC1	Equals 1 if the individual has not attended primary school, and 0 otherwise, and is omitted
EDUC2	Equals 1 if the individual has only attended primary school, and 0 otherwise
EDUC3	Equals 1 if the individual has completed elementary and has attended high school, and 0 otherwise.
EDUC4	Equals 1 if the individual has completed high school and has attended college, and 0 otherwise
EDUC5	Equals 1 if the individual has completed college or done post graduate training, and 0 otherwise

TABLE 7.1 (Continuation):

CHILD6	Number of children less than 6 years of age
CHLD14	Number of children greater than or equal to 6 and less than or equal to 14 years of age
NMALE	Number of other males in the household aged 15 years to 65 years old
NFEMAL	Number of other females in the household age 15 years to 65 years old
NLINC	Non-labor income of the household
NLINCQ	Non-labor income squared
CS	Equals 1 if the individual is married, and 0 otherwise
LAND	Equals 1 if the individual's household owns land, and 0 otherwise
WORK1	Equals 1 if the individual's work is located in own home or immediate neighborhood, and 0 otherwise
WORK2	Equals 1 if the individual's work is located in the same barangay of residence but beyond immediate neighborhood, and 0 otherwise
WORK3	Equals 1 if the individual's work is located in different barangay but in the same municipality of residence, and 0 otherwise
WORK4	Equals 1 if the individual's work is located in a different municipality but in the same province, and 0 otherwise
WORK5	Equals 1 if the individual's work is located in a different province, and 0 otherwise
WORK6	Equals 1 if the individual works at various locations in the province of residence, and 0 otherwise
HHBUS	Equals 1 if the individual's household owns a business (household-operated economic activity), and 0 otherwise
PWW	Predicted wage
PWWM	Predicted wage, male
PWWF	Predicted wage, female
MILLS	Inverse of the Mills' ratio

TABLE 7.2

MEANS AND STANDARD DEVIATIONS
OF MAJOR VARIABLES

VARIABLE	MEAN	SD
AGE – ALL	34.42	15.25
AGE – Male	33.76	14.88
AGE – Female	35.08	15.58
CHILD6	17.47	159.89
CHLD14	11.10	161.12
NMALE	7.03	161.84
NFEMAL	4.88	162.25
NLINC	5,464.80	55,270.00
PWW	248.47	255.47
PWWM	201.50	279.11
PWWF	251.85	262.06
HRWD	0.27	0.48
HRWDM	0.26	0.47
HRWDF	0.28	0.48
WKWD	0.29	0.46
WKWDM	0.13	0.38
WKWDF	0.27	0.18

TABLE 7.3

PROBIT ESTIMATES: RURAL LABOR PARTICIPATION
IN NONAGRICULTURAL ACTIVITIES
(DRD Rural Household Survey, 1992)

INDEPENDENT VARIABLE	ALL	MALE	FEMALE
Constant	-0.8801 (2.505) *	-0.5265 (1.023)	-1.1578 (2.343) *
AGE	0.0109 (0.574)	0.0052 (0.184)	0.0150 (0.572)
AGEQ	0.1671 (0.693)	-0.0001 (0.3681)	-0.0002 (0.578)
EDUC2	1.0684 (1.494)	0.7293 (0.922)	3.5756 (0.068)
EDUC3	-0.0790 (0.697)	-0.1360 (0.841)	-0.0610 (0.370)
EDUC4	0.1452 (1.310)	-0.1754 (1.154)	-0.1474 (0.886)
EDUC5	0.0787 (0.672)	0.0808 (0.436)	0.0867 (0.555)
CHILD6	0.0067 (0.955)	0.0120 (1.128)	0.0031 (0.324)
CHLD14	-0.0103 (1.050)	-0.0164 (1.143)	-0.0044 (0.312)
NMALE	-0.0034 (0.310)	-0.0090 (0.541)	-0.0010 (0.064)

* Figures in parenthesis are t-statistics

TABLE 7.3 (Continued):

INDEPENDENT VARIABLE	ALL	MALE	FEMALE
NFEMAL	0.0068 (0.539)	0.0126 (0.665)	0.0023 (0.129)
CS	-0.0216 (0.214)	0.0743 (0.456)	-0.1350 (0.995)
LAND	2.9240 (0.059)	2.7986 (0.058)	2.6438 (0.041)
WORK1	1.0276 * (6.257)	0.7965 * (3.281)	1.2243 * (5.307)
WORK2	1.5544 * (9.244)	1.4439 * (5.784)	1.6940 * (7.159)
WORK3	2.3875 * (12.657)	1.9645 * (7.391)	2.9029 * (10.094)
WORK4	1.8782 * (10.985)	1.6621 * (6.689)	2.0931 * (8.610)
WORK5	5.3106 (0.067)	4.9946 (0.073)	5.3331 (0.048)
WORK6	5.2587 (0.067)	4.7681 (0.070)	5.5135 (0.049)
HHBUS	-1.3698 * (3.846)	-1.4018 * (2.288)	-1.3483 * (3.025)
NLINC	-0.00001 ** (1.782)	-0.00001 (1.299)	-0.00001 (1.226)
NLINCQ	1.7E-11 ** (1.845)	1.7E-11 (1.258)	2.1E-11 (0.689)
N	1,482	698	778
Non-Zero Observations	1,101	529	567
Chi-Squared(21)	332.36	124.97	222.52

Figures in parenthesis are t-statistics

* Significant at 5 %

** Significant at 10 %

TABLE 7.4

SELECTIVITY CORRECTED WAGE EQUATIONS

INDEPENDENT VARIABLE	ALL	MALE	FEMALE
Constant	-66.894 (0.232)	-17.458 (0.047)	-48.085 (0.124)
AGE	15.736 * (2.571)	18.957 * (2.072)	14.361 ** (1.696)
AGEQ	-0.208 * (2.635)	-0.243 * (2.068)	-0.192 ** (1.758)
EDUC2	-163.660 (1.036)	-22.811 (0.099)	-304.250 (1.401)
EDUC3	14.327 (0.376)	1.510 (0.027)	52.369 (0.948)
EDUC4	24.382 (0.639)	-11.059 (0.203)	61.713 (1.122)
EDUC5	-14.295 (0.409)	-0.026 (0.155)	-15.443 (0.330)
CHILD6	-0.126 (1.293)	-29.220 (0.561)	-0.180 (1.384)
CS	6.629 (0.209)	-29.220 (0.561)	9.811 (0.225)
LAND	186.930 (0.995)	156.500 (0.514)	188.790 (0.774)

TABLE 7.4 (Continuation):

INDEPENDENT VARIABLE	ALL	MALE	FEMALE
WORK1	-719.58 * (4.605)	-770.38 * (4.204)	-704.98 * (3.009)
WORK2	-353.99 ** (1.768)	-426.15 ** (1.649)	-346.16 (1.252)
WORK3	-359.11 (1.461)	-427.87 (1.412)	-382.48 (1.119)
WORK4	-295.95 (1.333)	-346.74 (1.242)	-324.85 (1.062)
WORK5	-198.46 (0.500)	-257.08 (0.461)	-205.02 (0.379)
WORK6	-1215.7 * (3.095)	-1313.1 * (2.433)	-1222.1 * (2.238)
MILLS	-130.59 (0.696)	-231.31 (0.819)	-131.67 (0.629)
N	1101	529	567
R - SQUARED	0.173	0.191	0.161

Figures in parenthesis are t-statistics

* Significant at 5 %

** Significant at 10 %

TABLE 7.5.

RURAL NONAGRICULTURAL
LABOR SUPPLY EQUATIONS:
DEPENDENT VARIABLE – HRWD

INDEPENDENT VARIABLE	ALL	MALE	FEMALE
Constant	-167.150 ** (1.727)	44.971 (0.313)	-414.540 * (3.093)
AGE	2.566 (0.445)	-10.063 (1.155)	14.445 ** (1.827)
AGEQ	-0.049 (0.655)	0.109 (0.983)	-0.200 * (1.926)
CHILD6	-1.607 (0.738)	0.841 (0.258)	-4.847 ** (1.609)
CHLD14	3.489 (1.145)	2.905 (0.653)	4.652 (1.076)
NMALE	1.554 (0.460)	1.375 (0.270)	3.154 (0.659)
NFEMAL	-3.730 (0.967)	-5.318 (0.918)	-3.252 (0.594)

TABLE 7.5 (Continuation):

INDEPENDENT VARIABLE	ALL	MALE	FEMALE
NLINC	-0.008 * (4.767)	-0.009 * (3.505)	-0.008 * (3.291)
NLINCQ	0.11E-07 * (5.002)	0.12E-07 * (3.661)	0.11E-07 * (3.455)
MILLS	146.840 * (7.541)	202.270 * (6.187)	123.690 * (4.420)
PWW	0.431 * (6.953)	0.481 * (5.304)	0.323 * (3.662)
CS	-0.554 (0.018)	42.577 (0.848)	-26.367 (0.647)
LAND	203.920 (0.980)	221.840 (0.677)	218.810 (0.797)
N	1,101	529	567
R-SQUARED	0.709	0.807	0.604

Figures in parenthesis are t-statistics

* Significant at 5 %

** Significant at 10 %

TABLE 7.6

RURAL NONAGRICULTURAL
LABOR SUPPLY EQUATIONS:
DEPENDENT VARIABLE – WKWD

INDEPENDENT VARIABLE	ALL	MALE	FEMALE
Constant	-199.690 * (2.147)	17.212 (1.439)	2.267 * (4.446)
AGE	2.505 (0.451)	-0.826 (1.139)	0.053 ** (1.755)
AGEQ	-0.046 (0.651)	0.011 (1.152)	-0.008 * (1.941)
CHILD6	-1.673 (0.798)	-0.066 (0.242)	-0.015 (1.304)
CHLD14	3.451 (1.177)	-0.034 (0.091)	0.019 (1.129)
NMALE	1.412 (0.434)	0.384 (0.907)	0.04E-02 (0.021)
NFEMAL	-3.473 (0.935)	-0.289 (0.600)	-0.005 (0.258)

TABLE 7.6 (Continuation):

INDEPENDENT VARIABLE	ALL	MALE	FEMALE
NLINC	-0.008 * (4.796)	-0.26E-04 (0.119)	-0.31E-04* (3.218)
NLINCQ	0.11E-07 * (5.035)	0.40E-10 (0.150)	0.41E-10* (3.386)
MILLS	141.200 * (7.535)	3.814 (1.402)	0.520 * (4.882)
PWW	0.415 * (6.942)	0.013 ** (1.679)	0.001 * (3.482)
CS	-2.237 (0.076)	-0.357 (0.085)	-0.078 (0.505)
LAND	190.840 (0.953)	0.341 (0.013)	0.936 (0.895)
N	1,101	529	567
R-SQUARED	0.708	0.834	0.604

Figures in parenthesis are t-statistics.

* Significant at 5 %

** Significant at 10 %

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