

THE CHALLENGE OF ECONOMIC RESTRUCTURING TOWARD SUSTAINED ECONOMIC GROWTH*

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I. INTRODUCTION: SETTING "NICHOOD" STRAIGHT

To most Filipinos nowadays, Philippines 2000 is nearly synonymous with the government's drive toward "NIChood." There is confusion about what NIC means, however. The clearest definition is that of a "newly industrialized country" which is generally characterized by the predominance of a dynamic industrial sector in the economy, a very low share of agriculture to gross domestic product, and probably a per capita income of about US\$7,500 per year or more at current prices. Viewed in this light, Philippines 2000 as the drive to NIChood is totally unrealistic. Unfortunately, some high government officials get carried away and tend to communicate to the public the vision of "NIChood" in Philippines 2000 in terms of a "newly industrialized country."

The government's economic managers have always referred to "NIC" as "newly industrializing country," characterized by a predominance of manufactures in total exports, a one-fourth share or so of manufacturing to gross domestic product, and a per capita income of about US\$1,500-US\$2,000 per year at current prices. This is definitely a far more modest and realistic goal for the Philippines by the year 2000 than the previously discussed definition of NIC.

"NIC," defined as "newly industrializing country," connotes a process rather than a state. Considering that the Philippines meets the usual criteria of NIChood except for the per capita criterion as yet, the Philippines at present can be said to be in the process of industrializing, albeit in a spotty way and very slowly. Moreover, there is nothing magical about a US\$1,500-US\$2,000 per capita income. Many Latin American countries (i.e., Venezuela, Argentina, Mexico, Brazil, Chile, Panama) had per capita incomes greater than US\$1,500 by the latter 1970s, yet

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they experienced major economic setbacks during much of the 1980s like the Philippines.

What the government's economic managers seem to really encapsulate in the phrase "newly industrializing country" or NIC is for the Philippines to takeoff to sustained economic growth. This means that the "boom and bust" cycle that plagued the Philippine economy during the post WW II period should not recur. It also means that the macroeconomic parameters, e.g., the investment and savings rates, inflation rate, debt service ratio – should be robust and should significantly improve. In effect, what the government is really aiming for in Philippines 2000 is, using the currently popular business parlance, "economic tigerhood" like the rest of East Asia; that is, an economy that "roars" and "leaps" rather than sputters ever so often. In terms of acronyms, it is not NIC or "newly industrializing country" that matters but RIC or "rapidly industrializing country."

In order for the country to attain the vision of economic "tigerhood" under Philippines 2000, this paper advances that the country and government understand and situate the parameters of Philippine development in the context of the Asian region, rethink Philippine agricultural development, strengthen Philippine industry and tradable services, and invest in people, institutions, technology and the environment. The paper concludes with some remarks on implications on the social science and information research community.

II. THE "EAST ASIAN MIRACLE" AND THE PHILIPPINES

The Philippine economic performance in the 1980s was certainly lackluster compared to the performance of the rest of East Asia (and even compared to South Asia) such that the Philippines has come to be regarded as "the sick man of Asia," which has become a reflection of the Filipinos' reduced self-confidence. The Philippine economic performance was particularly discouraging when compared to the country's apparently more favorable ranking in the region during the 1950s and early 1960s (See Table 1).

It should be emphasized, however, that the economic ranking of the Philippines in the region during the 1950s was artificially inflated by a heavily overvalued peso, considering that one US dollar then should have been worth about four pesos instead of two pesos if purchasing power parity principles had been followed. (The adjusted per capita income of the Philippines would have been below South Korea and only marginally higher than Thailand.) The overvaluation of the peso and the policy regime that propped up the peso overvaluation during the 1950s is at the root of the tortuous process of economic development toward "tigerhood" of the Philippines during the past three decades.

Table 1
Per Capita Income, Selected Countries
(in US dollars at current prices)

	1960	1977	1991
Singapore	492	2,880	14,210
Malaysia	282	930	2,520
Philippines	256	450	730
South Korea	154	820	6,330
Thailand	96	420	1,570

Sources of data: *World Bank Development Report 1979, 1982, 1993.*

The Philippines pursued heavy industrial protection, peso overvaluation, and inward-oriented industrial development too long such that scarce capital resources were allocated inefficiently and indiscriminately toward import substitution and the domestic market. The country erroneously pursued heavy industrial protection for too long because the real problems were masked to a substantial extent by the unsustainable "mining" and depletion of the country's resources (especially forestry) which generated substantial foreign exchange reserves during the latter 1960s and the early 1970s.

In sharp contrast, the successful East Asian economies pursued import substitution and an inward-oriented development strategy only briefly (e.g., Taiwan) or barely at all (e.g., Singapore, Hongkong) and moved strongly toward export orientation. In these countries, the more difficult second stage of import substitution of intermediate goods was pursued only after they had become firmly established as exporters (Chen 1989). In the Philippines, and especially in Latin America, the second stage of import substitution was pursued immediately after the initial process of easy import substitution of primarily consumer imports. As a result, the Philippines and many Latin American countries had to undertake difficult and prolonged industrial restructuring in order to move toward greater efficiency and outward orientation during the 1980s.

A comparative study of the economic performance of developing countries from the 1960s until the mid-1980s shows that outward economies had higher income and export growth rates, made use of scarce capital resources more efficiently, and generated much greater industrial employment than inward looking economies (see Table 2; World Bank 1987, Chapter 5). This precept is best exemplified by the successful East Asian Economies.

The success stories of East Asia's "dragons" or "tigers" has led to a growing literature which try to understand and explain the factors of such spectacular economic performance. Of particular emphasis is the still raging debate on the role of the state *vis-a-vis* the market. The latest and probably most influential publication on this is the World Bank's volume on the "East Asian Miracle" (1993). At one level, the results of the analysis are probably not very surprising: there is no single golden route to economic prosperity. Rather, each East dragon fashioned its own mix of government intervention, extent of reliance on markets and nature of governance according to what best fits its political economy, economic and technological circumstances, and culture.

Table 2
Comparative Performance of Countries by Trade Regime

	Real GNP Growth per Capita (%/year)		Growth of Manufactured Exports (%/year)		Incremental Capital Output Ratio (annual ratio)	
	1963-73	1973-85	1963-73	1973-85	1963-73	1973-85
(A) Strongly outward-oriented	6.9	5.9	14.8	14.2	2.5	4.5
(B) Moderately outward-oriented	5.0 ^a	1.8 ^a	16.1	14.5	2.5	5.0
(C) Moderately inward-oriented	3.9 ^a	1.9 ^a	10.3	8.5	3.3	6.2
(D) Strongly outward-oriented	1.6	-0.1	5.7	3.7	5.2	8.7
	Growth of Real Manufacturing Value Added (%/year)		Share of Labor Force in Industry			
	1963-73	1973-85	1963-73	1973-85		
(A) Strongly outward-oriented	2.5	4.5	17.5	30.0		
(B) Moderately outward-oriented	2.5	5.0	12.7	21.7		
(C) Moderately inward-oriented	3.3	6.2	15.2	23.0		
(D) Strongly outward-oriented	5.2	8.7	12.1	12.6		

^aApproximate

Source: 1987 World Development Report pp. 84-87

At a more fundamental level, however, the experience of successful East Asian economies suggests that the basis of successful economic governance is simple despite the usual florid or high sounding rhetoric. The message is this: follow the intuition of basic economics. Specifically, four conditions should be highlighted:

The *first* is economic outwardness. As expected, outward orientation and export push allows for a great play of one of the basic tenets of economics, i.e., the law of comparative advantage which facilitates the allocation of a country's resources consistent with the country's evolving international competitiveness. Economic outwardness includes openness to foreign investment and/or technology in order to raise the country's investment rate and accelerate the technological upgrading of the country's productive capacity.

The *second* is macroeconomic and price stability to minimize uncertainty and transactions cost of intertemporal decisions especially savings and investment (both physical and human). This encourages higher saving and investment rates, as well as financial deepening in the countryside.

The *third* is general flexibility of the domestic market factors, both capital and labor, in order to maximize the economy's flexibility in adjusting to market shocks and shifts in international competitiveness and comparative advantage. General flexibility of the labor market entails the congruence of wage adjustments and labor productivity changes.

The *fourth* is that the agricultural sector should not be overly-taxed and the industrial sector not overly-subsidized to prevent greater inequity across social and income classes. At the same time, the distribution of the returns from agriculture should be more equitable.

The four conditions encourage efficient allocation of resources, greater focus on productivity, and acceleration of technological adaptation and upgrading. In addition to the four conditions, the successful East Asian governments propagated the "principle of shared growth" (Page 1994, p.5) wherein they implemented major equity-oriented programs (e.g., housing in Hongkong and Singapore; bias for bumiputras in Malaysia; land reform in South Korea and Taiwan; and cooperatives in most of them) to show the people that the governments ensure that economic growth benefits everybody.

The approach to attaining the above four conditions can be direct and non-interventionist as in Hongkong or through a convoluted set of government interventions as in South Korea. The principle of shared growth and strong government-private sector linkages in policy decision-making helped ensure the society's sense of "ownership" of the government's economic programs.

The conditions are simple and clear. However, as the experiences of many developing countries indicate, attaining them and staying there can be very difficult indeed. A recent comparative study by John Williamson of the Institute for International Economics indicates that committed leadership and support of the legislature are important factors for successful macroeconomic adjustment and structural reforms because of: (1) the police power of the State to impose burden sharing (and benefit sharing) as well as penalties for shirking among the populace; (2) the political role of the state in harmonizing various interest groups; and (3) the collective nature of macroeconomic adjustment and, hence, the potential externality benefits from a smoother adjustment process. Thus, as in the East

Asian cases, the society's sense of "ownership" of the economic reform program is important for the success of the program. While many adjustment programs in developing countries agreed upon with the International Monetary Fund/World Bank have largely failed, those which succeeded had forged an *internal consensus* on the economic program *first* before finalizing with the IMF (e.g., Mexico during the late 1980s) or instituted their own programs without a formal IMF program (e.g., Indonesia, Israel and China during the early to mid-1980s). As a result, the package of policies and programs was more credible to the constituencies in these countries.

The four conditions discussed earlier were not present in the Philippines during much of its post WWII history. Nevertheless, the efforts of reforms that went in earnest during the Aquino administration and the current Ramos administration are geared essentially toward attaining the four conditions – economic outwardness and competitiveness, macroeconomic stability, elimination of unwanted distortionary taxation of agriculture, and greater flexibility and liberalization in the factor and input markets.

Among the major policy reforms designed to redirect the overall incentive structure in the country that have been initiated in the last few years are the following: *first*, the continuing reduction and rationalization of the country's tariff structure. This is a critical policy reform shift from inward-oriented industrial development toward economic outwardness and openness. *Second*, liberalization of the policy regime for foreign investment. This, together with the liberalization of the foreign exchange and financial markets, helps ease substantially the pervasive capital and foreign exchange constraints facing the country. *Third*, tax reforms which together with the external debt restructuring and the enactment of the build-operate-transfer (BOT) law, help ease the budget constraint. Nevertheless, the fiscal situation remains fragile requiring significant improvement in tax administration and streamlining of the bureaucracy in order to minimize the budget gap. And fourth, the promotion of competition as exemplified by the liberalization of telecommunications, banking and to some extent, interisland shipping sectors.

While much has been done to make the policy environment more conducive to economic recovery and growth, the challenge of economic restructuring toward robust and sustainable economic growth remains. In steering the Philippine economy toward full recovery and sustained growth, the Ramos government faces a number of major tasks, among them: to transform a sluggish and comparatively inefficient industrial sector into a vigorous and comparatively efficient and competitive one; to undertake structural adjustments and encourage diversification in the agricultural sector; to streamline the government bureaucracy and improve the provision of government services; to redefine the country's industrial relations environment; to accelerate technology transfer from abroad and improve the country's capacity for technological adaptation and mastery; and to maintain macroeconomic stability conducive to export growth.

III. THE CHALLENGE OF ECONOMIC RESTRUCTURING TOWARD "TIGERHOOD"

There are three fundamental reasons for the need to restructure the country's economy. The first and foremost is the *continuing high incidence of poverty* in the country. As of 1991, official estimates show that two-fifths of all Filipinos are poor and one-fifth are subsistence poor. Most of the poor families are in the rural areas (see Intal 1994 for details). Clearly, a development strategy and economic structure that have endangered a persistently high incidence of poverty over several decades need major overhauls. The second important reason is the *failure of the manufacturing sector to increase its share of total employment* (about 12%) during the past three decades, in sharp contrast to the experience of other East Asian countries. The third and final reason is the *deterioration in international competitiveness and the concomitant lackluster performance of the Philippine economy* during the 1980s compared to the rest of East Asia. This setback arose, to a large extent, from major slippages in the country's labor productivity, real exchange rate, investment rate and infrastructure *vis-a-vis* the rest of East Asia.

Situating the Philippines in East Asia's economic arena. While the Philippines was enmeshed in its economic and political crises and reforms in the 1980s, the international economic environment changed dramatically. A major capital movement from Northeast Asia to Southeast Asia and coastal China occurred during the latter 1980s, ushering a major industrial restructuring in East Asia. In addition, the world's more populous countries opened up (China) or restructured toward export competitiveness (Indonesia, India, Vietnam), thereby releasing seemingly inexhaustible supplies of very low-cost labor for export production. Thus, by the early 1990s the Philippines appears to have become "boxed in" and therefore less competitive in low skill-intensive exports (because of its comparatively higher labor cost than Indonesia, China, etc.) as well as in mid-scale products (because of the newer capital equipment, better infrastructure, and increased competitiveness of countries like Thailand and Malaysia).

The industrial restructuring in East Asia has been popularly described as the "flying geese" with Japan leading the pack, followed by the four Asian NIEs (Hongkong, Singapore, South Korea, Taiwan) and then apparently by China and the ASEAN-4 countries (Malaysia, Thailand, Indonesia, and the Philippines). Close on the heels of the Philippines are the awakening populous countries of Vietnam and India. Rising labor costs and the appreciation of the Japanese yen, South Korean won and New Taiwan dollar in the mid 1980s, forced Japan and the Asian NIEs to move to more skill- and technology-intensive industries and to shift production of unskilled labor-intensive industries offshore to China and Southeast Asia. The resulting large capital inflows and technology transfer to Southeast Asia and Southern China led to the sharp acceleration in exports and consequently, economic growth in these countries. With a sharp increase in the demand for labor, real wage rates have started to rise in these countries.

Since the countries in the region have been reducing their tariff and nontariff barriers to trade and liberalizing their foreign exchange and capital markets, then capital flows, technology transfer and trade integration would continue. The result would be the acceleration of the process of factor price adjustments, shifts in comparative advantage and commodity specialization among the various countries in the region.

Domestic political crises, policy failures and budgetary constraints contributed substantially to the failure of the Philippines to respond readily to the changing international economic environment of the 1980s. Indonesia and China successfully devalued their currencies substantially relative to the Philippines. In addition, China and other Southeast Asian countries experienced dramatic improvements in industrial labor productivity. In contrast, the Philippines has nurtured an overvalued peso, and labor productivity in manufacturing barely increased between 1975-1990 because of the sharp decline in the investment rate, economic slowdown and deterioration of the infrastructure facilities. As a result, China and the other Southeast Asian countries increased the price competitiveness – in efficiency terms – of their exports and labor, and improved their attractiveness for foreign investments in labor-intensive exports. The growth, meanwhile, of Philippine-manufactured exports during the 1980s was lackluster compared to the export surges and rising world export market shares of its ASEAN neighbors and China (Bertrand *et al.* 1992).

Similarly, the Philippines performed less satisfactorily in agriculture in the 1980s compared to other countries in the region. Per capita food production declined by 11% during 1981 to 1991, compared to an increase of 22% in Vietnam, 27% in Indonesia, 35% in China (including Taiwan), 18% in India, and 10% in Pakistan. Indeed, the Philippines was the worst performer in Southeast Asia and South Asia considering that Myanmar and Bangladesh did even better (see Table 3).

Figure 1 illustrates the shifts in comparative advantage in the region, as indicated by the changes in the values of the revealed comparative advantage (RCA) indices of selected industries in South Korea, Taiwan, Indonesia and the Philippines between 1980 and 1990. In Figure 1, a country has revealed comparative advantage (or disadvantage) in an industry if its RCA value is greater (or less) than unity; if RCA is less than 0.3, then we consider the country to be very uncompetitive in that industry. Figure 1 shows that South Korea and Taiwan experienced declining competitiveness in labor-intensive industries (e.g., textiles, clothing, footwear) while Indonesia had rising revealed competitiveness in such industries.

Figure 1. Changes in Revealed Comparative Advantage

<i>Industries</i>	<i>Taiwan</i>	<i>South Korea</i>	<i>Indonesia</i>	<i>Philippines</i>
Vegetable Oils	VUC	N.A.	C, $\uparrow\uparrow$	C, \downarrow
Rubber	UC, \downarrow	N.A.	C, \uparrow	UC, \uparrow
Rubber Mfrs.	C, \downarrow	C, \downarrow	VUC, \uparrow	VUC, \uparrow
Cork and Wood	UC, \downarrow	N.A.	C, $\uparrow\uparrow$	C/UC, \downarrow
Wood Mfrs.	C, \downarrow	VUC, \uparrow	C, \uparrow	C, \downarrow
Coal	VUC	N.A.	C, \uparrow	VUC
Iron and Steel	C, \rightarrow	C, \downarrow	C, \uparrow	VUC, \uparrow
Metal mfrs.	C, \uparrow	C, \downarrow	VUC, \uparrow	VUC, \downarrow
Non-iron Metals	VUC, \uparrow	VUC, \downarrow	C, \uparrow	C, \uparrow
Nonmetal Products	UC, \downarrow	C, \uparrow	C, \uparrow	C, \downarrow
Textiles	C, \downarrow	C, \downarrow	C, \uparrow	UC, \downarrow
Clothing	C, \downarrow	C, \downarrow	C, $\uparrow\uparrow$	C, \uparrow
Leather	C, \downarrow	UC, \downarrow	UC, \uparrow	VUC, \uparrow
Footwear	C, $\downarrow\downarrow$	C, \downarrow	C, \uparrow	C, \downarrow
Furniture	C, $\downarrow\downarrow$	UC, \uparrow	C, $\uparrow\uparrow$	C, \uparrow
Paper	C, $\downarrow\downarrow$	VUC, \downarrow	UC, \uparrow	VUC
Resin/Plastics	C, \downarrow	VUC, \downarrow	VUC	VUC, \uparrow
Machinery	C, \uparrow	UC, \uparrow	O	O
Electric/Electronic	C, $\downarrow\downarrow$	C, \uparrow	VUC, \uparrow	C, \uparrow
Precision Machinery	C, \downarrow	UC, \downarrow	VUC, \downarrow	VUC, \downarrow
Other Mfrs.	C, \downarrow	C, \downarrow	UC, \uparrow	C, \downarrow

C = competitive; UC = uncompetitive (i.e., $1 > RCA > .3$)
 VUC = very uncompetitive (i.e., $RCA < .3$)

\downarrow declining
 \uparrow improving

Source: PIDFI and others (1994)

Table 3
Indices of Total and Per Capita Food Production; Selected Countries

	Total Food Production				Per Capita Food Production			
	1981	1985	1988	1991	1981	1985	1988	1991
Banglades	100	111	113	127	98	97	92	97
China ^a	102	128	141	160	101	119	125	136
India	107	124	139	154	104	111	118	123
Indonesia	107	128	147	166	105	115	125	133
Myanmar	108	139	132	127	105	126	112	100
Pakistan	105	120	141	159	102	102	108	112
Philippines	103	99	108	118	101	87	89	90
Thailand	106	122	126	125	104	112	111	105
Vietnam	104	119	139	158	102	107	117	124

^aIncludes Taiwan.

Source: *FAO, Food Outlook Statistical Supplement 1992*, pp. 10-11.

Notice the mixed performance of the Philippines compared to Indonesia, with the former showing many cases of declining RCAs. This echoes the poor overall economic performance of the Philippines vis-a-vis Indonesia during the 1980s. It also reflects the difficult challenges of economic restructuring and policy change because reform entails both macroeconomic-level efforts and sector-specific interventions for structural change.

The challenge of generating macroeconomic stability and export growth. There is no doubt that there cannot be sustained economic growth without a stable macroeconomic environment. The contrasting experiences of the successful East Asian economies and those of Latin America during the 1970s and much of the 1980s prove this. More importantly, significant macroeconomic distortions are at the heart of major structural problems that have plagued much of the developing world for decades.

In order to maintain macroeconomic stability conducive to export and economic growth, the challenge is to maintain financial and price stability without significant currency overvaluation and trade restrictions. (A country can maintain stable prices for so long without generating much growth because of heavy currency overvaluation and trade restriction e.g., India during the 1960s through the 1980. This calls for an incentive structure that encourages high saving rates, pragmatic exchange rate management that prevents significant currency overvaluation, and conservative monetary and fiscal management.

The Philippines was the only Asian country in the "club" of 20 severely externally-indebted middle income developing countries. As a result of the world debt crisis, the Philippines experienced a balanced of payments and debt crisis in the early 1980s. Consequently, the country had to undertake a wrenching macroeconomic adjustment and economic stabilization took primacy over economic growth. Over the past decade, a number of policy reforms have been undertaken albeit in fits and starts. The current improved macroeconomic environment rests on fragile foundations and there remains the danger of unraveling in the future unless further macroeconomic reform efforts are undertaken.

As discussed earlier in the paper, Philippine exports and the country's attractiveness to export-oriented foreign investments in labor-intensive industries have been dampened in part by the real appreciation of the peso vis-a-vis the Indonesian rupiah and the Chinese yuan during the 1980s. This suggests that one policy challenge facing the government's macroeconomic managers is how to encourage some real depreciation of the peso in order to reduce the price advantage of Indonesia and China and to improve the country's price advantage vis-a-vis Thailand and Malaysia.

However, the peso appreciated in real terms by about 11.8% during 1991-1993 (Cororaton 1994). There is a danger that the peso will appreciate further in real terms. With the virtual freeing up of the foreign exchange market, an unnecessarily tight monetary policy results in a widening difference between domestic and foreign interest rates, thereby encouraging inflow of portfolio capital which leads to increased pressures for further appreciation of the peso. The recent experiences of Mexico, Spain and Chile show that surges of capital inflows can make tight monetary policy ineffective and an instrument of a vicious cycle that contributes to further currency appreciation (Schadler 1994).

It is clear that as the country opens up to surges of foreign capital inflows, the appreciation of the peso can only be prevented by easing up the tight *monetary policy* stance but combined with a *fiscal surplus* (as in the case of Thailand) or at least where the government does not resort to domestic borrowing to finance its budget deficit (as in the case of Indonesia). This requires substantial improvements in the country's monetary management and tax administration. It also means tighter expenditure programming by the government. Such policy choices are difficult from a political economy perspective as the current controversy with the expanded value added tax (VAT) and recent problems with budget cutbacks show.

The wrenching macroeconomic adjustments that the Philippines undertook during the past decade enabled the Philippines to improve substantially its external debt profile. Indeed, Indonesia had a worse external debt service ratio than the Philippines by 1990 (Intal 1992). However, the improvement of the country's external debt profile was accompanied by a sharp deterioration of its internal debt profile. Because of the large debt overhang, poor monetary policy has a magnified adverse effect on the government budget and, through the effect of both, on the real exchange rate, on exports and economic growth.

In short, the fundamentals underpinning the apparently favorable macroeconomic environment at present are not robust enough and the danger of future unraveling remains. Improved tax effort and monetary management are central to a robust, stable macroeconomic environment that is conducive to export and economic growth. Failing that in the meantime, the government may have to institute a moratorium on net domestic borrowing and, like Indonesia, rely instead on long-term foreign borrowing to finance the budget deficit. The least satisfactory but most expedient policy response to surges in capital inflows is a tax on foreign portfolio investments as a way of dampening the pressure of peso appreciation.

The challenge of improving agricultural productivity and food production. Improving agricultural productivity and food production is a critical component of economic restructuring for sustainable economic growth in the Philippines.

Among the ASEAN-4 countries, the Philippines has the least favorable land-to-man ratio. This means that other things being equal, the Philippines needs to improve agricultural productivity more than Malaysia, Thailand or Indonesia in order to (at least) maintain international competitiveness in agriculture-based products and to improve per capita food production. As a major provider of wage goods (mainly food), the historical experience of Japan, Taiwan and South Korea show that a robust growth in agricultural productivity (see Table 4) helps maintain food prices, dampens pressure for wage inflation, and helps maintain comparatively low inflation rates during the period of labor-intensive export expansion and industrialization.

The Philippines lagged behind in the agricultural development race among the ASEAN-4 countries during the 1980s (see Table 3). Behind this poor performance are: (1) the low and declining investment in agricultural research in the Philippines compared to its ASEAN neighbors and even India and Bangladesh; (2) drastic reduction in irrigation expenditures compared to Thailand and Indonesia; and (3) slowdown in fertilizer usage (David, Ponce and Intal 1993).

For any sustained major improvement in agricultural production and productivity in the years to come, there is therefore a great need to raise dramatically the government's expenditures in productivity-enhancing interventions like agricultural research, irrigation, fertilizer usage and widespread adoption of integrated pest management. Moreover, in order to get more "bang for the R&D buck," the government may need to streamline significantly its agricultural research extension system (David, Ponce and Intal 1993).

The coconut industry should be of particular policy concern to the government because more than one-fifth of all agricultural land is coconut land, the incidence of poverty among coconut farmers is higher than among rice farmers. There is a need to improve the low and stagnant coconut farm productivity in the face of substantial productivity improvements in the major competing products (i.e., palm and soybean) in order to stem the decline in the international competitiveness of coconut, and there is a need to redress the historical neglect of the coconut farming sector by the government.

Table 4
Average Annual Growth Rate of Labor and Land
Productivities in Agriculture: Japan, Taiwan,
South Korea (in percent)

	Labor Productivity	Land Productivity
<i>Japan</i>		
1950-1953	5.2	3.6
1953-1968	6.7	3.9
1968-1980	4.1	1.0
<i>Taiwan</i>		
1951-1962	3.4	4.1
1962-1966	7.5	6.4
1966-1975	4.2	3.1
1975-1981	8.2	3.8
<i>South Korea</i>		
1954-1960	-2.7	1.9
1960-1965	5.2	3.8
1965-1971	5.2	2.2
1971-1978	10.4	7.3

Source: Sanchez and Intal, 1993

One policy direction for the coconut industry is replanting of senescent trees with new and better varieties. Unfortunately, the government's replanting program appears to be in the doldrums. In the meantime, cutting of coconut trees continues apparently without replanting, thereby resulting in disinvestment from the coconut industry. The other policy direction is intercropping in coconut lands to increase as well as reduce the variability of farmers' incomes despite the substantial fluctuations in coconut prices. Intercropping in coconut lands could be the dominant mode of agricultural diversification in the country. Major bottlenecks remain, however, which include poor rural infrastructure in a number of key coconut areas and uncertain land tenure issues. How well these bottlenecks are solved coupled with the attainment and maintenance of a realistic exchange rate will determine the extent of agricultural diversification in the country.

The government may also have to rethink its agricultural development framework. Specifically, the expressed policy bias for foodgrain self-sufficiency that has underpinned much of Philippine agricultural development strategies during the past few decades should be reviewed. Foodgrains, especially rice, are water-intensive and ideally planted in the lowlands. The Philippines, however, is hilly, archipelagic and smack right in the typhoon belt. Because it is comprised of

many islands, extensive tree cover is needed to retain water, maintain the ground water level and prevent salt intrusion. Similarly, an extensive tree cover is needed to prevent soil erosion and massive floodings during typhoons and heavy rains. (Soil erosion has substantial offsite effects especially on the fishery industry [delos Angeles and Peskin 1994].) Considering that the Philippines has been experiencing major floods and soil erosion in many parts of the country, it is apparent that there is a need to increase and widen the current tree cover in the country.

There are five implications of this. *First*, production of foodgrains in the lowlands should be increased significantly thereby allowing for possible conversion of upland corn lands to treecrop farming or agroforestry. Thus, the importance of significant increases in government expenditures on R&D, irrigation, and extension.

Second, government support for remunerative upland treecrop farming systems and agroforestry should be strengthened. Historically, the government neglected the R&D needs of its major treecrop, coconut, so much so that it is now losing its competitiveness vis-a-vis palm. Since incomes from coconut farming are not enough to pull a farmer's family out of poverty, increased government support in terms of R&D and extension services for various remunerative coco-based farming systems and agroforestry is needed.

Third, treecrops are long gestating. Hence, for poor farmers, investments in tree crop planting or replanting can hardly be undertaken unless perhaps there is access to long-term credit. The current credit facilities, however, are largely short-term, if the farmer has access to such credit facilities at all.

Fourth, land titles and/or more secure land tenure are needed by upland farmers in order to improve their access to formal credit sources and encourage them to invest in more environmentally sustainable and more profitable tree cropping or agro-forestry systems.

The *fifth* and last implication is that the Philippines may need to adjust its goal of grain self-sufficiency, following Malaysia's example. If, say, 90% grain self-sufficiency is the more realistic and socially cost-effective goal rather than 100% then there is a need to change the current government policies in international grains trade. Specifically, it means allowing international trade of grains by the private sector under transparent tariff protection. As such, the operations of the National Food Authority would have to be radically redesigned.

*The challenge of generating rural industrialization and raising rural incomes.*¹ Rural incomes can be increased not only by improving agricultural productivity but also by generating nonfarm sources of income. As in other East Asian and Southeast Asian countries, farmers can take nonfarm work as secondary occupation especially during the off season in farming. Landless rural workers or unpaid family workers can also get full-time or part-time jobs in one or more rural nonfarm activities.

¹This section draws heavily from Sanchez and Intal (1993).

A major means of generating or raising nonfarm incomes of rural households is increased relocation of industry and service activities in the countryside or subcontracting of nonfarm jobs to rural households, cooperatives and other rural institutions. The case of Taiwan is the familiar example where decentralized agro-industrialization makes firms and farms coexist in the rural areas. However, Taiwan, in contrast to the Philippines, has very good roads, and communications and other infrastructure facilities. It is also a more compact island than the archipelagic Philippines.

Although Taiwan's case indicates the formidable challenge facing the Philippines in generating rural industrialization because of its poor infrastructural facilities, the Taiwan case nevertheless points to a possible strategy for rural industrialization that can be adopted by the Philippines despite its current infrastructure bottlenecks. In particular, a number of island groupings in the country can be considered as "mini-Taiwans" (or for tourism, resource-endowed islands like Palawan, "mini-Guams"). For example, Mindanao can be developed as if it were Taiwan, thereby strengthening linkages *internally* within Mindanao and to the outside world (including the rest of the Philippines) rather than as an appendage to Manila. (Because of Mindanao's poor transport linkages internally and with Manila, we hear the familiar refrain that it is cheaper to import corn from Bangkok than from General Santos City.) Similarly, Luzon, the Visayas and Palawan can be considered different island economies with their comparative advantages, product niches, and linkages with the outside world and among them (via improved inter-island shipping and domestic air transport).

This approach would lead to a more rational, industry-focused and area-integrated infrastructural program and development strategy that will allow compact distances to effectively and efficiently locate industries in the rural areas. This approach is a logical extension of the current regional strategy of developing selected growth corridors (e.g., CALABARZON) and growth zones (e.g., Subic) as a way of optimizing the benefits from infrastructural investments.

Decentralized agro-industrialization *ala* Taiwan implies a more liberal trade regime that will allow the various "mini-Taiwans" or "mini-Guams" to trade among themselves and with the rest of the world according to their comparative advantages. Rural industrialization did not take root in the Philippines during the 1960s and the 1970s primarily because the import-substitution industrial development strategy that was pursued encouraged capital-intensive and import-dependent manufactures as well as a centralization of industries around Metro Manila with its international seaport and airport facilities. The Philippines thus became relatively unique in East Asia for a so-called "missing middle." Philippine industrial output has been produced by the numerous very small firms and the relatively few big firms; the medium scale firms have been conspicuously unimportant.

Medium scale firms provide the bridge between the large and the very small firms in terms of organizational capability, technical expertise and cost advantage. They can provide a stronger anchor for subcontracting because the

large firms can reduce their supervision/coordination costs as well as increase supply reliability and product quality by subcontracting to medium scale firms. It is probably not surprising that subcontracting is common in countries with a "prominent middle," e.g., Japan.

A recent study on the impact of the trade liberalization program of the Philippines on the manufacturing sector during the latter 1980s (Tecson 1993) suggests that the trade liberalization program encouraged the affected industries to increase their reliance on subcontracting, thereby inching toward more decentralized countryside agro-industrialization.

The challenge of strengthening industry and services sectors development. The primary policy challenge facing the government with regard to the industrial and service sectors is to provide a policy environment conducive to productivity increases in various sectors through better allocation of resources and productivity increases across industries. To a large extent, this calls for a policy regime that is geared for a better positioning of the Philippines in the world market, taking full advantage of the country's current comparative advantage and, at the same time, building the foundations for future areas of comparative advantage.

The secular changes in the composition of exports of the Philippines according to factor intensity provide an indication of the shifts in comparative advantage of the Philippines in the world economy. Based on the changes in values of revealed comparative advantage (RCA) indices, Table 5 shows that the RCA in agriculture- and forestry-based industries deteriorated substantially from 1975 to 1990. In contrast, the RCA in unskilled labor-intensive industries improved significantly during the period. In addition, the country is starting to develop international competitiveness in a few human capital-intensive or skilled labor-intensive industries.

The decline in international competitiveness in agriculture- and forestry-based industries resulted from domestic supply constraints, world demand shifts and growing competitiveness of other exporting countries. For example, the decline in competitiveness of the Philippine coconut industry resulted from sluggish productivity of Philippine coconut farms compared to the significant productivity increases in palm and soybean, and from the shift in demand away from coconut oil in developed country markets because of health concerns. Similarly, the dramatic drop in forestry-based exports reflect the serious deforestation in the country and at the same time, the failure of the wood processing industry to restructure itself into an export competitive industry.

The Philippines has revealed comparative advantage in a number of unskilled labor-intensive industries at present. Nevertheless, its competitiveness appears to be declining *vis-a-vis* lower labor cost countries like China and Indonesia in those industries where the country failed to move up in product design and processes (e.g., footwear and toys). It was in industries that succeeded in instituting product improvements and design innovations (i.e., furniture, apparel and clothing, travel goods and pottery) where the country held on or slightly improved its RCA despite comparatively higher labor cost (PDFI and others 1994).

Table 5. Revealed Comparative Advantage by Factor Intensity

<i>Factor Group</i>	<i>SITC Code</i>	<i>1975</i>	<i>1980</i>	<i>1985</i>	<i>1988</i>	<i>1990</i>
I. <i>Agriculture and Forestry-Intensive</i>						
cork & wood	24	9.0466	4.1982	5.0521	2.2828	0.3986
animal & vegetable oils, fats & waxes	4	13.3968	15.2445	10.4929	11.4853	10.5452
cork & wood mfg. (excl. furn.)	63	5.4133	6.6635	5.5425	4.9099	3.9334
<i>Total Exports</i>		3.4092	2.6143	2.2353	1.7244	1.5642
II. <i>Mineral-Intensive</i>						
metalliferous ores & crude minerals	28	6.0632	10.7011	3.6666	4.1377	3.7750
non-ferrous metals	68	0.6830	0.8335	2.4651	1.7040	1.5956
<i>Total Exports</i>		0.5446	0.6616	0.5157	0.8373	0.6438
III. <i>Unskilled Labor-Intensive</i>						
textiles	65	0.2751	0.4159	0.2675	0.2849	0.3194
apparel & clothing	84	2.0962	4.0387	5.0932	5.5205	5.9390
pottery	666	0.1492	1.0827	0.6489	1.1546	2.0831
furniture	82	4.4637	2.1868	2.7790	2.9314	2.3712
footwear	85	0.2326	2.0228	1.5388	0.7432	1.4371
toys, sporting goods	894	0.0000	1.2475	0.6955	0.6459	1.0509
<i>Total Exports</i>		1.0052	1.3791	1.9044	2.1507	2.1438
IV. <i>Human Capital-Intensive</i>						
telecomm. & sound recording	76	0.0000	0.1577	0.0730	0.2900	0.8208
electrical machinery & apparatus	778	0.9350	12.0435	17.1202	9.5862	11.5002
jewelry	897	0.7467	0.6775	0.7279	0.6048	0.9110
<i>Total Exports</i>		0.1021	0.5705	0.7295	0.5380	0.7063
V. <i>Technology-Intensive</i>						
inorganic chemicals	52	0.0000	0.9990	0.7171	0.5132	0.8502
eqpmt. for electricity distn.	773	0.0069	0.1263	0.0011	1.9440	2.7976
<i>Total Exports</i>		0.0915	0.1906	0.2465	0.2738	0.2877

Among the human capital-intensive or skilled labor-intensive industries, the Philippines has strong RCA in semiconductors. In addition, the country is well on the way to have RCA in two other human capital-intensive industries, namely, jewelry and telecommunications equipment and sound recording equipment.

In the service sector, the Philippines has RCA in labor services and in tourism services (Kohsaka 1994), although the performance of the tourism industry has been mixed during the 1980s and early 1990s because of economic and political upheavals and natural disasters. The country's strong RCA in export labor services reflects the domestic economic difficulties during the 1980s and early 1990s and the saleability abroad of Filipino human capital.

The changing composition of Philippine exports indicates the growing importance of Filipino brawn and skills complemented by physical capital formation and technology acquisition and upgrading of Philippine industries. Thus, the need for significant increases in the country's investment rate is not only to improve the country's infrastructure but also to upgrade and expand the economy's industrial production capacity. In addition, investment to rebuild and strengthen the skill endowment of the Filipino labor force is needed in order to deepen the country's international competitiveness in labor-intensive industries.

With limited domestic saving and given the criticalness of raising significantly the investment rate, foreign investment inflow looms large in strengthening the country's industrial and exportable services sectors. Compared with other ASEAN countries in terms of attractiveness to foreign investors, the Philippines ranks high in the availability and quality of production labor and managerial/technical personnel, its geographic proximity to important markets in the Asia-Pacific region, and access to exports through the Generalized System of Preferences (GSP). The Philippines ranks low in quality of infrastructure, political stability and policy predictability, level and growth of the domestic economy, law and order, and allowable foreign equity participation (Foreign Chambers of Commerce 1990).

Cognizant of the need to improve the policy environment for foreign investment in order to attract more foreign investors, the Philippine government has been addressing during the past few years the area where the country was comparatively deficient, e.g., political stability, peace and order, infrastructure investments (through BOT and liberalized rules) especially in power and telecommunications, and liberalization of foreign equity participation. With the much improved policy climate for foreign and domestic investments and with the improving macroeconomy, the Philippines is currently experiencing an upsurge in foreign investor interest and inflow not only in infrastructure but also in export production and tourism.

The challenge now is to deepen the current resurgence in foreign and domestic investors' interest and commitment to foresee an eventual take off to sustained economic growth. In this regard, the following three issues are important:

First, *the problem of the socially inefficient intermediate goods-manufacturing sector should be addressed*. Studies (e.g., Tecson 1993) point out that while efficient import substitution occurred in many consumer goods industries, this did not happen in much of the intermediate goods-manufacturing sector. The relatively high protection of the intermediate goods industries puts the end-using industries at a disadvantage and prevents them from being export competitive except through such means as duty drawback and export zones, e.g., textiles *vis-a-vis* garments (PDFI and others 1994).

Improving the efficiency of the intermediate goods sector necessitates the infusion of new capital and technology (many firms use old machines). However, the encouragement of new investments in the sector would have to be in the context of a programmed reduction, *not increase*, in tariff and nontariff protection of the sector in order that the end-using industries – where the country appears to have greater potentials for comparative advantage at the moment – will not be unnecessarily penalized. In lieu of higher protection, it is better to use explicit fiscal incentives to encourage investments and industrial restructuring in the sector. This has implications on the Board of Investments (BOI). Apart from encouraging exports (which at present would mean primarily labor-intensive exports), this fiscal support for industrial restructuring for trade liberalization should be the *raison d'être* for the provision of fiscal incentives by the BOI. The industry listing of the Investment Priorities Plan of the BOI would have to be drastically reduced further.

Second, inasmuch as the Philippines has to rely increasingly on labor-intensive industries and exportable services, and given the tight world competition for labor-intensive goods and therefore among laborers across countries, *the current wage adjustment mechanism would have to be substantially improved and the potentials of the workplace as a means of human capital formation strengthened*.

As discussed earlier, one of the major reasons for the export and economic successes of the East Asian dragons is the strong linkage between wage adjustments and labor productivity improvements. The institutional mechanism is the performance-based bonus system on top of a base wage, rather than the method of official adjustment of the minimum wage as practiced in the Philippines. Because wage determination in the East Asian dragons is hewed closely to the workings of the demand for a supply of labor, the labor markets provide the appropriation price signals for the efficient allocation of labor resources as well as for investments in human capital formation given the countries' evolving comparative advantages (PDFI et al. 1994). The East Asian experience indicates that the Philippine government should invest more in strengthening labor and management relations, steering it toward greater partnership for productivity improvement, human capital formation in the workplace, and productivity-linked wage adjustments.

The third issue is related to the second: for the country to *accelerate the skills development of the Filipino workers*, who would be the basis for the

country's export competitiveness in the region. Improving the formal education system is one means of improving Filipino skills. Formal education is primarily geared for general education and providing the Filipino workers the capacity to adopt and learn new technical skills specific to his/her work. What may also be urgent during the rest of the 1990s is the acceleration and/or expansion of the scope and depth of technical training of the Filipino workers.

A significant increase in investments for the purchase of more and newer plants is the best way for Filipinos to improve their technical experience. Improving the training facilities and teaching approaches of government training institutes and programs is another. Finally, we can use the overseas factory jobs of our overseas contract workers especially in South Korea, Taiwan and Japan as part of the country's "aggressive" skills development program. What is needed is a well-designed program rather than the current *ad hoc* approach. In South Korea, for example, many Filipino workers work and are the preferred foreign workers as electronics technicians, cutlery makers and other semi-skilled occupation holders (Cunanan 1994). These are the industries that the Philippines would likely have a complete competitive niche in the near future. The government can consciously support tie-ups with South Korean (or for that matter Taiwanese and Japanese) firms in a modified form of "dual-tech training" (where the training is abroad). This can be a part of the South Korean, Taiwanese or Japanese official development assistance program for the Philippines.

With the training of the Filipino workers abroad in the semi-skilled labor-intensive industries, the Philippine government can also emphasize/gear its foreign investment promotion program in such industries. In this way, the foreign training of the Filipino workers becomes part and parcel of the country's foreign investment promotion program in that the Filipino workers' training together with the Filipino workers' lower salary in the Philippines would convince the foreign firms to relocate their existing plants or locate their expansion plants in the Philippines.

The challenge of investing in people. As the country pushes for economic take off and transformation, the Philippines would have to invest more in its people, strengthen its institutions, and improve its capacity for technology adaptation and mastery.

The "East Asian miracle" emphasizes that one of the foundations of sustained economic success is a high investment rate in human capital formation in an outward-oriented economy. As discussed, the Philippines would have to rely increasingly on the Filipino worker and his skills to propel the country to its export push and sustained economic growth. The Philippines has historically invested more heavily on human capital formation than most of the Asian developing countries during the 1950s until the 1970s. Such investments, however, coincided with a largely inward-looking development strategy and therefore did not become a basis for the country's export drive. The economic difficulties during the 1980s and early 1990s have slowed down substantially the country's invest-

ments in human capital formation, in contrast to the sharp increases in the other ASEAN countries. Although enrolment rates did not decline much during the 1980s (Tan 1994), the quality of primary and secondary education suffered major setbacks. Now that the economic policy direction has shifted squarely toward outward orientation relying on labor-intensive industries, the country would have to stop "mining" its stock of human capital and instead move more aggressively to strengthen and improve the quality of primary and secondary education. There is also a need to reduce the wide regional disparity in enrolment and completion rates as well as stock of human capital across regions in the country (Tan 1994).

The challenges are greater for the higher education system because it is primarily the bridge between the world of education and the world of work.² The fundamental issue is whether there is a need for a major rethinking of the higher education system in order to meet the challenge of export-led agro-industrialization in the next two to three decades.

In contrast to the elitism of universities in Europe and the European-influenced educational systems in Asia, the Philippine educational system has been influenced by the American middle-class ethos of widespread public education and wide access to higher education. Because the Philippines is poor and has limited budgetary resource, wide access to higher education found implementation through the provision by private sectarian and nonsectarian schools of higher education that are relatively cheap and unfortunately of low quality.

There are indications that the price of higher education in real terms dropped in the 1970s and 1980s. This does not mean, however, that the higher education system became more internally efficient by producing college graduates more cheaply in the 1980s at the same quality as during the early 1970s. Instead, the higher education system cut costs through a reduction of teachers' salaries in real terms, more intensive use and inadequate improvement of school facilities, and overall reduction in the quality of teaching.

The predominantly private character of the higher education system, together with its low cost and low quality, suggests that the colleges have hewed their offerings closely to the demands of the free market. That is, there is flexibility in course offerings such that courses are expanded or trimmed down depending upon student demands and developments in the labor market. It can even be argued that the deterioration in the quality of higher education reflects in part the adjustment of the educational sector to the quality demands of the labor market. Given the characteristics of the Philippine economy in the 1970s and the 1980s, the labor market demanded largely easily-trainable college graduates who could be provided with the technical training, if needed, in the companies. In effect, college graduates were recruited primarily for their general education rather than for their technical expertise.

²The rest of the section is taken from Intal (1989).

Is the current higher education system sufficient for the demands of the export-led agro-industrialization envisioned in the next two or so decades? Most likely, the system needs improvement. Successful agro-industrialization necessitates a stronger and specialized technical education because of the demand for skill-intensive production.

Will the preponderantly private-provided higher education system respond to the challenge? As long as there are no ceilings on school fees, it is possible that a better pay scheme and queuing premium for high quality technical education in the workplace would encourage colleges to upgrade the quality of their course offerings. However, the cost of attracting and keeping qualified and well-trained faculty members and of establishing laboratories and technical research centers is very high. Passing on the cost as increase in school fees may discourage college students. Thus, the government and the business sector should contribute in terms of faculty development grants and co-financing in the establishment of technical and research centers according to a prioritized list of programs. The government should also institute a mandatory accreditation program for all course offerings in order to maintain a minimum standard or, better still, improve the quality of tertiary education in the country.

The challenge of investing in institutions. Perhaps the most important institution that the government would have to improve further is the government bureaucracy itself. Improving the bureaucracy is improving the government's overall administrative capability to manage the socioeconomic development of the country and its responsiveness to public needs. The Philippines is now considered as having one of the weakest bureaucracies in Southeast Asia.

Strengthening the bureaucracy requires higher compensation of the public servant, greater emphasis on a merit-based selection and promotion system, clearer definition of the role of government intervention *vis-a-vis* those of the private sector and nongovernment organizations, and a more transparent delineation of functions and relationships between the national and local government units.

Central to the strengthening of the Philippine bureaucracy is the increase in the salaries of government personnel, especially at the middle and upper levels where the gap in pay between the private sector and the government is largest, compared with those in the fast growing Asian economies (The World Bank 1993). The large gap between government and private sector salaries has made it difficult for the government to retain many promising technical and management personnel. Indeed, a lowly paid, inefficient bureaucracy exacts substantial transactions costs to the private sector.

Given the fiscal constraint facing the government, a substantial increase in government salaries would necessitate a leaner and streamlined government. Rationalizing and streamlining the government involves "...preserving (where appropriate), reducing (where necessary), and enhancing (where desirable) the capabilities of government agencies (or units) to do the right things at the right time in the right way in response to public expectations and policy decisions. A

fundamental consideration in government streamlining is the determination of the optimal rate of government intervention. In areas where the private sector and the nongovernment organizations can perform effectively, the government's role is in establishing and maintaining the environment of policies, rules and regulations necessary for their continued operation. In areas where public financing is necessary to achieve public goals, the government's role is in administering public funds without necessarily undertaking the desired activities. In areas where it is necessary and desirable for government to directly produce goods and service, consideration should be given to a greater role by local governments in performing this task. . . ." (Taguiwalo 1993).

The challenge of investing in technology and the environment. Rapid growth in the process of industrialization initially involves the "rapid adaptation of products and techniques" and later on, "rapid transformation of industries and technology" (Chen 1989). This engenders the need for high investment rates in physical capital and human capital. Capital goods embody advances in production techniques or technology, hence, technological upgrading of the country in the process of "tigerhood" can be done substantially by importing capital goods. Nevertheless, the effective use and even modification of such capital goods and, later on, the development of new techniques and goods necessitate that the country *improve its capacity for technological adaptation and mastery*. This means building the supply of high level scientists and engineers, dramatically strengthening and deepening the country's science and engineering education, and providing the appropriate incentives for industry and government partnerships in research and development, including reverse engineering. It also means granting incentives (financial and nonfinancial) to top and promising Filipino scientists and engineers for them to stay in the country and not emigrate to other countries in search of better pay, better facilities and greater professional respect.

The Philippines has the highest number of latent scientific and technical personnel in the ASEAN region. Thus, the country has a good science and technology potential. However, the potential has not been tapped to benefit the S&T sector. The research and development (R&D) effort has been very lukewarm: R&D expenditures as a ratio of GNP declined from 0.26% in 1980 to 0.11% in 1990 (Tan and Intal 1992). There are also indications that the number of personnel engaged in R&D declined during the 1980s. R&D efforts in the country have largely been government R&D; as such, it has been hamstrung by budgetary constraints as well as bureaucratic rules and practices. Private R&D efforts need to be encouraged.

Despite well-publicized and well-meaning efforts of the government as exemplified by the STCC and STAND 2000, there appears to be a lack of consensus, and possibly even of articulation, of the country's policy and strategy on technology import, adaptation and mastery in various fields. The lack of significant success stories of Philippine R&D endeavors together with the "hot and cold" attitude toward R&D support by the legislature seems to suggest that the

current practices of and institutional support for S&T in the country are wanting and that much remains to be done before the S&T sector becomes a critical feature of the country's development strategy and policy, and in the nation's consciousness.

With respect to the environment, environmental issues have become prominent in recent years in the country. This has arisen from the obvious negative effects of the serious natural resource and environmental degradation in the country on the people's welfare and even on the economy. Thus, the government formulated the Philippine Strategy for Sustainable Development (PSSD).

Intal *et al.* (1994) show that other things being equal, trade liberalization in the country can have adverse effects on the environment. This is because many of the sectors that will benefit from trade liberalization (with a concomitant peso depreciation) are pollutive (e.g., food industries) or have large adverse offsite effects (e.g., forestry, mining, agriculture). Thus, it is imperative to combine good economic policy (e.g., economic openness, macroeconomic stability) with good environmental policy (e.g., full cost pricing, tenurial improvements).

The Intal *et al.* study indicates that the cost of pollution control to most industrial firms (especially large firms) is small and manageable. The large costs of pollution control or prevention of offsite effects are found in the household and government sectors (e.g., sewerage), and the livestock and agricultural crops sectors (e.g., terracing to prevent soil erosion). What the study brings out is the need for the government to be strict with respect to the implementation of industrial pollution control measures, to invest substantially in sewerage infrastructures, and to encourage cropping patterns and agroforestry that are less soil erosive. The Intal *et al.* study, drawing from the delos Angeles *et al.* (1993) study, suggests that the issue of industrial pollution is less of an issue compared to domestic wastes and soil erosion. Thus, at least for industrial pollution control measures, the problem of implementation is fundamentally a problem of political will.

IV. CONCLUDING REMARKS: IMPLICATIONS FOR THE SOCIAL AND STATISTICAL SCIENCES RESEARCH COMMUNITY

The paper points out that much remains to be done to ensure that the country attains economic tigerhood and ultimately, in the foreseeable future, a newly industrialized country status. It is also apparent that governance is a continuing process of reforms in order for the government to significantly influence the economy's responses to changes in the domestic and world environments and therefore the pace and pattern of socioeconomic development.

The social science and statistical science research communities have a useful role in the country's drive toward "tigerhood" and ultimately toward a high income economy. To attain the fondest dreams of Philippines 2000 in the 21st century requires almost a social and economic transformation of the Philippine

economy and society. The paper implies, for example, that the road to NIChood calls for a change in the world view of Filipinos and the Philippine government about the Philippines *vis-a-vis* the rest of the world. This is already happening to a large extent as indicated by the shift in perspective on the role of foreign investors in the Philippine economy. The paper also suggests that we need to change our perspective about unions, the workplace and industrial relations. Specifically, in economic policymaking, there is a need to look at the workplace as a social institution and a complex set of relationships working together for a defined set of individual and collective goals now and in the future. This perspective differs from the view of the workplace as primarily a source of employment and income, and the union as primarily a bargaining unit. The paper also calls for a change in our perspective about the Philippine agricultural sector such as, for example, a deemphasis on grain self-sufficiency and an emphasis on less erosive agroforestry and increased treecrop farming systems. Finally, the social and economic transformation attendant to the agro-industrialization and sustained growth implies changes in social and economic structures and interactions with the corollary differential positive and negative impacts on various groups in Philippine society.

Precisely because of the many challenges and opportunities facing the country as it restructures itself, responds to changing international environments, and propels itself to sustained economic growth, the social science and statistics research community can help the government and the country in mapping out the changing development scenario as well as enlighten them on alternative courses of action. "The contribution of social science research is not so much in proposing specific solutions to already well-defined problems, but rather in defining the problems and providing an array of methods with which to analyze them" (Glover 1994). Nevertheless, the insights from social science research and the generation of adequate data and information will also be of help to the government in its efforts to refine its tools of intervention on more specific issues of governance.

In sum, the social science and statistics community are logical partners of the government in the country's drive toward sustained economic growth and social transformation. In this light, the interactions between the government and the social science and statistics research community need to be strengthened further as the Philippines gears itself for sustained economic growth toward the year 2000 and beyond.

REFERENCES

- Bertrand, T.; C. Bourne; P. Intal *et al.* 1992. "Foreign Exchange Liberalization in the Philippines." Report submitted to USAID, Manila.
- Chen, Edward. 1989. "The Changing Role of the Asian NICs in the Asian-Pacific Region Toward the Year 2000." In M. Sinohara and F. Lo (eds.) *Global Adjustment and the Future of Asian-Pacific Economy*. Tokyo: IDE and Kuala Lumpur: APDC.
- Cororaton, Caesar. 1994. "Deterioration in the External Account Balances." Mimeographed. Philippine Institute for Development Studies.
- Cunanan, Belinda. 1994. "Overseas Workers Shouldn't Go Back to *Babuyan*." *Political Tidbits - Daily Inquirer*, June 12, 1994.
- David, Cristina, Eliseo Ponce, and Ponciano Intal. 1993. "Organizing for Results: The Philippine Agricultural Sector." In E. de Dios and Associates *Poverty, Growth and the Fiscal Crisis*. Manila: PIDS and IDRC.
- delos Angeles, Marian and H. Peskin. 1994. "Environment and Natural Resources Accounting Project Phase II: Main Report." Paper presented at the International Workshop on the Contribution to Policy of Environmental and Natural Resource Accounting, Tagaytay, Philippines, 16-21 January 1994.
- Foreign Chambers of Commerce. 1990. "A Position Paper Regarding the Review of Investment Laws in the Philippines." February 20, 1990.
- Glover, David. 1994. "Policy Researchers and Policymakers: Never the Twain Shall Meet?" Mimeographed. Singapore: International Development Research Center.
- Intal, Ponciano. 1989. "The National Economy at the Turn of the 21st Century: Implications for Higher Education." Paper presented at the National Consultative Conference on Higher Education, Aklan Agricultural College, Banga, Aklan. July 25, 1989.
- _____. 1992. "External Debt in Developing Asia: Evolution, Macroeconomics, and Implications for Debt Management." Paper presented at the 2nd ADB Seminar on International Finance, Jakarta, Indonesia, August 26, 1992.

- _____. 1994. "Poverty, Income Distribution and Government Policies and Programs in the Philippines: An Overview." Mimeographed. Manila: NEDA-DPRP.
- _____ *et al.* 1994. "Trade and Environmental Linkages: The Case of the Philippines." Report submitted to UNCTAD, Geneva.
- Kohsaka, Akira *et al.* 1993. "Changing Patterns of Trade in Goods and Services in the Pacific Region." Paper presented at the Pacific Economic Outlook Specialists' Meeting, Osaka, Japan, 27-28 September 1993.
- Page, John. 1994. "The East Asian Miracle: Building a Basis for Growth." *Finance and Development* (March 1994): pp. 2-5.
- Policy Development Foundation, Inc. and others. 1994. "A Framework for Agro-industrial Restructuring for Competitiveness in the Philippines." Final Report submitted to the National Economic and Development Authority.
- Sanchez, Teresa and Ponciano Intal. 1993. "Rural Labor Market in the 1980s and 1990s: Adjustment and the Challenge of Agricultural and Rural Industrialization in Structural Adjustment for Employment." Paper presented at the Technical Workshop on Structural Adjustment and Labor Market Policies, Hyatt Regency Hotel, Manila, October 1993.
- Schadler, Susan. 1994. "Surges in Capital Inflows: Boon or Bane?" *Finance and Development* (March 1994): pp. 20-23.
- Taguiwalo, Mario. 1993. "PIDS-DBM Government Streamlining Project: Summary of Recommendations." Mimeographed. Philippine Institute for Development Studies.
- Tan, Edita. 1994. "The State of Human Capital." *Philippine Human Development Report 1994*. Manila: United Nations Development Programme.
- Tan, J. A. and P. Intal. 1992. "A Preliminary Study on Japanese Technology Transfer to the Philippines." Paper presented at the International Conference on "Japan's Role in the Transfer of Technology in Asean Countries," Bangkok, Thailand, 26-27 June 1992.
- The World Bank. *1987 World Development Report 1987*. London: Oxford University Press.
- _____. 1993. *The East Asian Miracle*. London: Oxford University Press.

Rapporteur's Report**PLENARY SESSION II****"The Challenge of Economic Restructuring Towards NICdom: Issues for the Economics and Statistics Research Sector"**

Speaker : Dr. Ponciano S. Intal, Jr.
Moderator : Academician Jose Encarnacion, Jr.
Rapporteur : Academician Bienvenido O. Juliano

SUMMARY

The paper clarifies the definition of NIC as newly industrializing country, where manufactures predominate in total exports. National goals all geared toward a greater than 25% share of manufacturing in GNP, and a per capita income of US\$1,500-2,000. A better term than NIC is rapidly industrializing country or take off to sustained economic growth or economic "tigerhood".

The economic ranking of the Philippines during the 1950s was artificially inflated by an overvalued peso. The country pursued heavy industrial protection, peso overvaluation and inward-oriented industrial development too long (to the 1980s).

By contrast, successful East Asian economies (Singapore, South Korea, Hongkong, Taiwan, Malaysia, Indonesia, and Thailand) followed the intuition of basic economics: economic outwardness, macroeconomic and price stability, general flexibility of the domestic factor (capital and labor) markets, and an agricultural sector which is not overly taxed and an industrial sector which is not overly subsidized. In addition, the principle of "shared growth" was propagated wherein major equity-oriented programs were implemented.

Successful countries had forged an internal consensus on the economic program resulting in greater credibility with the constituencies in the country.

Three reasons for the need to restructure the country's economy are"

- (1) the continuing incidence of poverty;
- (2) failure of the sector to increase its share of total employment;
- (3) deterioration in international competitiveness; and
- (4) the concomitant lackluster performance of the Philippine economy during the 1980s.

RECOMMENDATIONS

In order for the country to attain the vision of economic "tigerhood" under Philippines 2000. The paper advances that the country and government should:

- (1) understand and situate the parameters of Philippine development in the context of the Asian Region;
- (2) rethink Philippine agricultural development;
- (3) strengthen Philippine industry and tradable services;
- (4) invest in people institutions (government bureaucracy), technology and the environment; and
- (5) encourage the science and statistics communities to be logical partners of the government in the country's drive toward sustained economic growth and social transformation.

DISCUSSION

Dr. Guerrero remarked that statistical data should be timely, reliable and accurate. There is need for subnational and quarterly and monthly surveys to capture growth spurts. On the possible contribution to economic growth of Filipino values, such as lack of discipline. Dr. Intal replied that credible leadership is more important than discipline. Innovativeness was also discussed as a factor for competitiveness.

