THE STRUCTURE OF RURAL HOUSEHOLD INCOME AND ITS IMPLICATIONS ON RURAL POVERTY IN BICOL, PHILIPPINES

by

EDNA ANGELES-REYES

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I. INTRODUCTION

The Philippines today remains a predominantly rural country. The rural population accounts for more than 60 percent of the total population, with the majority engaged in agricultural activities (Table 1). Despite rapid economic growth during the 1970s, the Philippines has also remained a country with a relatively high

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* Research Fellow, PIDS.

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level of poverty. A recent World Bank study[1/] estimated the number of families living in poverty in 1975 to be about 61 percent. Although this proportion has slightly declined in the early 80s, the economic conditions towards the middle of the decade suggest that the incidence of poverty has gone up again. Majority of these poor people are found in the rural areas, where the incidence of poverty, as of 1983, has remained high at 45.4 percent.[2/] In fact, the rural areas still account for nearly three-fourths of the country's total poor. Actual count indicates that the number of poor families in the rural areas increased from 2.5 million in 1971 to 2.8 million during the period 1980-83. In urban areas, the figure of 0.8 million remained constant for the two periods considered.[3/]

Another recent study by NEDA[4/] also reported that although rural incomes improved over the period 1975-1982, the rate at which real incomes per family grew was

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1/ World Bank (1984), The Philippines: Recent Trends in Poverty, Employment and Wages.

2/ Ibid, p. 10.

3/ Ibid, p. 10.

4/ National Economic and Development Authority (NEDA) (1984). Some Aspects of Rural-Urban Welfare Differential.

TABLE 1
SELECTED ECONOMIC INDICATORS

1.	Population (1980)	48,098,460	
	Rural	30,154,563	(62.7%)
	Urban	17,943,897	(37.3%)
2.	GNP (1985) (Constant 1972 prices)(M₱)	88,432	
	per capita GNP (₱)	1,006	
	per capita GDP (₱)	1,038	

3. Labor Force Participation (1985)

	Total Labor Force (000)	Employed	Unemployed
Phil	21318	19801 (92.9%)	1517 (7.1%)
Urban	7892	6960 (88.2%)	932 (11.8%)
Rural	13426	12841 (95.6%)	585 (4.4%)

4. Employed Persons by Industry (1985)

Agricultural, fishing & forestry	9698	(48.9%)
Mining and quarrying	127	(0.6%)
Manufacturing	1921	(9.7%)
Electricity, gas and water	71	(0.3%)
Construction	691	(3.5%)
Wholesale and retail trade	2611	(13.2%)
Transportation, storage and communication	931	(4.7%)
Financing, insurance, real estate and business services	342	(1.7%)
Community, social and personal services	3448	(17.4%)
Total Employed	19801	(100.0%)

SOURCE: National Economic and Development Authority, 1986 Statistical Yearbook.

relatively low at 3.6 percent. Urban-rural disparity widened as underemployment in rural areas became widespread, profit margins accruing to farmers went down, and productivity in agriculture continuously declined.

To solve the problem of a weak agricultural sector and the resulting poverty in the rural sector, the current thinking focuses on how rural non-farm activities can be stimulated to bring about increases in employment and income. This stems from the observation that increasing agricultural productivity is not sufficient to solve the problem of rural poverty. Chinn (1979), for example, demonstrates that in the case of Taiwan, specifically in a major rice-producing region, income from non-farm sources, rather than increased income from farming, was responsible for rising real income levels. Ho (1979) also shows that the share of non-farm income in the total income in Taiwan increased from 25 percent in 1962 to 43 percent in 1975. He accounts this dramatic increase to Taiwan's decentralized industrialization which allowed rural industry and agriculture to grow in a mutually-reinforcing manner. Likewise, the linkages between the agricultural and industrial sectors in this country had been found to be strong, and adequately sustained by good and widespread infrastructure and communication facilities.

In Southern Africa, however, it was observed that the effect of increasing rural non-farm opportunities has resulted in a restricted growth of farm incomes and a decline in agricultural production (Low, 1981). This diverging result, as the study seems to suggest, is attributed to the lack of technical/technological and infrastructure improvements in the agricultural area and the resulting labor transfers out of farming due to increasing off-farm job prospects.

In the Philippines, agriculture had been found to be heavily penalized by government policies (David, et al., 1984). Hence, despite its high potential for growth, the sector had shown minimal expansion, with farm productivity showing a downtrend over the recent years. In certain rice-producing areas, some evidence had been uncovered showing the interaction between agricultural production and the expansion of rural-based, non-farm activities. Gibb (1984), for example, has shown that in the rice-producing area of Nueva Ecija, an 8.2 percent increase in agricultural production has generated between 7-8 percent increase in non-farm employment for the period 1967-1971. According to the author, this resulted as a consequence of the increase in demand for non-farm commodities and services which was prompted by the increase in agricultural income. While non-farm activities are basically consumption-related and not production-related, as in the case of farm

implements production or small-farm machinery production, such response, especially in terms of the employment generated and the corresponding increase in rural income, augurs well for the rural population as a whole. Similarly, Alburo (1984) has also shown that agricultural modernization has resulted in the growth of non-farm activities and employment in two agricultural towns in Iloilo. Based on his study, a 12 percent and 9 percent change in agricultural modernization resulted in a 13 percent and 10 percent change in non-farm establishments for the two areas, respectively. Again, the same observation regarding the activity mix emerged. That is, most of the employment-generating activities were generally producing consumption goods and services. While no estimation of actual income changes was made, the emergence of more of these activities outside the farms surely indicates a greater opportunity among the rural folks to increase their incomes.

Against this background, this study will attempt to look at the structure of rural household income in the Philippines over time, and identify changes in this structure to allow for a clearer picture of the aspects of income which can be influenced by policies intended to improve the welfare of the rural poor. Of particular interest is the extent to which non-farm employment opportunities have affected the structure of rural household

incomes. Since the main concern of the paper is to identify changes in the structure of rural income, no attempt is made to identify and analyze extensively the specific factors which brought about the changes in non-farm activities.

A typically poor and depressed region is used for the analysis. An area basically characterized by low incomes and declining productivity, the Bicol region has been the object of massive investments over the years, basically on rural infrastructure, as part of a long-term Bicol River Basin Project.

The succeeding pages will describe the kind of data used, including a brief background on the survey and the area being analyzed. A detailed analysis of the structure of rural household income is also presented, highlighted by the changes which may have occurred during the two time periods considered. The last section addresses the problems of rural poverty and includes some policy recommendations.

II. DATA AND REGIONAL PROFILE

The data on which this study is based are from households residing in basically rural areas in three provinces in the Bicol region. This region is located in the southern tip of Luzon and is composed of six provinces, three chartered cities, 113 municipalities and 3,142 barangays. It is one of the poorest regions in the country

with its aggregate production representing only about 3.3 percent of the country's gross domestic product (GDP) in 1979. In 1980, the population of the region was 3.47 million with 83 percent residing in rural areas. Majority or 60.2 percent of the population are engaged in agriculture, and based on a 1980 World Bank study, 48.8 percent of all occupation categories are considered impoverished, with the greatest incidence of poverty falling among those in agriculture.

In 1973, the Bicol River Basin Development Project (BRBDP) was launched as a test case of the government's overall strategy of integrated rural development. Major components of the project involved the construction of basic rural infrastructure like roads, drainage and flood control and irrigation facilities in several areas with high growth potential in the region. This was also accompanied by support projects on health, nutrition and education.

In 1978, a multi-purpose survey was conducted to provide baseline information on the impact of the different components of the Bicol development projects, with particular attention given to the extent of benefits that reached the majority of the poor in the region. In 1983, a follow-up survey was conducted primarily to facilitate the evaluation of the long-term impact of the projects basically on income, employment, and productivity. The

effectiveness of the BRBDP's organizational structure and project implementation schemes were also assessed.

The two surveys, which shall be referred in this paper as BMS78 and BMS83, covered the three provinces of Albay, Camarines Sur and Sorsogon. These are the heavily populated provinces of Bicol whose combined population comprises about 69.3 percent of Bicol's total population. A major household survey covering 1,903 households comprised the main component of the BMS, with very detailed information gathered on the following areas: agricultural production, level and distribution of income, time allocation, demographic change, health and nutrition status, consumption, wealth and investment pattern and the role of women. In addition, three other surveys were conducted simultaneously, each one covering specific information on barangay infrastructure and extension services, health (where health practitioners were the respondents), and nutrition and health status.

In the analysis that follows, the primary source of data are the individual household records taken from both surveys. Only households located in the rural barangays and in the poblaciones were included in the sample. Households in the cities of Naga, Iriga and Legaspi were therefore excluded. A total of 1,631 and 1,575 households were drawn from the 1978 and 1983 surveys, respectively. The sample

sizes for the two periods vary due to missing values which did not allow us to compute net income for all households.

III. THE STRUCTURE OF NET RURAL HOUSEHOLD INCOME

The emphasis on farm production activities and the resulting treatment of other activities (non-farm and off-farm) as residuals, or simply "alternative opportunities" characterized most agricultural researches even until the late 70s. However, the emergence of more of these activities and their increasing importance to total rural household income elicited a closer look and more interest among researchers. In areas where farming is basically subsistence production, it was noted that their existence and the income derived from these activities is a vital component of households' cash income.

It has also been established (Alburo, 1984; Gibb, 1984) that in selected rice-producing areas in the Philippines, the increased productivity in agriculture brought about by modern technology has resulted in increased rural incomes not only because of increased farm income but also because of the increased income derived from non-farm activities. The explanation for such an increase in non-farm activities goes back to what Hirschman (1958) and later Mellor (1972) expressed about rural industrial activities growing in response to the demands of a modernizing and more productive agricultural sector.

Table 2 gives the composition of net rural household income in Bicol for two time periods. In both time periods, farm activities have remained the dominant source of income for rural households with shares to total net income remaining above 50 percent. In 1978, wage income was very marginal, suggesting the relatively few opportunities for hired labor in non-farm activities. Total net non-farm income comprised only about 28 percent of total net income. Such structure, however, has shown very significant changes in 1983. Although the relative share of net farm income has remained large, (i.e., more than 50 percent) it has slightly decreased compared to its share five years back.[5/] Of remarkable significance are the big jumps in the shares of net labor income and net income from other sources, to total net income, bringing to more than 43 percent the share of total non-farm income. Worth noting also is the slight decline in net business income, which normally should have increased following an increase in labor income, should the latter indeed signify an increase in non-farm employment. But the early 1980s were bad years for business as the economy struggled with the adverse effects of the second oil

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5/ The figure for 1978 is in fact understated, as a large component of total replacement cost accrues to agriculture, which in 1983, has been included in the estimations of net income for each type of activity. This clearly suggests a bigger decline in the share of net farm income from 1978 to 1983.

TABLE 2
COMPOSITION OF NET RURAL HOUSEHOLD INCOME a/
1978 and 1983
(at current values)

	1978 (N = 1631) b/			1983 (N = 1575) b/		
	Value	Average	%	Value	Average	%
Net Rural Household Income	19,207,933	11,776.78	100.00	11,196,539	7,108.91	100.00
Net Farm Income	11,083,364	6,992.2	59.37	6,351,595	4,032.7	56.73
Net Labor Income (wage)	39,460	24.19	.21	751,376	477.06	6.71
Net Business Income c/	4,266,103	2,615.63	22.21	2,120,437	1,346.30	18.94
Net Income from other Sources	1,004,870	616.11	5.23	1,973,131	1,252.78	17.62
Replacement Cost d/	2,493,127	-	12.98	-	-	-

a/ Individual computed income values were those prepared by Montes (1978) and Navera (1983).

b/ The sample sizes should ideally have been the same since the 1983 survey was supposed to be a follow-up survey and should cover the same households. However, due to missing values in certain variables which consequently precluded the computation of net income in some observations, certain households had to be dropped from the sample in each period. This should not pose any serious problem for the purposes of this study since the actual values are not as crucial as the proportion of each component to total net income.

c/ Other sources include the following: rental income from non-agricultural land, buildings, bed spaces, interest on loans, dividends on insurance, stocks and bonds received, pensions, retirement pay/workmen's compensation, gifts, support, assistance/relief received, income from gambling and lottery remittances.

d/ Replacement cost for 1983 has been incorporated in each of the activities.

shock. Hence, this should not come as a big surprise. The big leap in net income from other sources may have been due largely to increased remittances, gifts and support from household members as more and more workers migrated to Manila and even abroad for better paying jobs. This is not only characteristic of areas in the Bicol Region, but also in many areas in Luzon where most of the contract workers to the Middle East come from. In fact, in another study conducted in 1983 by IRRI, covering a rainfed rice-producing area in Camarines Sur (Stanford and Mandac, 1984), income from non-farm employment either in urban towns or Metro Manila comprised a significant proportion of the farm households' cash incomes. This is consistent with the observation that these rice farmers are basically not into commercial farming but are on subsistence production, and depend to a large extent on off-farm and non-farm activities for cash incomes.

A look at broad sources of net household income clearly suggests that farm productivity has in fact declined during the five-year period considered. This requires a more thorough look at the components of farm income which may have contributed to this decline. There may be serious implications on the huge infrastructure investment program being undertaken in the region.

Table 3 gives a breakdown of the components of farm income and the relative share of each to total net farm

TABLE 3
COMPOSITION OF NET FARM INCOME
(at current values)

	1978		1983	
	Value	%	Value	%
Net Farm Income	11,083,364	100.00	6,351,595	100.00
Food Crops				
Rice	11,041,081	99.62	1,669,624	26.29
Corn	91,421	0.82	36,559	0.58
Cash Crops				
Coconut	173,187	1.56	1,548	0.02
Sugar	(2,316)	(0.02)	a/	a/
Abaca	(10,428)	(0.09)	29,410	0.46
Other Crops	b/	b/	1,417,121	22.31
Livestock & Poultry	(118,948)	(1.07)	2,913,299	45.87
Fishing	(90732)	(0.82)	284,032	4.47

a/ In the income and employment file of BMS83, income from sugar was dropped due to very negligible values on account of very few observations.

b/ Income from other crops was not computed since no unit of measurement was specified for all the crops, causing tremendous disparity in the reported prices of crops. (Montes, M. and A. Quizon, 1979).

income. Consistent with the initial observation that Bicol Region is still basically a rice-producing area, more than 99 percent of total net farm income in 1978 came from rice production. Production of cash crops like sugar and coconut, which in previous studies (USAID, 1980) have been estimated to comprise about 19 percent of total crop production in the Bicol region in 1978, has shown a significant decline within the five-year period. Data for the whole region also show a decline of commercial crop production from 19 percent in 1978 to an average of about 16 percent henceforth until 1982 (Table 4). During this same period, the international market was basically characterized by depressed prices of major export crops like sugar and coconut, which in the case of the Philippines, comprise the bulk of its exports. The very low prices of these commodities have tremendously affected farmers' incomes and may have subsequently resulted in a change in the crop mix of the area. In fact, income data from BMS83 indicate very minimal amounts attributed to sugar. As a consequence, this particular item had to be dropped in the estimation of income due to its negligible contribution.

Income from non-crop activities like fishing, livestock and poultry raising posted big increases from negative net income values in 1978 to a high 50.3 percent of total net income in 1983 for both activities.

TABLE 4
CROP PRODUCTION, BICOL REGION
(Metric Ton)

	1976	1977	1978	1979	1980	1981	1982
All Crops	1,688,875	1,919,499	1,951,765	1,963,643	1,969,343	1,989,843	1,860,035
%	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Food Crops	1,468,714	1,578,017	1,576,881	1,647,100	1,644,185	1,632,844	1,566,655
%	86.96	82.21	80.79	83.88	83.49	82.06	84.23
Commercial Crops	220,161	341,482	374,884	316,543	325,158	356,999	293,380
%	13.04	17.79	19.21	16.12	16.51	17.94	15.77

Source: BAECON

This observation seems to indicate the shift to other farm activities which farmers resort to when crop production becomes less profitable and the need to increase income becomes more pressing. Such is probably the case among the farmers included in this study considering that average farm area (planted to crops) was only 0.83 hectares in 1978.

While income from the production of other crops (most of which are fruits, vegetables and root crops) comprised more than 20 percent of total net farm income, it is not possible to ascertain the change for the five-year period due to some methodological problems encountered in the computation of net income from these crops for 1978. Specifically, no unit of measurement was given for the different crops produced, hence the computation of net income from these crops was not possible. However, if we consider the production data for the whole region, we can observe a slight average increase of about 1.4 percent from 1978 to 1982 (see Table 5). This is highlighted by a big jump in crop production in 1979 which made up for the slight declines in 1980 and 1982.

To further analyze these changes in the farm income structure among rural households, and to confirm the observations and hypothesis already discussed earlier, we looked at the behavior of specific inputs in rice production. We were constrained to use simply rice production

TABLE 5
RODUCTION OF OTHER FOOD CROPS, BICOL REGION
(Metric Ton)

	1976	1977	1978	1979	1980	1981	1982
Other Food Crops	729309	795552	818221	910605	859830	895414	842792
Fruits & Nuts	110566	145776	111546	120107	122212	128264	77331
Citrus Fruits	7722	11459	13336	13712	15442	14387	8714
Rootcrops	503353	511741	592758	653254	586099	605819	638932
Vegetables	39726	42282	38821	38949	39593	41786	29817
Onion	124	111	100	128	107	111	106
Ginger	1117	1217	1357	1578	3404	3688	3354
Bean & Peas	446	458	419	417	328	320	330
Coffee	802	883	1199	1218	944	1084	975
Cacao	247	206	184	197	202	201	159
Peanut	2122	1945	2330	2629	2019	2031	1968
All Other Crops	63084	79474	56171	78416	89480	97723	81106
% Change		9.08	2.85	11.29	-5.58	4.14	-5.88

Source: BAECON

on account of the very small number of observations recorded for each of the other crops. Besides, rice production on the average comprised almost 90 percent of total farm production for all the areas included in the sample as of 1983.

To do this, an equation of the general Cobb-Douglas form was fitted to the household data on gross rice income and the inputs used for both periods. This equation was:

$$GRI = A \prod_{i=1}^{6} X_i^{\alpha_i}$$

where GRI is gross rice income; A is a constant term; and X_i, i = 1, ..., 6, represent the input variables; namely, family labor, hired labor, capital, irrigation, fertilizer and chemicals, and land. The exponents, α_i s are the elasticities of GRI with respect to each of the inputs, and taking the logarithms of both sides of the equation gives the linear equation which was estimated using ordinary least squares.

The estimated elasticities are given in Table 6. While the coefficients of all the inputs except family labor are significant for the 1978 data, such was not the case for 1983. Except for crop area, the rest of the coefficients were not significant for 1983. Likewise, R^2 went down from 0.70 to 0.67. Considering that rice production had experienced a significant decline over the five-year period,

TABLE 6
ELASTICITIES OF INPUTS

Dependent Variable: Log GRI

		1978		1983	
CONSTANT		6.6299		4.0665	
FLABOR	(X_1)	-0.0013	(-0.03)	0.1652	(0.76)
HLABOR	(X_2)	0.20901	(9.91)*	-0.0755	(-0.55)
CAP	(X_3)	0.0944	(5.05)*	-0.0305	(-0.63)
IRRIG	(X_4)	0.06315	(4.46)*	-0.3549	(-0.00)
FERTCHEM	(X5)	0.1752	(9.73)*	0.0033	(0.12)
CROPAR	(X_6)	0.2991	(7.61)*	0.6933	(2.96)*
R^2		0.7040		0.6692	

Input notations:
- GRI = gross rice income (₱)
- FLABOR = family labor (man-days)
- HLABOR = hired labor (₱)
- CAP = capital expenditure/cost (₱)
- IRRIG = irrigation expenditure/cost (₱)
- FERTCHEM = fertilizer & chemical cost (₱)
- CROPAR = crop area (area planted to rice) (has.)

Numbers in parentheses are t-values and those with asterisks (*) are significant at the 5% level.

the results of the regression for 1983 look plausible. Of course, we would have expected the value of the coefficients of family labor to decline, and those of fertilizers and chemicals, and perhaps capital to increase on account of the shift of farmers from basic crop production to other farm-related and non-farm activities. Assuming that factor markets are competitive, we can consider the coefficients as imputed factor shares of the individual inputs.[6/] As the figures indicate, we can not say much about the change in the relative shares of the inputs except that the imputed relative share of land had increased over the five-year period. It is possible that as a result of the shift in major activities of the farmers, basic inputs to crop production have tremendously decreased such that their share to total output also declined significantly. Clearly, land remains the major input, the amount of which may not have changed drastically. As a result, its share to total output has increased relative to the other inputs. A case in point here is the use of fertilizer, which has been found to be very minimal among households in Camarines Sur in 1983, on account of the nature of their farm production and the rising fertilizer prices and supply problems. (Stanford and Mandac, 1984). In fact, some of the farmers reported using fertilizer at some time earlier in the past.

6/ Chinn (1984) made this assumption in interpreting the coefficients of inputs in a production function estimated for Taiwan.

The results of this additional exercise, although not contradictory to what has been hypothesized earlier, should be viewed with some caution. The exercise is exploratory in nature and very much dependent on the computed values of most of the variables already available in the file. In fact, an analysis of the trend in production expenses would have been useful. A decline, for example, in expenditures for direct crop production, specifically family labor cost and an increase in capital expenditure, would have confirmed the initial observation that farmers indeed shifted to other types of farm activities away from crop production. This was, however, not feasible since it was difficult to get a consistent breakdown of the production costs for both periods.

IV. CONCLUSION AND POLICY RECOMMENDATIONS

The Bicol region ranks fourth among the 12 regions in the country in terms of poverty incidence. Moreover, of an estimated 242,000 households receiving income below the poverty line in 1971, 95 percent are in the countryside.[7/] By type of occupation in the agricultural sector, the landless, those cultivating other crops and farm tenants in general, have been found to be more impoverished than fishermen and owner-cultivators (Table 7).

Obviously, the poverty situation in the Bicol region is acute. Farm incomes as of 1978 have placed most farmers below the poverty line. The data presented earlier further confirmed this situation, as average net household income declined from 1978 to 1983.

Farm income declined significantly and this was well accounted for by the decline in crop income, especially income from rice production.[8/] Interestingly, income from

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7/ USAID/Philippines (1981). Poverty line was ₱6873 per annum. This proposes that households receiving this amount would have the means to spend for the minimum nutritionally adequate diet for a household of six costed at 1978 prices.

8/ The decline may have been partly due to the fact that part of 1983 was included in the measurement of income. 1983 was a bad year for crop production as there was widespread drought in the country. However, the decline in net farm income is of such big magnitude that a real decline in productivity may have actually occurred.

TABLE 7
INCIDENCE OF POVERTY IN SELECTED AGRICULTURAL OCCUPATIONS AND SUB-SECTORS
(Bicol, 1971)

Selected Agricultural Occupation	Poor (Percent)
Farmer owner	59.5
Farmer Part-owner	57.8
Farmer tenant	66.1
Farmer not specified and tuber gatherers	73.9
Farm laborer	80.0
Fishermen	55.6
Sector	
Rice & Corn Farming	60.8
Coconut Farming	70.3
Other Crops	76.6
Fishing	55.6

SOURCE: USAID, Household Poverty Profile Bicol Region (Region V). p.6.

fishing, livestock and poultry increased. What are the implications of these changes?

The decline in farm income, despite the massive agricultural infrastructure projects in the region, is disturbing. This decline, matched by an increasing proportion of wage income and income from other sources, indicates movement of workers from basic farm activities to non-farm activities. Unlike in Taiwan, where increasing non-farm income was matched by increasing agricultural productivity, the case of the Philippines seems to suggest that labor transfers to non-farm activities were accompanied by unfavorable changes in farm productivity. In Taiwan, farm sizes as early as 1952 were small[9/], but this did not hinder productivity growth. There was intensive use of modern farm inputs like improved seed varieties, fertilizer and small farm machinery, as the extensive network of farmer associations facilitated a more universal access to these inputs by the farmers.

This is where the Philippine situation diverges. As shown in this study, average crop area is also small (i.e., average of 0.83 has. in 1978), but smaller than what the

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9/ Average farm size in 1952 was only 1.26 hectares (Chinn, 1979).

Taiwanese farmers had in 1952. Considering an average household size of about 6 members, the pressure on land was severe, and in addition, accessibility to inputs was difficult. For example, credit for production purposes is dependent on whether the farmer can put up a collateral or not. Since most farmers, many of whom are tenants, work on small farm lands,[10] their inability to put up collaterals precludes any form of formal borrowing. This is also probably one of the major reasons why a good number of the farmers in this area do not use fertilizers in their farms.[11]

The result of the analysis shows that over a five-year period, the importance of non-farm sources of income has significantly increased. This observation seems to suggest that there is indeed room for improving the welfare of the poor in the rural areas by encouraging growth of non-farm activities. However, this policy should be accompanied by efforts to improve productivity in the farms. In Africa, Low (1981) suggested that the transfer of labor out of traditional farming affected production and income drastically due to farm labor shortages and limited technological and infrastructural developments. This is

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[10] Average tenancy rate for main crop farmers (excluding coconut) was 74 percent in 1978 (USAID, 1981).

[11] Stanford and Mandac (1984).

not, however, the case in the Bicol region. Massive infrastructure projects have been introduced and there is enough labor for both farm and non-farm activities, as indicated by a high population density of 197/sq. km., which is even higher than the national average of 160/sq. km.. Moreover, underemployment rate in the region is high, averaging about 46 percent of all employed (USAID, 1981). Specific programs aimed to increase credit accessibility by farmers should prove helpful. This should also be accompanied by improvements in the tenurial system in the farms. The current program on land reform is, therefore, in order. Likewise, efforts to create non-farm employment opportunities in the rural areas are in the right direction. As it is, rural poverty is widespread because the household head's income from his main occupation (which is most likely farming in this case) is inadequate to provide for the basic needs of the household. Thus, reliance on farming as the only source of income greatly reduces a rural household's chances to move beyond the poverty line. In fact, "it may not allow for survival".[12/]

This paper, while it gives useful insights and observations, still needs further expansion as other important aspects of the real issue of poverty have not been included. For example, employment figures especially for

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12/ USAID(1981) p. 41.

the non-farm activities should ideally be included. Hence, further analysis through an expanded study with a similar objective is encouraged. Data for other areas can likewise be used to generate more specific observations to further confirm the general hypothesis regarding the role of non-farm activities in alleviating poverty.

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