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PHILIPPINE AGRICULTURE AND RURAL DEVELOPMENT

**DYNAMICS OF RURAL DEVELOPMENT:
ANALYTICAL AND POLICY ISSUES**

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INTRODUCTION

Rural development as a social goal has long been given major attention by politicians and policymakers in the Philippines. This is reflected in the concern frequently expressed about rural problems and the plethora of laws and institutions that have been created to deal with them. Gelia Castillo (1983) has provided a stimulating and perceptive examination of rural development institutions in a PIDS book published more than a decade ago.

The dominant production activity in the rural sector is of course agriculture. Rural development is part of the process of "structural transformation" characterized by a diversification of the economy away from agriculture. This process is facilitated by rapid agricultural growth, at least initially, but leads ultimately to significant declines in the share of agriculture to total employment and output and in the proportion of the rural population to total population (Johnston 1970). The "dynamics of rural development" represents a key element of the overall development process that can provide the basis for a self-sustaining and equitable economic

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growth. Rural development as such is not an end in itself but a means to an end. The same can be said of agricultural growth which almost necessarily is a precondition to rural development.¹

The main objective of this paper is to contribute to the understanding of the links among conceptual, empirical, and policy issues relating to agricultural growth, rural development, and overall economic growth in the Philippines. The second section (p. 95) discusses the nature of the interactions between agriculture and rural nonfarm enterprises (RNEs, defined here to include both formal and informal nonagricultural production activities in the rural sector), focusing on the demand stimulus generated by agricultural growth. That rapid agricultural growth does not automatically translate into rural development and self-sustaining economic growth is well demonstrated by the Philippine experience during the green-revolution period, 1965-80. Several factors bearing on the distribution of income gains from agricultural growth (a principal determinant of the magnitude of rural growth linkage effects) are examined and related to the observed changes in average rural income and income inequality among rural households.

The third section (p. 107) describes the critical role of RNEs in rural development and the effects of rural industry growth on the development process as a whole. The discussion draws on the contrasting development experiences of Taiwan and the Philippines which recorded comparably high agricultural growth rates during the 1960s. In the fourth section (p. 112), an overall framework for policy analysis of the determinants of RNE growth is presented, indicating various aspects of the policy environment that influence the economic performance of RNEs. The discussion in the fifth section (p. 117) focuses on agrarian reform, an institutional change of current policy relevance, and how it might induce the expansion of rural nonagricultural activities.

Concluding comments, as well as some suggestions for future work, are given in the sixth section (p. 125).

1. "Almost necessarily," since it is possible that a small agrarian economy newly opened to foreign trade can shift and mobilize resources (including foreign resources) to nonagricultural production that caters mainly to the world market.

AGRICULTURAL GROWTH LINKAGES, INCOME DISTRIBUTION, AND RURAL DEVELOPMENT

Increases in agricultural output stimulate the demand for production-related products (like fertilizer and farm equipment) from the industrial sector and expand the supply of agricultural products used as inputs (in particular, raw materials) to nonagricultural production. These two types of production linkage are referred to as “backward linkage” and “forward linkage,” respectively. Agricultural production is generally characterized by a “weak” backward linkage, especially with respect to the rural economy, and a “medium-strong” forward linkage. This has been borne out by the findings of a study on the Philippines using the 1965 Input-Output Table (ILO 1974: 659-73). In this respect, Hirschman’s (1958: 110) view that agriculture can generate much less stimulus than manufacturing to production in other sectors is valid in the Philippine context.

The Importance of Consumption Linkage Effects

Apart from the linkage effects on the production side, however, agricultural growth also raises the real income of rural households and hence their consumption demand for food and other agricultural products as well as industrial consumer goods and services. Such “consumption linkages” set in motion a sequence of employment and income multiplier effects that cuts across the rural and urban sectors. As shown in the seminal work on India by Mellor and Lele (1973) and more recently on Mexico (Adelman and Taylor 1991) and Madagascar (Dorosh and Haggblade 1993) based on economywide model simulations, this source of intersectoral linkages is critical to the extent and nature of the influence of agricultural growth on the overall development process. A greater stimulus to rural nonagricultural production is commonly associated with income growth among the lower-income rural households, owing to the tendency of richer households to spend more on goods produced outside the local area. Moreover, the type of consumer goods demanded by the poor are made in a relatively labor-intensive manner, causing increases in employment, especially of the un-

skilled, and further income improvement among low-income workers in the second round.

Survey findings of Philippine studies—as reviewed by Ranis, Stewart and Reyes (1989)—also indicate the dominance of consumption linkage effects on rural nonfarm activities over the production linkage effects, largely attributable to the greater labor intensity of consumption-related rural industries. Thus, the observed employment growth accounted for by consumption linkages ranges from 63 percent to over 80 percent of the total increase in local nonagricultural employment.

Gibbs' (1974) survey in Gapan, Nueva Ecija indicates that nearly 60 percent of total nonfarm employment in 1971 was contributed by RNEs supplying consumer goods and services to the area; public services contributed about one-fourth of the total, and production-related activities only 18 percent. An even lower percentage (6.8 percent) was accounted for by forward and backward linkages in the two towns surveyed in the Upper Pampanga River area by Sander (1979). Employment expansion was understandably much more significant in consumption-related RNEs, accounting for 62.8 percent of the total employment growth during 1961-71 in Gapan and over 80 percent during 1975-79 in the Upper Pampanga river area.

In Malaysia, Bell et al. (1982) find that each dollar increase in agricultural income in the Muda region generates an additional 0.8 dollar increase in nonfarm value added in the local economy. Two-thirds of the rise in nonfarm income is associated with the increased demand of rural households for consumer goods and services, the remaining one-third due to the increased demand for inputs to agricultural production. Again, the production linkage is relatively weak.

A major factor contributing to the growth of rural nonfarm activities due to rising consumption expenditure is the increase in agricultural wages, as shown in a study on Thailand (World Bank 1983). The earlier experience of Taiwan also indicates a positive relationship between the agricultural wage rate and rural nonfarm employment (Ho 1979). Indeed, a given increase in income will generate more employment if spent in the purchase

of wage goods, which are locally produced and labor-intensive, than in the acquisition of consumer durables normally associated with nonwage income spending.

Economywide Effects of Agricultural Growth

There are obviously some further demand ramifications of agricultural growth beyond the local economy. Even in the first-round effects, there are goods produced outside the local economy that will be demanded by farmers and rural households in production and consumption. To be able to capture fully the linkages of agricultural growth, one has to go beyond the effects on the local rural economy.

Invoking the mechanism of agricultural growth linkages with the rest of the economy, it is reasonable to specify, at the aggregate level, that nonagricultural production is a function of agricultural production, among other possible influences. If one focuses on the demand side (considering that consumption linkages are dominant), a logical explanatory variable to add is the volume of exports, representing foreign demand. Based on such specification, a regression estimate of the "growth linkage elasticity" of 1.27 was obtained (Bautista 1990a), indicating that a 1 percent increase in agricultural production results in growth of more than 1 percent in nonagricultural production. It is notable that even higher estimates were obtained for Indonesia (1.35) and Malaysia (1.60), the two other Southeast Asian countries included in the study.

Another approach to the quantitative investigation of the economywide repercussions of increasing agricultural production (generated by an exogenous improvement in agricultural productivity) is employed in Bautista (1986), based on a computable general equilibrium model (CGE) model of the Philippine economy. The model gives emphasis to agricultural activities (producing food crops, export crops, and livestock) and their linkages to other production sectors. Also, rural and urban households are differentiated in their income generation and consumption patterns from private companies and government. Simulation analysis of a 10 percent increase in total factor productivity in agriculture, other things remaining the same, indicates

significant macroeconomic effects, including those on government income (3.7 percent), total investment (2.6 percent), and national income (2.2 percent). The induced rise in rural household income (1.9 percent) is notably lower relative to the income gain for urban households (3.1 percent), attributable largely to the decline in relative prices of agricultural and food products. The structure of the model does not make distinctions between small and large agricultural producers and between low- and high-income rural households. As indicated above, the stimulus to RNEs would be stronger if a larger share of the increases in productivity and income went to the smaller farms and lower-income households.

Comparative Growth Performance

The development experience of the Philippines during 1965-80, a period of rapid productivity growth in agriculture, provides a vivid demonstration that accelerated agricultural growth does not necessarily ensure a rapid and sustainable growth of the national economy. The explanation lies in the inequitable distribution of income gains from agricultural growth and the failure to generate rural-based, labor-intensive industrialization that could have significantly helped (1) absorb the rapid growth of rural labor supply during the period, and (2) provide a basis for broadly-based economic growth.

Agricultural production grew at an average annual rate of 5.6 percent between 1965 and 1980, nearly double the 2.9 percent estimated for the preceding ten years (David et al. 1987). The acceleration of agricultural growth can be largely attributed to the widespread adoption of improved technologies (most significantly for rice, but also, due to private investments, for nonruminant livestock and, in the 1970s, nontraditional export crops), the expansion of irrigated areas, and the increased use of current inputs (fertilizer for crops and imported feed for livestock). The main source of output growth prior to 1965 was increasing cultivated land area; during 1965-80, it was increasing yield, with the output-land ratio rising by an average 4.2 percent per year (versus 0.5 percent in 1955-65).

Annual growth rates of agricultural output for 1965-80 were comparable among the Philippines and three neighboring Southeast Asian countries that are also heavily agricultural, namely, Indonesia, Malaysia and Thailand (Bautista 1990b). However, manufacturing growth rates for the same period were much lower in the Philippines (7.5 percent) compared to those in the three other countries (ranging from 10 to 12 percent). This would suggest a weaker stimulus generated by the accelerated agricultural growth to rural-based industrialization in the Philippines, and not unrelated to the lower average annual increase in GDP during 1965-80 (5.9 percent) relative to Thailand (7.2 percent), Malaysia (7.3 percent), and Indonesia (8 percent).

Agricultural Income Growth Not Widely Shared

An important consideration in the assessment of the contribution of rapid agricultural growth during 1965-80 to rural development and overall economic performance is that the income gains from that growth were not broadly based. First of all, the dramatic productivity improvement associated with the green revolution in rice bypassed a large segment of the farming population that did not have access to irrigation water. Although there was widespread adoption of modern seed varieties (Herdt 1987), the new technology was notably much less effective in raising yields where water levels could not be strictly regulated. Irrigation investment expanded tenfold between 1966-70 and 1973-77 (Barker 1985: 124); even so, the proportion of irrigated area to total rice area in the late 1970s was only 25.4 percent in the wet season and 17.7 percent in the dry season—much lower than the corresponding percentages for Indonesia (39.9 and 23.4 percent) and Malaysia (36.2 and 29.9 percent).² The greater access of large producers to effective subsidies on credit and fertilizer and to infrastructure investments (electricity and roads) also contributed to the bias in the structure of income growth against small farmers (Bautista 1992).

Landless rural families that depend on wage labor as their main source of income (about 20 percent of all rural households in 1965) also did not benefit much from the accelerated agricultural growth. Agricultural wage

2. See Table 11 in World Bank (1990: 24).

rates in real terms fell significantly from the mid-1960s to 1974, after which there might have been a slight improvement (Bautista 1992).³

Rapid agricultural growth had only a limited impact on total labor force utilization. The open unemployment rate which averaged 7 percent during 1959-64, declined to a 6.8 percent average during 1965-72 (Tidalgo 1976: 187-88). This, together with the full-time equivalent unemployment of the visibly underemployed (laborers at work for less than 40 hours per week and those wanting additional work whose comparative values were 18.1 percent and 15.7 percent, respectively), implied a rise in average hours worked. Among agricultural workers, average hours worked increased slightly from 42.1 per week in 1963-65 to 42.9 in 1966-69 (Tidalgo 1976: 190). There was little change in the open unemployment rate in the 1970s but visible unemployment increased from an average 5.6 percent in 1971-76 to 10.9 percent in 1976-78 (Tidalgo and Esguerra 1984: 91).

The aggregate picture contrasts sharply with the development records of other East Asian countries, most notably Taiwan and South Korea, which indicate rising real wages and labor force utilization (Oshima 1985).

At the farm level, the substantial mechanization of some operations had the effect of reducing labor demand, particularly in rice land preparation and threshing. There is ample evidence that the adoption of agricultural machinery had both labor-displacing and wage-depressing effects without significantly affecting yields (Ahammed and Herdt 1985). On the supply side of the labor market, the sustained high growth rate of the rural population (2.8 percent annual rate during 1960-80) could have also contributed to the failure of the real wage rate to exhibit an upward trend.

The distribution on income gains from agricultural growth has also been shaped by the distribution of landholdings. With an unequal distribution of land and agricultural capital, technological change that increases land rent (and the return to capital) but not the real wage can be expected to worsen the distribution of rural income. As late as 1980, only 3 percent of all farms

3. The "legislated" wage rate (in real terms) for nonplantation workers increased significantly from 1974 to 1980. However, agricultural employers appeared not to have fully complied with the legislated supplementary payments (cost-of-living and other allowances).

in the Philippines were larger than 10 hectares, but they accounted for about one-quarter of the total agricultural land area. In the early 1960s, about half of Philippine farms were fully or partly owned by the operator, over a third were share-tenanted and the rest were under other forms of tenancy. Reflecting the substantial inequity in share-cropping practices, the net income of owner-operators in the major rice growing region of Central Luzon during 1963-70 averaged about 2.3 times that of share tenants (ILO 1974: 475).

The government implemented a redistributive agrarian reform program called Operation Land Transfer, beginning in October 1972. It was limited to tenanted land, however, so that the landless continued to have no access to land. Moreover, the coverage was limited to rice and corn; the exclusion of farms growing other crops, constituting about half of the total crop land area, further restricted the program's effectiveness in redistributing land ownership and in alleviating rural poverty. Based on census data, the proportion of total farm area that was owner-operated decreased only slightly from 73.9 percent in 1971 to 72.4 percent in 1980 (Hayami et al. 1987: 39). Apart from inducing inefficient production shifts toward crops other than rice and corn, the agrarian reform law also had the unsalutary effects of encouraging tenant eviction by landlords and reducing the labor input per unit of land.⁴

The concentration of agricultural income growth was further accentuated by the major presence in the export crop sector of foreign firms engaged in plantation farming and large-scale, capital-intensive processing. An interesting comparison between Philippine and Taiwanese experiences in the production and exporting of pineapples and bananas indicates a sharp contrast between the "dispersed small holder production and decentralized processing facilities with low levels of capital and technology in Taiwan, and multinational dominated organizations in the Philippines using sophisticated and expensive equipment and securing supplies mainly from large scale farmers or plantations" (Ranis and Stewart 1987: 159). In pineapple

4. For a systematic discussion, see Hayami et al. (1987).

processing and canning, for example, the capital-labor ratio for the two foreign companies in the Philippines was estimated to range from two to six times higher than the ratios for the 23 dispersed national firms in Taiwan. Apart from the unfavorable equity effects of capital-intensive production, the linkage of the export crop sector to the domestic economy might have been weakened by the minimal impact on the surrounding countryside and the profit remittances of multinational companies. It is also notable that Taiwanese manufacturers of canned pineapples filled a lower quality segment of the export market both because of the lack of well-recognized brand names (such as principal producers Dole and Del Monte in the Philippines) and because of uneven quality. Nonetheless, there was a large and sustained demand for such products in the world market.

Rural Income Growth and Distribution

The acceleration in agricultural growth during 1965-80 did not seem to be accompanied by commensurate income growth among rural households. Based on FIES (Family Income and Expenditure Survey) data, the average rural household income in real terms increased by 11.2 percent between 1957 and 1961, and by 17.8 percent between 1961 and 1965, as shown in Table 1. After 1965, however, income growth was only 4.5 percent through 1971, even negative between 1971 and 1975, and insignificant from 1975 to 1985. Using a different price deflator, Balisacan's (1991) finding is that the average real income of rural households (in 1978 pesos) grew by 19 percent from 1961 to 1965 and by another 19 percent from 1965 to 1971, subsequently declining by 12 percent from 1971 to 1985. Yet another set of estimates is provided by the ILO (1974: 10). With 1956 as base year, the constant-price mean income index of rural income is 110 for 1961, 130 for 1965, and 132 for 1971, implying an even lower proportionate increase (1.5 percent) during 1965-71 compared to that given in Table 1. The FIES series has been criticized for undercoverage of income, among other deficiencies. However, as Table 1 also indicates, the average real expenditure of rural households grew much faster during 1961-65 than during 1965-75.

TABLE 1
Average Rural Household Income, Average Rural Household Expenditure,
and Agricultural Terms of Trade, 1957-1985

	1957	1961	1965	1971	1975	1985
Average nominal income (pesos)	989.0	1,203.0	1,755.0	2,818.0	4,745.0	21,875.0
Average nominal expenditure (pesos)	n.a.	1,331.0	2,142.0	3,700.0	5,543.0	n.a.
Consumer price index	48.1	52.6	65.1	100.0	181.1	833.9
Average real income (1971 pesos)	2,056.0	2,287.0	2,696.0	2,818.0	2,620.0	2,623.0
Percentage change	-	11.2	17.8	4.5	-7.0	0.1
Average real expenditure (1971 pesos)	n.a.	2,530.0	3,290.0	3,700.0	3,061.0	-
Percentage change	-	-	30.0	12.5	-17.3	-
Agricultural terms of trade	73.2	72.5	77.9	100.0	108.6	85.0

Sources: NEDA, *Philippine Statistical Yearbook, 1982 and 1989* based on FIES data; Central Bank, *Statistical Bulletin* (various issues).

Not only was the growth of rural income unimpressive, income distribution among rural households appeared to have become more unequal. From 1965 to 1971, the index of quantile inequality rose from 0.38 to 0.41 while the Gini coefficient increased from 0.42 to 0.46, based on FIES data. Balisacan (1991) also found increasing income inequality among rural households from 1965 to 1971 based on the coefficient of variation (from 0.797 to 0.920) and on the standard deviation of logarithm (from 0.366 to 0.396). These results are consistent, at least in qualitative terms, with the stagnation of wage earnings in agriculture as observed above at the same time that the agricultural terms of trade was improving, with the index (1971 = 100) rising from 77.9 in 1965 to 108.6 in 1975 (Table 1).

It is important to point out that there are potentially serious measurement problems in making intertemporal comparisons of both the average income level and degree of income inequality of rural households based on FIES data. This is in view of the changes over time in the composition of households in the "rural" category. Thus, a particular community might be initially classified as rural, but if it became very progressive, the same group of households after a few years could graduate into the "urban" category based on FIES definitions.⁵ There is a systematic bias, therefore, toward underestimation of the average income of the original group of rural households in later years; however, the direction of bias in the estimate of income inequality is ambiguous.

Income Distribution Effect of Technical Change

While the above historical associations are suggestive, they do not isolate the impact of the rapid growth in agricultural productivity from other possible influences on rural income distribution. Timmer (1988: 303) emphasizes that equity issues concerning major technological innovations in agriculture "cannot be addressed satisfactorily by looking only at an

5. A separate issue relates to changes in definitions of rural and urban households adopted by the FIES in certain years. The measurement problem in this case, however, seems to be relatively minor.

individual farm or even at the agricultural sector." There are likely to be significant repercussions in the rest of the economy that will have a further effect on income distribution. One might add, in light of the above discussion, that it is also necessary to take into account the policy environment that helps shape economic decisionmaking among producers, consumers and traders.

In Habito (1987), a Philippine CGE model is used to investigate the economywide effects of neutral technological change in rice production "as might result from research in high-yielding varieties." The model has 14 production sectors, of which seven are agricultural, and 10 household income groups, but does not distinguish between rural and urban households. The simulation results concerning income effects indicate that "the lowest income groups are hurt the most, with middle income groups benefitting the most." The net effect on income inequality among household groups based on an aggregate measure is not examined, however.

Hayami and Herdt (1978) employ a partial-equilibrium market model to analyze the income distribution impact of the new rice technology. A closed economy is assumed, in which any increase in rice output necessarily leads to a lower market price. Not surprisingly, their results indicate that the income gains to small farmers and urban consumers exceed those of large farmers. Indeed, the principal redistributive mechanism in a comparative static analysis, assuming the nontradability of rice, is the reduction in the domestic price of the staple food crop, so that the primary benefit in adopting the high-yielding rice varieties is the increased food intake of small farmers and nonagricultural workers.

As Balisacan and Garcia (1986-87) point out, however, the closed-economy assumption is inappropriate in the Philippine context, inasmuch as the domestic marketing and international trade of rice are heavily regulated by the government, directly influencing the domestic price of the commodity. They argue correctly that the income distribution effect of the new technology is not independent of government price interventions. Based on the small, open-economy framework and alternative assumptions

about output price elasticities and rates of technological progress for the two farm-size classes, their results indicate that

“in all cases, the combined effects of technological progress and the generally protectionist price policy in the 1960s and early 1980s showed positive increases in the incomes of both small and large farmers. Except in the 1970s when rice price policy was generally provisionist (i.e., taxed domestic producers), these effects tended to favor large farmers more than small farmers.”

There is some evidence (e.g., Hayami 1979) that the new rice technology was scale-neutral, in the sense that comparable gains in land productivity resulted from its application to small and large farms. Even so, the distributional impact was a function not only of the existing sectoral price policy (as the Balisacan-Garcia findings indicate) but also of other aspects of government policy (especially the trade and exchange rate regime, public investment, and credit and financial policies) which, as pointed out earlier, effectively discriminated against small and upland rice farmers. For the full benefits of technological progress to reach these farmers and affect income distribution favorably, it would have been necessary to redress those policy distortions.

To recapitulate, the income gains from agricultural growth during 1965-80 tended to concentrate in the higher-income segment of the rural population. This could be largely attributed to the limited benefits of technological change for small and rainfed rice farms that were accentuated by discriminatory government policies — the large inequality in land ownership, high tenancy rate, stagnation of real wage rates that was in part due to the rapid growth in rural labor supply, and the dominance of plantation production and large-scale processing in the export crop sector. More rigorous studies are warranted on the linkages among agricultural growth, household distribution of income gains and marginal propensities to spend on various product categories. However, it is reasonable to infer from the above discussion that the effect on the structure and growth of rural consumption expenditure was to favor capital-intensive products and im-

ported goods rather than labor-intensive, locally produced goods. This served to weaken the stimulus, from the demand side, to the growth of RNEs and to the overall growth of the national economy.

RURAL NONFARM ENTERPRISES, RURAL DEVELOPMENT AND OVERALL ECONOMIC GROWTH

Rural nonfarm enterprises as defined in this paper correspond to nonagricultural activities producing "Z-goods" whose role in the development of an (initially) agrarian economy has been analyzed in various contexts. The seminal work of Hymer and Resnick (1969) developed an analytical model of a self-sufficient peasant economy under colonial conditions, and showed that the importance of Z-goods, assumed inferior to imported manufactured goods, decreases as opportunities for foreign trade rise and rural incomes increase.⁶ The model was subsequently applied by Resnick (1970) to the Philippines, Burma, and Thailand, giving explanation to the observed decline of rural industry in these countries during the period 1870-1938.

Ranis and Stewart (1990) recently called attention to some departures from the Hymer-Resnick assumptions that would invalidate the pessimistic prognosis about rural nonfarm activities. In particular, Z-goods are not homogeneous and not all of them are inferior. They can be differentiated into traditional and nontraditional products, the latter category being associated with "small modern factories using mechanical horsepower, sometimes using imported technology, and producing modern higher quality products." As such, nontraditional Z-goods are better able to compete with, and are not necessarily displaced by, imported manufactured goods.

Indeed the "East Asian experience" of rural-based industrialization was spawned by the expansion of domestic demand for nontraditional Z-goods that accompanied the growth of agricultural productivity and rural

6. As shown in Bautista (1971), based on a dynamic model of an agrarian economy with neoclassical production functions, the decline of Z-activities does not depend on the inferiority of Z-goods. Also, a deterioration in the external terms of trade, other things remaining the same, leads to a long-run increase in Z-goods production.

incomes. Rural industry growth in the first round in turn "provided additional impetus for further increases in agricultural productivity, leading to a mutually supportive cycle of agricultural and industrial growth" (Ranis and Stewart 1987: 140).

In Taiwan, a prominent example which in the early 1960s had many similarities with the Philippine economy (in terms of per capita income, production structure, and degree of openness), agricultural production grew at an average annual rate of 4 percent during 1960-73, accompanied by an 8.1 percent annual growth in manufacturing employment and a 7.7 percent annual increase in the real wage rate. Between 1965 and 1973, the agricultural sector expanded by an average 4.8 percent annually, while manufacturing registered an astonishing 21 percent growth rate (Bautista 1990b). Rapid growth of farm output took place despite the resource movement out of agriculture concurrent with rapid industrialization. The output composition also changed from rice and other staples to higher-value products (livestock, fruits, and vegetables), and nontraditional agricultural exports (mushrooms, asparagus, etc.) became important. The agricultural labor force began to decline absolutely in the late 1960s but production continued to increase due to improvements in labor productivity.

The rural-based, small-scale, and labor-intensive character of Taiwanese industrial development is well documented (cf. Galenson 1979). The evidence shows a "preponderance of small establishments in the rural areas. In 1961, 96 percent of rural establishments were classified as small" (Ranis and Stewart 1989: 141). Based on 1971 data, the average size and capital intensity of RNEs are shown by Ho (1979) to be much lower than those of their urban counterparts. Contrary to the pessimistic conclusions of the Hymer-Resnick model, the Z-goods sector flourished, its dynamism and modernization paving the way for rural development and structural transformation of the economy.

Rural industries participated significantly in Taiwan's "export-led growth," initially exporting in the early 1960s manufactured products with high unskilled-labor content. Over time, with the accumulation of human and physical capital, the composition of their exports shifted toward more

skill- and capital-intensive products. Like the other East Asian NIEs (newly industrializing economies), Taiwan continued to perform impressively in international markets, despite the increased instability and growing protectionism in world trade since the mid-1970s.

A remarkable aspect of Taiwan's development record is the continuous improvement in income distribution from 1953 to 1980. Based on Kuo's (1983) estimates, the Gini coefficient decreased from 0.558 in 1953 to 0.460 in 1964, 0.318 in 1972, and 0.303 in 1980. This is a departure from the inverted U-shaped relationship commonly postulated between economic growth and income inequality in developing countries, demonstrating the possibility that a worsening income distribution may not happen along with the growth process, even in the early stage of development. It is a consequence of the (initially) agriculture-led, labor-intensive, and decentralized development process that was greatly facilitated by the growth of rural nonfarm enterprises.

The Philippine development experience during 1965-80 bears no resemblance to the Taiwanese case just described, except for the rapid agricultural growth achieved in both countries. The average annual GDP growth rate of 5.9 percent for the period pales in comparison with the growth rates of Taiwan and the other Asian NIEs (ranging from 8.6 to 10.1 percent) and those of neighboring Thailand (7.2 percent), Malaysia (7.4 percent), and Indonesia (8 percent).⁷ What is worse, Philippine economic growth slowed sharply in the 1980s. Indeed, GDP per capita declined in absolute terms as the economy struggled under a heavy debt-service burden that resulted from the excessive foreign borrowing in the previous decade.

In addition to the failure to sustain growth, the development record of the Philippines is blemished by the uneven sharing of the income gains from growth. The overall distribution of income (including both rural and urban households) has remained highly skewed, reflecting in part the high rates of labor unemployment and underemployment through the late 1970s which worsened in the 1980s.

7. See Table 1 in Bautista (1990b: 3).

A related problem is that economic activity and income growth have been highly concentrated in Manila and the surrounding areas. As late as the mid-1980s, Metro Manila accounted for about one-third of the country's GDP and more than one-half of total manufacturing value added. As compared with the other 12 regions of the country, Metro Manila's per capita "gross regional domestic product" was more than twice that of the next highest region, and more than five times that of the lowest region.

These dimensions of Philippine growth performance indicate a case of agriculture-led development that failed. The accelerated agricultural growth achieved during 1965-80 did not translate into rapid and sustainable growth of the national economy. The observed gains in national income accrued to only a limited segment of the population which, in turn, contributed to the inability to develop rural-based, labor-intensive industries that could have helped absorb the rapid expansion of the rural labor force during the period. The poor performance and underdeveloped state of RNEs in the Philippines are reflected in the continuing small share of manufacturing in rural employment (Table 2). Also, rural manufacturing employment grew by an

TABLE 2
Distribution of Rural Employment by Sector, 1965-1989
(In percent)

	Agriculture	Manufacturing	Others
1965	73.5	8.0	18.5
1970	71.6	9.1	19.3
1975	73.0	8.6	18.4
1980	67.9	8.0	24.1
1985	66.5	7.3	26.2
1989	63.6	7.5	28.9

Sources: Special tabulation from NCSO, *Integrated Survey of Households* (various years).

average of only 0.57 percent annually during 1967-75 and by 2.03 percent during 1975-88 (versus 1.42 and 4.01 percent, respectively, for urban),⁸ again suggesting a minimal impact of agricultural growth on rural industry.

The decade of the 1980s witnessed a drastic decline in the agricultural growth rate to an annual average of less than 2 percent, attributable in part to the marked decline in the international prices of the country's traditional crops (especially rice, sugar and coconut) since the mid-1970s. Policymakers have recognized for some time now the need to diversify into nontraditional, higher-value crops as well as noncrop (livestock) production. Moreover, apart from agricultural diversification, there has been some policy interest in promoting "rural-based industries ... (to) provide more jobs to the rural population" (NEDA 1986: 28).

There are of course many factors that can influence the growth of RNEs. The earlier discussion has focused on the demand stimulus to rural nonagricultural production generated by agricultural growth. Most strikingly, unlike the Taiwanese case, agricultural income gains were concentrated in the more affluent segment of the rural population, weakening the intersectoral (especially, consumption) linkages in the local economy that would have given impetus to the growth of RNEs from the demand side.

In addition, the response of nonagricultural production to the demand stimulus induced by the rise in rural income is influenced by supply factors. These include government policies and the external economic environment that affect directly or indirectly the relative profitability of RNEs. As evident from the earlier discussion, various aspects of the policy regime and the international economy would have also influenced the magnitude of the demand-side effect of agricultural growth on rural nonagricultural production. These policy-related issues are examined in the succeeding pages more fully.

8. See Table IVb in Ranis and Stewart (1990: 24).

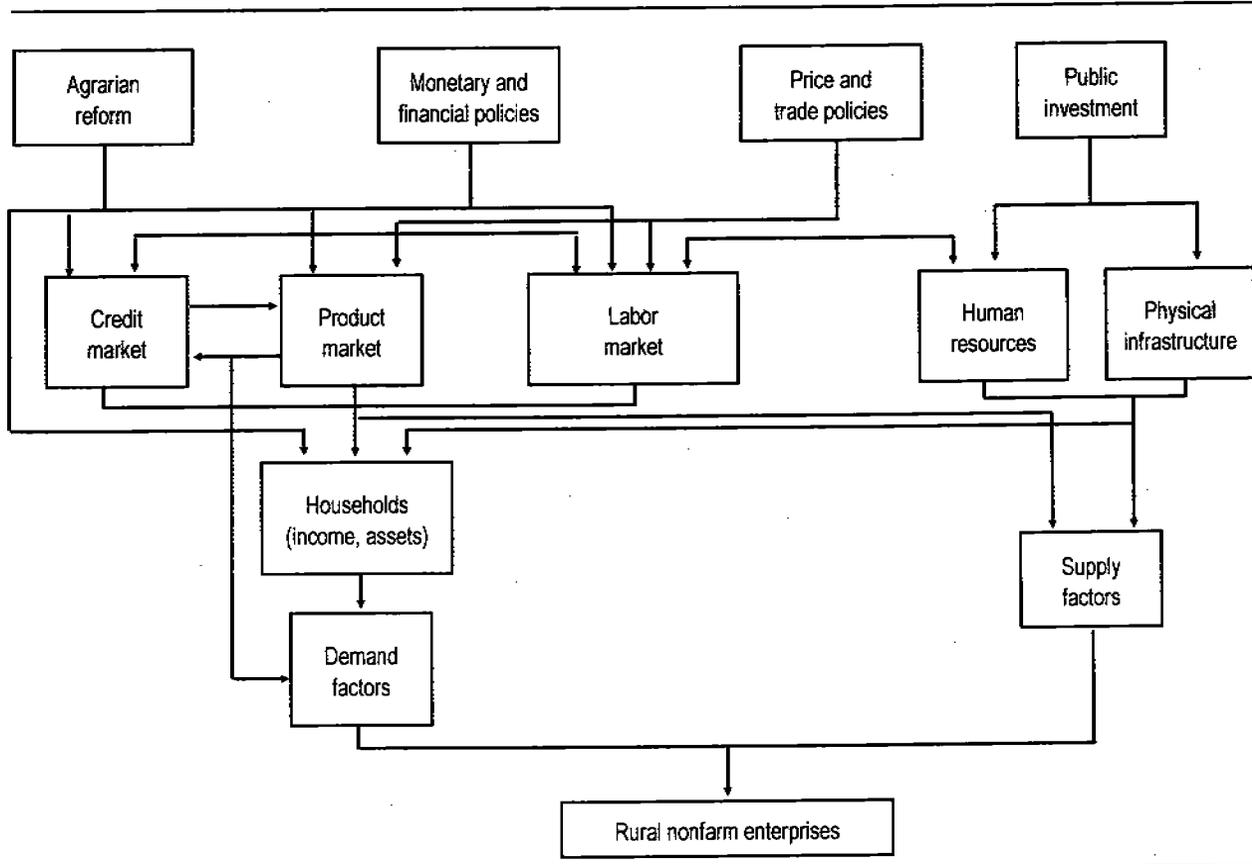
A FRAMEWORK FOR POLICY ANALYSIS

A schematic representation of the main relationships underlying the influence of government policies on the economic performance of rural nonfarm enterprises is given in Figure 1. Shown in the upper boxes are three major types of policy instruments, namely, price and trade policies, public investment, and monetary and financial policies. These are admittedly not exhaustive of the means by which governments intervene in domestic markets and affect the development of RNEs. In the Philippine context, however, they appear to be among the most relevant. Also represented as a policy instrument in the upper box of the block diagram is agrarian reform which, in fact, relates to an institutional change of particular relevance at the present time. These policies are linked to the "meso economy" of markets (product, labor, credit) and infrastructure (physical infrastructure and human resources). Changes in both markets and infrastructure affect RNE decision making through various mechanisms. A distinction is made between demand and supply factors.

On the demand side, consumption and production linkage effects are indicated from households and the product market, respectively. Household incomes and assets, as well as their distribution, are affected by agrarian reform; they are also a function of the physical infrastructure and human resources which are primarily dependent on government investment policy. Furthermore, income is earned by household members participating in any of the three markets.

The product market is shown to interact with the credit and labor markets. It can also be affected by agrarian reform through the latter's impact on productivity and the differing expenditure patterns among large and small landowners, tenants, and landless workers. Moreover, it is influenced by price and trade policies directly through import tariffs, export taxes, etc., as well as indirectly through the induced changes in the real exchange rate.

FIGURE 1
A Framework for Policy Analysis



Monetary and financial policies circumscribe developments in the credit market in terms of both the magnitude of domestic credit made available and its allocation. They also affect the labor market through their influence on the interest rate which is a major component of the user cost of capital that partly determines the capital-labor ratio and, hence, the extent of labor employment.

Agrarian reform can lead to significant changes in the credit market, e.g., a shift in the sourcing of informal loans from landlords to traders; also, banks' credit rationing practices may change as the value of land-based collateral declines. With respect to the labor market, if labor is underemployed in small farms and land is underused in large farms, then land redistribution will increase labor employment as well as land use and farm output, provided that the other input requirements (e.g., seeds, fertilizer) are met. Additional influences on labor supply and demand are the level and composition of human capital (a determinant of labor productivity) and the foreign trade regime. As discussed above, exchange rate overvaluation and low tariff rates on imported capital equipment have a distortionary effect on relative factor prices that penalize labor-intensive industries and the adoption of labor-using production technologies, thereby weakening the demand stimulus to rural nonfarm production through the induced effects on the product market and the purchasing power of rural households.

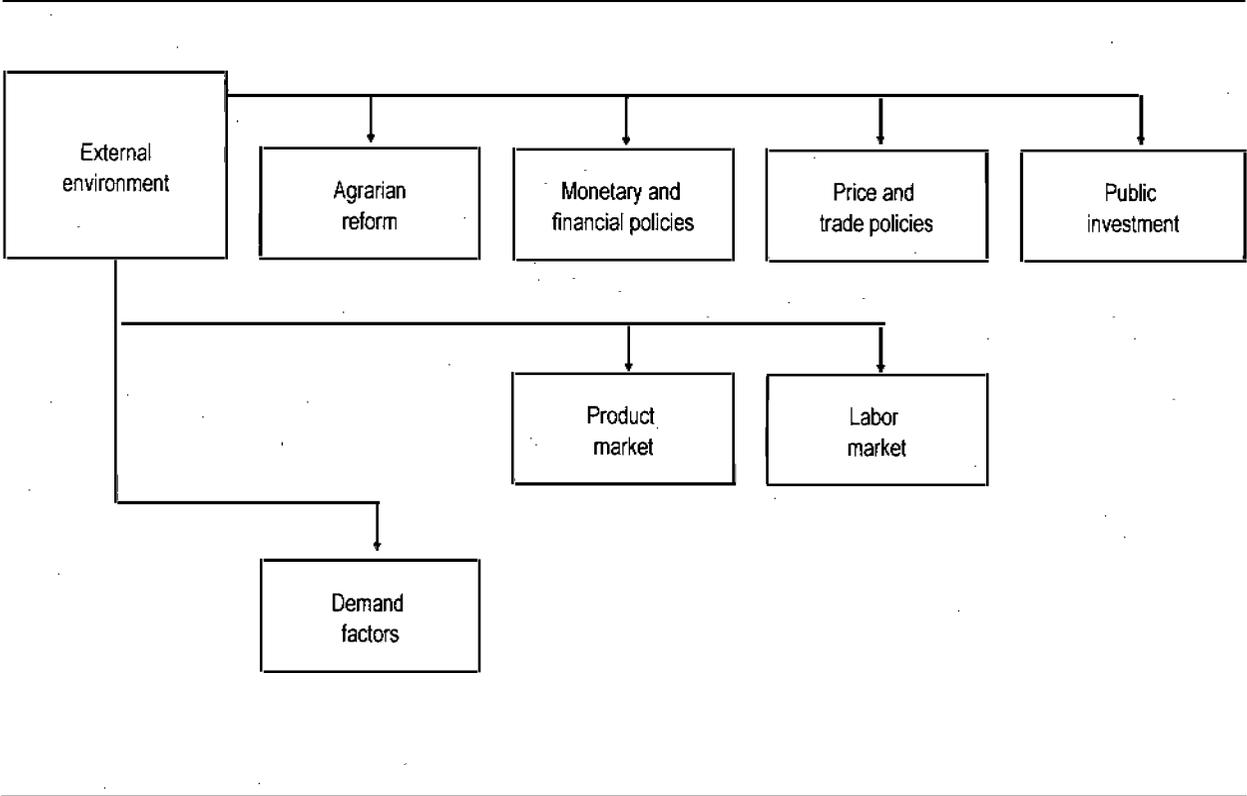
The supply response of RNEs, on the other hand, is determined by relative price signals from the product, labor, and credit markets, as well as by the availability of factor inputs – capital and labor skills— and access to them by rural producers. If the credit market constrains the financing of fixed capital investment and of working capital, or if public investment is distorted against expenditures on health, education, and the development of labor skills in rural areas, the growth performance of RNEs will be hampered. The effects of market changes on rural nonfarm production are also conditioned by the existing physical infrastructure in rural areas, which may or may not permit low-cost marketing to take place. A strong anti-rural bias in infrastructure policy, for example, is likely to impair the ability of rural producers to respond to favorable price and demand conditions.

The analytical framework represented in Figure 1 abstracts from the possible effects of external developments on various elements of the linkage between government policies and RNEs. Figure 2 indicates some direct influences of the external environment, and can be grafted on to Figure 1 for a fuller representation of the underlying relationships. The external environment can constrain policy choice, and this is especially true in the present context of Philippine policymaking. In particular, the macroeconomic stabilization and structural adjustment programs being implemented by the government effectively limit the scope for policy action. This is obviously the case with monetary and financial policies which, in seeking to restore internal and external balances, are made seemingly unduly restrictive. Also, trade liberalization and associated policies designed to reduce the wedge between foreign and domestic prices are typically a major component of structural adjustment. Furthermore, foreign aid can help meet the financial requirements of public investment such as the massive irrigation projects implemented in the 1970s as well as augment government resources to defray the cost of implementing the agrarian reform program.

There are also some direct effects of the external environment on the product and labor markets. World price movements get transmitted at least partly to the domestic prices of tradable products, including those of capital equipment which have eventual repercussions on relative labor use. Moreover, export demand for the products of RNEs can significantly add to domestic consumption. This will be given a boost, for example, by a reduction in developed country protectionism in labor-intensive manufactured goods.

The final point to make concerns the importance of policy interaction effects. The supply responsiveness of RNEs to product price increases arising from, say, trade policy reform would depend on the existing infrastructure facilities and other public inputs determined by the government's investment policy, as well as on the cost of financing the expansion of RNEs which, in turn, is dependent on monetary and financial policies. Similarly, existing price and trade policies can make certain production activities in rural areas so unprofitable that neither additional public investment in

FIGURE 2
Direct Effects of the External Environment



infrastructure nor more favorable credit terms will do any good. Also, agrarian reform may or may not induce RNE growth, depending on whether there are accompanying improvement in trade policies, rural credit, and infrastructure.

Earlier studies (cf. Bautista 1992) have examined the individual and combined effects — generally adverse — of the trade regime, financial policies, and public investment on agriculture and the rural economy as well as the further repercussions on the national economy, with special reference to the Philippine experience during the green revolution period 1965-80. The following discussion focuses on the potential impact of agrarian reform on the growth of RNEs, a subject that has received little attention in the extensive literature on land reform in the Philippines.

AGRARIAN REFORM AND RURAL NONFARM ENTERPRISES

Apart from its direct redistributive impact, agrarian reform can affect rural household incomes indirectly through induced changes in the product, labor and credit markets, as shown in Table 1, all of which, in turn, influence the economic performance of RNEs.⁹ The magnitude of the income gain to recipients of previously tenanted land is determined in part by the fraction of gross income formerly payable as rent and the amount payable as the annual installment of the purchase price of the land. It is clear, however, that the actual income effect of agrarian reform to this group of rural households would depend also on the accompanying changes in land productivity, product prices and input costs.

A survey conducted by the Bureau of Agricultural Economics (BA-Econ) of 525 tenant-recipients of Certificates of Land Transfer (CLTs) in seven municipalities in which Operation Land Transfer was implemented, found that the proportion of amortization payments in gross income de-

9. Following common practice, the term *agrarian reform* is used here in the comprehensive sense to include basic land transfer or *land reform*, together with supportive productivity-oriented measures. The distinction sometimes made is between "simple" and "integral" land reform (cf. Warriner 1973).

clined in most locations. In many cases, however, the *absolute* amounts were roughly equal before and after CLT ownership. "The growth in yields accounted for most of the growth in farm income ... (so that) the bulk of the financial benefit to the tenant would come only when the amortization shall have been completed" (Mangahas and Barros 1980: 106).

The yield increases found in the BAEcon survey were associated with multiple cropping, increased use of modern rice varieties and fertilizers, and improved access to credit. The higher productivity of the redistributed land is therefore not necessarily attributable solely to the *land* reform. Productivity-enhancing support services must have also played a key role.

The preponderance of evidence, in the Philippines and elsewhere, indicates that agrarian reform has a *neutral* to *positive* impact on land productivity. Some of the results are based on the analysis of pre- and postreform data, attributing the observed changes mainly to the reform program. Other studies compare observed yields among different farm sizes on the assumption that new farms of a given size (after land redistribution) will show the same land productivity as existing ones. Clearly, such assumption is valid only if the various factors affecting yield remain the same after land reform.

Using aggregate data from the 1960 Agricultural Census, Berry and Cline (1979) derived estimates of land productivity for various farm sizes. As can be discerned from Table 3, value added per unit area sharply declines with increasing farm size. Yield differentials were not so significant, however, when distinctions were made among crops, between upland and lowland areas, and between irrigated and non-irrigated farms. For rice farms, Ruttan's (1966) study based on national and regional samples, revealed no systematic relationship between output per hectare and farm size, but large farms of at least 10 hectares tended to be associated with lower yields.

No aggregate estimates of comparative land productivity by farm size are available after the widespread adoption of the new rice technology. However, sample data for 325 farms in Nueva Ecija where the modern rice varieties were planted indicated a significantly higher average yield in 1970

TABLE 3
 Relationship of Value-added Per Farm Area to Farm Size, 1960

Farm size (hectares)	Number of farms (1000)	Total area (thousand hectares)	Value-added/area (pesos per hectare)
	(1)	(2)	(3)
0 - 0.2	20.0	2.0	9,559
0.2 - 0.5	69.1	21.0	1,388
0.5 - 1	160.7	101.5	811
1 - 2	642.1	795.6	556
2 - 3	458.9	1,000.5	443
3 - 4	252.5	797.0	397
4 - 5	152.4	629.5	359
5 - 10	289.7	1,845.3	292
10 - 15	86.2	964.8	229
15 - 20	13.7	224.7	249
20 - 25	9.3	206.6	215
25 - 50	7.1	232.7	215
50 - 100	2.5	162.9	196
100 - 200	1.2	154.7	143
Over 200	1.0	633.9	82
All farms	2,166.2	7,772.5	331

Source: Tables 4-18 in Berry and Cline (1979: 70).

for farms of less than 2 hectares (3 mt/ha) relative to farms of more than 4 hectares (2.2 mt/ha).¹⁰ Similarly, the IRRI surveys in Laguna and Central Luzon during 1974-75 involving 125 farms found generally higher land productivities among smaller farms (Table 4).

It also appears that scale economies do not exist in the production of export and cash crops, with the possible exception of sugar. According to Hayami et al. (1987: 7), "if small producers are properly organized through contract farming with processing industries, there will be no loss in efficiency corresponding to the breakdown of plantations into family farm units."

The general finding in the wider Berry-Cline study, based on extensive cross-country data and on intensive data sets for six developing countries, is that "the small-farm sector makes better use of its available land than does the large-farm sector" through the application of larger amounts of labor input (mostly family labor) per unit of land. This conclusion is especially significant for countries with a rapidly expanding rural labor supply such as the Philippines.

While there is no aggregate evidence on the relationship between labor use and farm size in the Philippines, Ruttan's (1966) study of rice farms in five barrios in Bulacan for 1963-64 indicates a significantly declining labor-land ratio as farm size increases. The inverse relationship is also found in the IRRI surveys in Laguna and Central Luzon to be significant during the green revolution years (Table 4).

One explanation for the higher labor-land ratio in small farms than in large farms is the difference in effective labor costs arising from labor-market dualism; that is, the price of family labor to the small farm is lower than the wage rate paid to hired labor in the large farm. This results from (1) the tendency for income-sharing among family workers in small farms, (2) monopsony power by large farms in the local labor market, and (3) other factors.¹¹ Capital and land market imperfections also contribute to the lower labor intensity of production in large farms relative to small farms. The

10. See Tables 4-23 in Berry and Cline (1987: 77).

11. See Berry and Cline (1979) for a fuller discussion and empirical verification.

TABLE 4
Farm Size, Average Yield, and Labor Use Per Hectare (IRRI surveys)

Farm size (hectare)	Laguna (62 farms, 1975)			Central Luzon-Laguna (63 farms, 1974 wet season)		
	below 1.6	1.6-2.5	above 2.5	below 1.6	1.6- 2.5	above 2.5
Yield (tons/hectare)	3.6	3.8	3.1	2.8	2.1	1.8
Labor use (man-days/hectare)	118.0	117.0	88.0	95.0	78.0	79.0

Source: Table 11 in Barker and Cordoba (1978. 125).

limited access to low-interest loan sources by small farms, for example, raises the real price of land for them. Moreover, if the acquisition of landholdings is being done not primarily for production but for the purpose of prestige or political power, then the large farms will not only produce less output but also employ less labor per unit of land.

A striking finding from both regional and national surveys is that land productivity was generally higher in tenanted rice farms than on owner-operated farms (Estanislao 1965, Ruttan 1966). This contradicts the traditional view that resource allocation under share tenancy is inefficient. However, as Hayami et al. (1987: 7) point out, "recent empirical as well as theoretical developments have been supporting the hypothesis that the share contract can achieve the same degree of efficiency as the fixed-rent contract and owner farming and that the share contract can be more beneficial for tenants because of its risk-sharing ability and the utilization of landlord-tenant credit relations."

From there, it is but a short step to the conclusion that "the artificial limitation on the choice of land tenure contracts such as prohibition of share tenancy reduces both efficiency and equity." This has been the case, unfortunately, with past land reform programs in the Philippines. One adverse consequence was that large landowners were encouraged to evict tenants and to farm their land under their direct administration — which had the further effect of employing less labor per unit of land as agricultural mechanization tended to be substituted for labor use.

The impact of agrarian reform on the credit market is determined by the coverage of the land redistribution and the nature of government support services for land reform beneficiaries. A share-tenant or landless worker who becomes a leaseholder or owner-farmer will lose his traditional and most important source of credit, the landlord. Even if there is likely to be a shift toward other informal credit sources such as local traders of farm products and inputs (Floro 1987), improved access to the formal credit market may be needed, perhaps with emphasis on lowering borrower transaction costs. As past experience has shown, government credit programs to benefit small farmers tend to be ineffective and are difficult to

sustain. Alternatively, as Hayami et al. (1987: 29) have argued, land reform does not have to exclude totally "the age-old institution of share-tenancy which is an effective instrument for credit provision and which agricultural wage laborers prefer to their current status." Also, in the case of export crops, contract farming could be promoted, with the agricultural processing companies providing the cash inputs, extension services, and credit requirements of small farmers.

While there is extensive literature on the results of land reform to be expected for the beneficiaries and on their further repercussions for the local rural economy, much less attention has been paid to the effects on former landlords and how their response can be made supportive of rural development. This suggests a limited appreciation of the potentially significant role of the displaced landowners in promoting the growth of RNEs.

If landowners are given "just" compensation, they can participate in rural nonagricultural activities as investors and entrepreneurs. For example, in Taiwan, landlords "were provided a financial interest in the industrial sector ... (through) the innovative use of land-bank bonds and industrial stocks in financing the land transfers, ... (contributing) to the decentralization of industrial developments" (Dorner and Thiesenhusen 1990: 75-76). To be sure, the latter result was influenced by factors other than land reform, including a policy climate conducive to the development of labor-intensive industries and their location in rural areas (Galenson 1979).

In the Philippines, the promotion of rural industrialization is a stated objective of both the Operation Land Transfer (under P.D. 27, issued in 1972) and the Comprehensive Agrarian Reform Law (enacted in 1988). The few studies that examined how the compensation to landowners was used, as reviewed by Llanto and Dingcong (1991), do not show any marked tendency toward investment in rural industries. Commercial activities seem to be preferred, including the trading of agricultural products and intermediate inputs. This would reflect the prevailing perceptions on relative rates of return, influenced necessarily by the limited information available to the former landlords concerning industrial investment opportunities. There is a

need, then, to provide support services aimed at improving their knowledge of nonagricultural markets in the local rural economy.

Presumably, investments in NREs are also a function of the total volume of rural household savings. There is a surprising dearth of studies on the effect of agrarian reform on aggregate rural savings. Adams (1973: 134) reports that both "average and marginal propensities to save among Taiwanese farmers, many of whom were beneficiaries of land reform, were remarkably high," but no comparison is given with the corresponding saving rates for displaced landlords. For the Philippines, the TBAC-UPBRF (1981) study, based on BAEcon farm record-keeping data on 127 farm households, gives estimates of the average (but not marginal) saving rate by tenure group. They range from 0.6 to 13.4 percent for share-tenants, from 10.2 to 19.9 percent for leaseholders, from 16.8 to 21.1 percent for full owners, and from 26.9 to 35.6 percent for amortizing owners. These estimates presumably reflect also the average income levels of the four tenure groups. Bautista and Lamberte (1990) find, from an analysis of FIES data for 1985, that the marginal propensity to save out of either permanent or transitory income is comparable between low-income and middle-income rural households, but that high-income households have higher saving rates. There is no strict correspondence, however, between these income classes of rural households and tenure groups.

It bears emphasizing that relative profitabilities of alternative production activities are shaped to a large extent by the macro-policy environment. Thus, in the 1950s, rich landowners participated actively in the financing and management of large-scale, import-competing industries located in urban areas (chiefly, Metro Manila); and this was stimulated by the sudden profitability in the production of import-substituting products (at the expense of other production activities) arising from the imposition of import and foreign exchange controls in 1949-50. Small-scale and labor-intensive rural industrial producers continued over the years to be discriminated against by the trade regime, interest rate and credit policies, and public investment (Bautista 1992). Unless the policy biases favoring capital-intensive, urban-based industries are redressed, it is unrealistic to expect

that landlords' investible funds and entrepreneurship, with or without land reform, will be directed toward RNEs.

There are at least three implications from the above discussion on the relationship between agrarian reform and growth of rural nonfarm enterprises. First, land redistribution into small family farms is potentially an effective policy instrument for increasing farm output and employment as well as for improving the distribution of rural incomes. It would thereby enhance the consumption linkage effect on nonagricultural production in the rural economy, giving impetus from the demand side to the expansion of RNEs. Second, these potential benefits of land reform may or may not be realized, depending on whether existing policy distortions working against RNEs are removed and productivity-oriented support measures are adopted. For the tenant-recipients of redistributed land to be able to substantially increase farm output and labor use, supply-side constraints such as low product prices, high cost of credit, and underdeveloped infrastructure need to be overcome. And third, a similar set of favorable supply conditions is required for RNEs to be able to respond commensurately to the demand stimulus arising from the widely-shared income gains associated with an effective agrarian reform.

CONCLUSIONS AND DIRECTIONS FOR FURTHER WORK

This paper has sought to convey that the expansion of rural nonagricultural activities is a crucial aspect of Philippine rural development, without which the development process as a whole is not likely to be self-sustaining and equitable. Agriculture being the predominant source of income for the rural population, "getting agriculture moving" is necessary to generate the demand stimulus for a decentralized, rural-based industrialization which is a critical determinant of the country's long-run development prospects. However, agricultural growth is not sufficient, as the discussion above of the country's post-1965 development experience clearly demonstrates.

The impressive growth of agriculture during 1965-80, fueled by rapid increases in farm productivity, did not provide a strong impetus to the development of RNEs. This was due in part to the concentration of income gains to the more affluent segment of the rural population. The effect on the structure and growth of rural consumption demand was to favor capital-intensive products and imported goods rather than labor-intensive, locally produced goods. At the same time, the macro-policy environment effectively discriminated in favor of large industry and Metro Manila-based enterprises. The supply response of RNEs to the rapid agricultural growth during the period was therefore weak.

Some research issues warrant further investigation. First, as pointed out above, the usual indicators of intertemporal performance of the rural sector are technically flawed. This arises from the fact that the physical area of the "rural sector" is, almost by definition, shifting over time. In FIES data a *poblacion* or central district, or even a *barangay* with at least 1000 inhabitants, having a population density of at least 500 persons or at least six establishments (commercial, manufacturing, recreational and/or personal services) qualifies as an urban area.¹² It is clear that, as population grows and/or economic activity expands over time, an initially rural area (and associated group of rural households or RNEs) will be classified as urban, sooner or later. This is not problematical for purposes of measuring, say, urbanization patterns and trends. However, inter-year comparisons of household poverty incidence or share of manufacturing in total employment in the rural sector are bound to have a systematic downward bias over time.

It would be useful to document the past economic performance of the rural sector (and how it has been influenced by the prevailing policy climate) without the intertemporal distortion associated with the FIES urban-rural classification. This can be done by adopting a different definition of the rural economy that precludes changes in the physical area over time. One such definition that seems reasonable would include all areas except Metro

12. There are some other characteristics used separately in distinguishing between urban and rural areas according to FIES definitions.

Manila, Metro Cebu and a large subset of the chartered cities; the location of RNEs would be in the towns and central districts that link to the surrounding farm villages in both output and input markets. Whether existing data sources (perhaps special tabulations from the FIES and Economic Census) can be tapped and make measurement feasible remains to be seen. Alternatively, one might focus on some regions (e.g., Bicol and Central Luzon) that are predominantly agricultural in the initial year for which intertemporal data are available. Their comparative economic performance could be analyzed based on a number of possible explanatory factors such as the relevant changes in the meso economy (markets and infrastructure) induced by various government policies.

Another data-intensive research area that needs to be further addressed is the demand pattern of rural households, distinguished by various characteristics (e.g., by socioeconomic class: large farmers, small farmers, tenants, etc.; by income level). It would be useful in intersectoral analysis to be able to break down consumption expenditures, both average and marginal (as income increases), into locally produced goods, products of urban-based industries, and imported goods. This would require especially designed surveys that are more intensive as well as extensive than those previously conducted.

Empirical analyses of the consumption linkage implications of particular patterns of agricultural growth (e.g., food crops, export crops and livestock as alternative sources of growth) and how the employment and income multiplier effects on the rural economy can be increased merit consideration. Research is also needed to investigate quantitatively the extent to which income redistribution in the rural sector, with or without an effective agrarian reform, can increase the demand for RNE products. How might direct taxation measures be designed, for example, so as to induce a wider sharing of the income gains from agricultural growth?

Despite the extensive literature on land reform in developing countries, there has been little attention given to the consequences on rural nonfarm production. Agricultural productivity and income distribution issues are examined in many studies but the linkage to RNEs is typically not pursued.

In the Philippine context, this partly reflects a lack of recognition of the wider role of agrarian reform in broadening the domestic market and contributing to a more sustainable growth process for the economy as a whole. There is a need to undertake studies on both *ex ante* and *ex post* relationships between land reform implementation and the growth of RNEs.

On the supply side it would be instructive to inquire on the special constraints faced by RNEs in the markets for output, inputs, credit and information. What policy or institutional factors are responsible for those constraints? What can government do to help RNEs overcome them? Can a given market be made competitive if it is monopolistic, or created where it is missing? Political economy considerations are surely important; in particular, the sources of resistance to policy and institutional reforms warrant systematic attention.

Another important research area concerns the market for information. The presence of scale economies in the acquisition of information implies that RNEs are likely to underinvest, foregoing some of the benefits of new information on technology and market developments, at least relative to the large, urban-based enterprises. There is, then, an economic rationale for the government to help finance such investments or perhaps even provide information services directly. How are RNEs being assisted currently in this regard, and how might existing forms of government assistance be improved?

It is also necessary to investigate the influence of external factors on the growth of RNEs, including the direct effects of changes in foreign prices and in access to world markets of labor-intensive manufactured products as well as the indirect effects arising from institutional and policy reforms such as those associated with the ongoing economic adjustment program.

Finally, as indicated above, there are interaction effects among various aspects of the policy and institutional environment affecting RNEs—all of which need to be evaluated empirically. It would be useful to examine the effects on the economic performance of RNEs arising from the separate and, alternatively, simultaneous implementation of specific policy and institutional reforms. How might alternative policy packages be ranked

(from first-best to n th-best) in their effectiveness in promoting the development of RNEs? Systematic analyses of successes and failures of specific RNEs in particular industries and of their relationship to existing policies and institutions would also be valuable in terms of the lessons to learn and their implications for government action.

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COMMENTS

The paper of Dr. Bautista is clearly an important study that highlights the crucial role of rural-based industrialization in the development process. It is crucial not only in sustaining the process itself, but also in ensuring that it is equitable, i.e., that the fruits of development will be shared by the large majority of the population.

The paper calls our attention to the agriculture-industry nexus and to intersectoral linkages, when the tendency, especially among economists — agricultural economists on the one hand and industrial economists on the other — is to think along parallel lines, that is, to consider each sector independently of the other. If they temporarily abandon their respective camps, they often pit one sector against the other to stress how one sector encroaches on the other, instead of considering how one sector is indispensable in the development process. Dr. Bautista, having been the outstanding international and industrial economist that he was before he opted to cross over the other sector — I would say, with equal ease and scholarly rigor — is eminently suited to confront the problem of rural-based industrialization.

Reflecting on the experience of economic growth in the country, one that contrasts sharply with that of our Asian neighbors, Dr. Bautista explains why the country had lower GDP growth rate during the 1965-80 period when agricultural growth was comparable with that of our ASEAN (Association of Southeast Asian Nations) neighbors. He traced this lower growth to the drag of lower manufacturing sector growth, due in part to the failure of agricultural growth to significantly stimulate rural-based industrializa-

tion. This failure is in turn a result of historical, institutional, and policy-induced weaknesses of the system, leading to consumption-expenditure patterns adverse to the development of rural nonfarm enterprises (RNEs). The question is how to remedy these weaknesses in order to achieve the appropriate patterns.

The paper emphasizes the influence of government policies on both the demand and supply forces that determine the emergence and viability of the RNEs. I agree very strongly with Dr. Bautista on this point because I am convinced that there is a lot that the government can do, undo, or cease to do in policy terms to dynamize the rural economy. For instance, the past policy of excessive protection of the manufacturing sector at the expense of agriculture is now gradually being reversed by trade and industrial policy reforms started in the early 1980s. If the government is able to keep the momentum of the reforms, the salutary effects on rural development can be expected. Already, even after only a partial trade liberalization, we are able to see the dismantling of some of the biases of the protective system in favor of large-scale enterprises. The environment is now becoming more neutral in terms of encouraging the growth of appropriate sizes of enterprises, including small and medium enterprises (SMEs) which are probably more appropriate for rural-based industrialization. We are also starting to see some regional dispersal of industries and firms away from Metro Manila. What we still have to validate empirically, however, is whether such regional activity is attributable, even in part, to such reform.

It would also be interesting to show, using plant-level data available in industrial censuses and which carry locational characteristics of plants, to determine the rural and urban patterns and direction of change in response to the reforms. Or whether the regional changes reflect the overall positive impact of the reforms on efficiency and improved resource allocation. How did the more liberal trade regime actually affect the environment for rural development? A similar question could be asked and empirically verified for each of the different policies identified by Dr. Bautista in his analytical framework. What he had done for the 1965-80 period in terms of analyzing the individual and combined effects of the trade regime, financial policies,

and public investment on the rural economy could be extended to the 1980s and the 1990s, this time with emphasis on the effects of policy reforms.

Dr. Bautista also correctly pointed out the importance of policy interactions in determining the supply responsiveness of RNEs (rural nonfarm enterprises). In particular, he stressed the need for the availability of infrastructure facilities and other public inputs to make other policy instruments effective in inducing the development of RNEs. I would like to emphasize the importance of rural electrification. There are numerous studies in Japan's experience documenting the birth of industries in the countryside with increased access to sources of electric power. In particular, we see the development of an indigenous machinery sector as factories began to be set up in the non-urban areas.

It seems too that aside from just correcting its own policy-created distortions and biases against RNE development, the government could possibly do something more positive in the direction of creating or strengthening institutions. For instance, the difficulty of access to credit in the rural areas is a real bottleneck to RNE development. Hence, strengthening institutions such as the rural banking system or redirecting incentives towards the creation of other forms of credit institutions that are more adapted to and closer to RNE activities are steps in the right direction. I am also thinking of the greater use of the informal credit markets — or at least their techniques of lending and collection — which are home-grown and therefore more appropriate to the needs and cultural orientation of the RNEs.

The supply of entrepreneurial skills is another important bottleneck. The Department of Trade and Industry (DTI) has been actively trying to help tap entrepreneurs in the regions and providing them with whatever assistance it can offer. One can legitimately ask, of course, whether this activity is part of government's sphere of intervention or whether it is something that comes naturally when the right policies are in place. What are the institutional reforms needed to coax former landlords under the agrarian reform program to invest in rural industries?

What about the role of the decentralization process started by government in recent years? It is widely believed that with greater fiscal autonomy,

regional dispersal of industries will take place. Are there any emerging trends in this direction or is it too early to tell? If there aren't, why not? What are the existing barriers to the achievement of the desired objectives?

Dr. Bautista's frequent reference to Taiwan's experience in contrast to that of the Philippines points to the importance of a serious study of country experiences in this field. Such a study promises to yield important lessons and learning points that could help in policy formulation for RNE development.

Finally, the long list of Dr. Bautista's suggested areas and topic for research are enough to fill up someone's research agenda for the next few years. They are not only very interesting but are also valuable to pursue to understand better and in greater depth the dynamics of rural development.

Highlights of Discussion

DYNAMICS OF RURAL DEVELOPMENT

Has agrarian reform spelled the difference in levelling the concentration of wealth and income inequality in the rural economy, thereby, allowing the development and growth of rural nonfarm enterprises (RNEs)?

An effective agrarian reform program might have worked, but restrictions on the trade regime like import controls and high tariff rates would also have indirect effects on the growth rate of RNEs. How the payments to landlords are invested (i.e., whether they are invested in the local economy or invested in import-substituting products in Manila), for instance, is critical in determining the effect of land reform on RNEs. The incentive for import-competing products being artificially raised by import controls and high tariff rates can lead to higher domestic prices. In effect, what happens is that such incentive leads the economy to produce the “wrong” type of goods, i.e., those very products that are consumed only by the elite and middle class.

With the doubling of population, land distribution alone will not be able to alleviate rural poverty. Instead, corresponding policies on how to improve human capital and infrastructure must also be prioritized. The basic and traditional areas of development such as investments in electrification and irrigation are guaranteed to improve rural economy.

Moreover, incentives are inadequate for farmers to undertake investments in nonfarm enterprises. An effective agrarian reform must address the need to have a clear sharing of costs and benefits in production because there are farmers who are either risk-averse or risk-taker.

The solutions to the investment bottlenecks in the rural areas are not necessarily agriculture-specific. For instance, the rapid growth of agricul-

ture in other countries was due to high prices of agricultural produce in the world market. The real exchange rate may also provide the key to rural development as shown in the Chilean and Vietnamese experiences. Another alternative option is to have more equal distribution of returns to land.

The lost opportunity to grow in the 1965-1980 period may be similar to what is happening at present in terms of the foreign remittances of overseas contract workers (OCWs). It seems that remittances are not stimulating rural development. Thus, a systematic study that will look into how these remittances are being utilized for linkages in investment activity would be useful.

A pioneering study on remittances was done by Dr. Mario Lamberte, but it was limited to the macro picture. Although some computations were made, the result was not good because of the methodology used. The World Bank used a different methodology and got better results.

In his study, Dr. Lamberte pointed out that housewives sometimes become moneylenders in the rural setting and finance small businesses. Such businesses, however, are focused more on trading rather than on manufacturing. As to the configuration of moneylenders in the countryside, it seems that new sources of capital are emerging such as housewives who now have more money as a result of remittances received from OCW-relatives.

Meanwhile, some areas may have been overlooked in Dr. Bautista's study such as the importance of functional literacy or the ability to apply knowledge in the workplace, the role of cooperatives in savings mobilization, credit and market information, and the tradeoff between development and environmental deterioration.

The impact of discipline on a country's economic progress was also noted. One probably has to use a more sociological explanation, beyond the economic paradigm to explain the progress of some countries. However, discipline, according to another observation, may be a function of economic environment.