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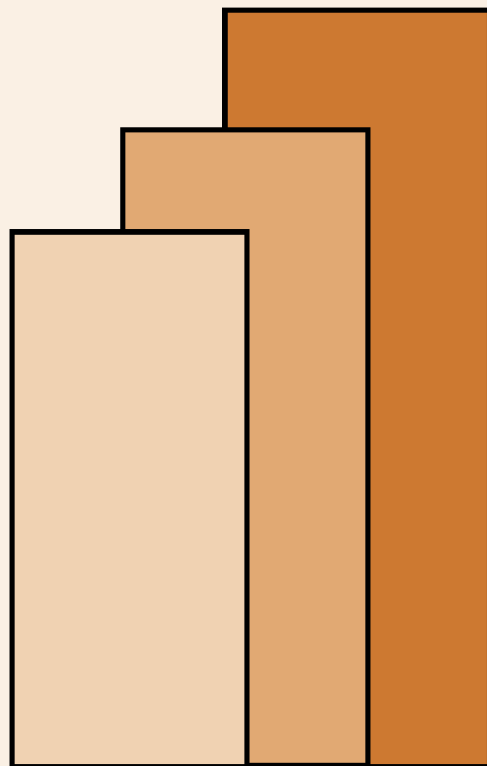
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The East Asian Crisis and Philippine Sustainable Development*

Ponciano Intal, Jr. and Erlinda Medalla¹

Introduction

Sustainable development issues have so far been overlooked in the discussions on the East Asian economic crisis. To some extent this is not surprising because, as Paul Krugman stated, "...nobody anticipated anything like the current crisis in (East) Asia" (Krugman, 1998, p.1). Thus, the first order of business is to understand why the crisis happened, why it involved a number of countries and why a few countries were particularly hard hit. In the process, appropriate policy and adjustment measures can be proposed and undertaken in order to address the underlying problems and thereby minimize the adverse social and economic effects of the crisis as well as point to a faster resolution of the crisis.

Nevertheless, Asia is the most polluted and environmentally degraded region in the world. Moreover, Asia houses the largest number of poor households in the world. Thus, the magnitude of the current economic and financial crisis of East Asia can be expected to have some impact on the region's sustainable development prospects and challenges. Whether or not the impact on is large or small, temporary or permanent and short term or long term in each of the affected countries is likely to be determined by the state of the environment and social development in each country before the crisis began as well as by the magnitude, length and nature of the adjustment and policies that each of the countries undertakes in response to the crisis.

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¹ President and Senior Research Fellow, Philippine Institute for Development Studies. The authors acknowledge the assistance of the other members of the Philippine Study Team; namely, Cielito Habito, Marian de los Angeles, Raphael Lotilla and Ella Antonio. The authors also acknowledge the excellent research assistance of Leilanie Basilio and Ronald Yacat.

This paper presents an analysis of the impact of East Asia's financial crisis on sustainable development challenges facing the Philippines. It is exploratory in nature, given the paucity of data and information on hand. Nevertheless, the paper is a modest contribution to what we hope would be more in-depth analyses and discussions in the future on the impact of East Asia's financial and economic crisis on the region's sustainable development.

The paper looks at the impact of East Asia's financial crisis on Philippine sustainable development as mediated primarily through the impact of the crisis on the Philippine economy. It must be noted, however, that the crisis occurred at the same time that the El Nino phenomenon took its toll on the country. Thus, both the crisis and El Nino significantly shaped the country's economic performance and the impact on the country's sustainable development concerns; i.e., social development and natural resources and environmental regeneration.

There are four sections in the paper. Section One provides an overview of the East Asian economic and financial crisis. Section Two looks at the Philippine economic performance and prospects in the light of the East Asian crisis. Section Three explores the actual or potential impact of the crisis on the Philippine social development and on the country's environment and natural resources sector. The Final Section brings out the implications of the crisis and El Nino on a number of policy and institutional challenges facing the country especially in the areas of water resources, upland and coastal areas, and the urban environment.

Overview of the East Asian Crisis

The suddenness and severity of the East Asian currency and financial turmoil has spawned a burgeoning literature that help us understand what went wrong and what may need to be undertaken to minimize the pain and at the same time hasten the recovery of the affected East Asian economies. The crisis arose from both microeconomic and

macroeconomic factors, especially microeconomic and regulatory infirmities in the financial arena as well as macroeconomic vulnerabilities particularly to contagion and loss of investor confidence (see, e.g., Krugman, 1998; Radelet and Sachs, 1998; Stiglitz, 1998; Garnaut, 1998; Poapongsakorn, 1997; Nasution, 1998; Nidhiprabha, 1998). In addition, Radelet and Sachs (1998) assert that the initial policy response to the crisis, drawn with the IMF and the donor community, appears to have been inappropriate thereby engendering financial panic and deepening the crisis unnecessarily especially in Indonesia.

There is a growing consensus that the financial and capital markets played a big role on why the crisis occurred, the number of countries affected and its unexpected severity. On hindsight there appears to have been “irrational exuberance” on the part of foreign and local investors and bankers before the crisis, which was probably engendered in part by severe moral hazard problems arising from perceptions of implicit government guarantees on the liabilities of local banks (see Krugman, 1998). The inherent imperfections of the financial market arising in part from asymmetric information (Stiglitz, 1993) puts a premium on prudential banking rules and regulations, which have been inadequate in a number of the East Asian countries affected by the crisis. There appears to have been some “herd behavior” on the part of foreign portfolio investors, facilitated in part by a revolution in telecommunications that allows the transfer of massive funds internationally in seconds. The apparent “irrational exuberance” before the crisis turned into an apparent “irrational pessimism” which led to massive capital outflows as macroeconomic uncertainty deepened in part because of, as Radelet and Sachs (1998) emphasize, inappropriate initial bailout packages.

While the crisis has its roots in the financial sector, there were nonetheless macroeconomic vulnerabilities in the affected countries (see **Table 1**). Thailand, which started the crisis, was particularly vulnerable to currency speculation and loss of investor confidence because of the high share of short term debt to total foreign debt (about a third), an excess of short term debt to international reserves and a high ratio of current account deficit to GDP. The failure of financial institutions (as the real estate market

softened markedly) and the stagnation of exports in 1996 provided further indications of the need for a currency correction.

The rapid spread of the Thai contagion to the other affected countries can also be attributed in part to the macroeconomic vulnerabilities in these countries. In the case of the Philippines, although it had a much smaller share of short term debt to total debt and its external debt service burden has declined significantly during the 1990s, the Philippines experienced the largest real currency appreciation and the highest ratio of merchandise trade deficit to GDP during the 1990s among the ASEAN countries. Hence, the country was vulnerable to a major currency depreciation of an important competitor country like Thailand. Indonesia, despite manageable current account deficits, is handicapped by a heavy external debt service burden and a higher ratio of short- term debt (primarily of the private sector) to international reserves compared with Thailand. As such, Indonesia's corporate sector became particularly vulnerable to sharp depreciations of the rupiah and to sharp rise in interest rates. South Korea's ratio of short- term external debt to international reserves was even higher than those of Thailand and Indonesia (**Table 1**). As a result, South Korea, particularly the private banking and non-banking sectors that were the borrowers, also became vulnerable to the increased skittishness on the part of foreign lenders and investors toward the countries in the region in the aftermath of the Thai financial collapse.

The start of the return of foreign portfolio capital into the region in recent weeks, together with the slowdown in import payments has triggered the ongoing recovery of the currencies and stock markets and the reduction in interest rates, especially in South Korea, Thailand and the Philippines. Ironically, Indonesia, which before the crisis had relatively manageable current account deficits and fiscal situation and had one of the least overvalued currencies in the region, has become the economy hardest hit by the crisis. Radelet and Sachs (1998) attribute this to the policy missteps contained in the initial IMF adjustment program and the attendant serious erosion of international credibility of the Indonesian government when it balked at implementing fully the initial package of reforms. As a result, the initial contagion turned into financial panic with dire socio-

economic effects. The severity of the socio-economic effects of the crisis in Indonesia has fueled greater political uncertainty in the country, which can be expected to slow down the full recovery of the Indonesian economy from the crisis.

The East Asian crisis appears to be stabilizing as currencies and stock markets have started recovering and interest rates have likewise started declining. Nevertheless, with asset deflation, reduced capitalization of banks, higher debt service and interest rates, and sluggish domestic demand, the crisis can be expected to further run through the real and corporate sectors of the economies of the affected countries for perhaps another year or two. Most analysts consider that a number of the fundamentals that have contributed to the rapid growth in the East Asian countries during the late 1980s and early 1990s remain (e.g., comparatively high saving rate, demographic transition, and export orientation). Moreover, the real exchange rate adjustments, the institutional reforms toward greater transparency and better prudential regulations and the ongoing restructuring of the corporate sectors can be expected to contribute to the strengthening of the growth prospects of the affected countries. Hence, East Asian countries are likely to recover and resume robust economic growth rates in the near future although probably not at the sizzling rates of the past years, if only because the crisis brought out the need for prudence and “less exuberance” in both the corporate and macroeconomic arenas domestically as well as among foreign investors and lenders.

The East Asian Crisis and the Philippine Economy

The Philippines is one of the Southeast Asian countries that have been better spared by the crisis so far. A decade-long process of financial reform and rebuilding is a major factor behind the country’s greater resiliency to the crisis. In addition, the depreciation of the peso in conjunction with the crisis is in fact the unexpected market-led, and depoliticized, exchange rate adjustment needed to cushion the domestic industry from a significant peso appreciation in the face of tariff reduction during the 1990s. However, the country’s macroeconomic condition remains fragile primarily because the

government's fiscal situation is particularly vulnerable to high interest rates given that the country has the highest ratio of public debt to GDP among the Southeast Asian countries. Thus, an unwarranted long and high interest rate regime could lead to a "double-deflationary whammy" on the Philippine economy; namely, adverse impact on investments and operations of Philippine businesses large and small and the sharp cutbacks on non-interest payment government expenditures. Thus, it is critical for the Philippines that the regional currency situation stabilizes in orders that monetary policy and interest rates ease up appreciably. At the same time, the crisis points to the need to strengthen further the fiscal situation of the country primarily through an increase in tax and overall revenue effort as well as through further streamlining of government operations.

Exchange rate and finance. The East Asian crisis had an immediate effect on the Philippines in the foreign exchange and financial arena. When Thailand devalued its currency in early July, the Philippines eventually had to let the Philippine peso depreciate in mid-July when the Central Bank intervention in the foreign exchange market, amounting to about US\$ 1.5 billion sales, proved inutile in the face of the heavy speculative attack on the peso. The exchange rate rose to more than P30 per US dollar in August, hitting P45 per US dollar in early 1998 before appreciating to around P38 per US dollar by mid April 1998.

The Philippine policy response to the crisis centered on monetary policy and balance of payments management. The Central Bank tightened monetary policy as it raised overnight lending rates, increased liquidity reserves on banks on top of the required reserves, momentarily closed the overnight lending window, and imposed tighter rules on oversold and overbought positions of the banks on the foreign exchange. The result was a sharp rise in the domestic interest rates. For example, the banks' average lending rate rose from 12.9 percent in February 1997 to 20.9 percent in October 1997; the bellwether 91-day Treasury bill rate increased from 10 percent in April 1997 to 19.1 percent in January 1998 while the average high prime lending rate of banks was 26.8 percent in January 1998. Interest rates have been dropping lately in response to the

easing of the reserve requirements (both liquidity and required) and the increased stability of the foreign exchange markets in the region. Thus, the 91-day Treasury bill rate has declined to 15.5 percent by the first week of April 1998 while the average high prime lending rate has dropped to 22 percent as of 16 April 1998. Nevertheless, the interest rates remain high and the gap between deposit and lending rates remain substantial so much so that businessmen in Southern Philippines have in fact staged demonstrations against the high interest rate regime.

Portfolio flows, as expected, turned negative as a result of the crisis. Indeed, foreign portfolio investments turned from net inflow during the first four months of 1997 to net withdrawals beginning May up to November, except surprisingly in August. Predictably, the high interest rate and the flight of foreign portfolio capital led to a sharp drop in the stock market, with the Philippine Stock Exchange composite index plunging from 3171 points at the end of 1996 to 1772 by November 1997. It is only in recent weeks that foreign portfolio investments have been returning to some extent in the country, resulting in the uptick in the composite index (2185 in mid-April 1998).

The Philippines did not experience widespread failure of financial institutions as a result of the crisis. Only one, a fairly small and newly upgraded commercial bank, failed due primarily to DOSRI (directors, officers, stockholders and related interests) loans mainly to the real estate companies of the major owner. Behind the relative resiliency of the Philippine financial system to the East Asian crisis are the decade-long reforms that have been undertaken in the country in response to its own financial crisis in the early 1980s. Most of the reforms are prudential in nature, including increased capitalization requirements, compliance with the minimum asset ratio, limits on single borrowers and on DOSRI loans, stricter audit and reporting requirements and stricter policy on bail-outs of problematic banks (Bautista, 1992; Intal and Llanto, 1998).

The series of increases in bank capitalization requirements together with the further opening up of the financial sector to a limited number of foreign banks have proved to be important stabilization factors in the light of the financial turmoil in the

region. The average capital adequacy ratio in the country hovers around 16 percent, significantly higher than the BIS requirement of 8 percent, although it is likely that the former is not fully risk-adjusted as in the BIS requirement. The ratio of nonperforming loans to total loans of commercial banks has remained manageable at 4 percent three months after the crisis compared to 3 percent before the crisis. These rates are much lower than the ratios during the 1980s when the rates reached more than 20 percent during the economic crisis in the mid 1980s.

While the Philippine financial sector has largely weathered the regional crisis, the government's fiscal situation has turned precarious because of the high interest rates and the slowdown in the economy resulting. For example, the national government budget deficit more than doubled during the first quarter of 1998 compared to the same period last year (i.e., P12.4 billion vs. P5.7 billion), arising from the short fall in customs duties as dutiable imports declined compared to a year ago. In addition, public debt service payments increased significantly, as the Philippines has a much higher ratio of public debt to GDP than other Southeast Asian countries (see Table 1). The precariousness of the fiscal situation arises from the internal dynamic that the larger the deficit, the greater is the need of the government to borrow domestically, and therefore the greater is the pressure for domestic interest rates to remain high.

The Philippine government has realized the precariousness of its fiscal position arising from the sharply higher interest rates than what was assumed in the government budget and from the sluggishness of government revenues because of the slowdown of the economy. Among the more important measures undertaken and promised under the Memorandum of Economic and Financial Policies with the IMF are the 25 percent mandatory reserve on all expenditures other than personnel and debt service, a 10 percent deferment in the internal revenue allotment (IRA) for local government units, suspension of all tax subsidies to national government agencies, corporations and local government units, suspension through presidential veto of a specified amount of new programs and projects in the 1998 budget, and renewed effort to strengthen tax administration. In addition, the Philippines is tapping foreign long-term loans to help finance the budget to

reduce the pressure on the domestic debt market thereby allowing for the softening of the domestic interest rates.

The fiscal belt tightening, while important for macroeconomic purposes, means budget cutting on government expenditures for social development and environment and natural resources protection and rehabilitation, two primary pillars of sustainable development. This is discussed in a succeeding section.

Output and trade. While the crisis had an immediate and significant impact on the country's financial sector, its impact on the country's output and trade has been much more muted although at face value, it appears that the East Asian crisis has had a significant impact on the country's national output (see **Table 2**). The growth of gross domestic product (GDP) decelerated from 6.1 percent and 5.4 percent in the third and fourth quarter of 1996 respectively to 4.9 percent and 4.7 percent in the third and fourth quarter of 1997 respectively. However, a closer look at the quarterly growth figures gives a less clear picture. For example, the deceleration in the growth rates occurred even during the first and second quarters of 1997 relative to the first two quarters of 1996. That is, the crisis did not precipitate the deceleration in the growth of the Philippines.

It is more likely that the crisis aggravated the deceleration of the growth of the economy. Thus, for example, the net reduction in inventories in the third quarter of 1997 may reflect in part the cautious attitude of manufacturers with the onset of the crisis (although there was some small increase in inventories in the fourth quarter of 1997). The inventory drawdown contributed to the deceleration in the growth of manufacturing output during the second half of 1997.

There are other factors that contributed to the deceleration in economic growth which are not strongly linked to the crisis. For example, the more important source of economic slowdown during the third quarter of 1997 was the sharp deceleration in the growth of agriculture relative to the previous year's corresponding quarter arising

primarily from the sharp declines in the output of rice and sugarcane. This appears to be linked to the El Nino phenomenon, which has affected at least the timetable of farming. Another sector that was also badly hit by El Nino is the water utilities industry, which declined during the fourth quarter of 1997 as a result of the worsening drought problem. Finally, government services also grew only marginally during the last quarter of 1997. Although this may have resulted from the crisis, another factor is the slowdown in the granting of salary adjustments in the public sector in 1997 as compared to the previous year. In sum, the national account estimates do not indicate that the East Asian crisis exacted a heavy price on Philippine output during the first six months of the crisis.

Similarly, the crisis did not have a significant impact on Philippine foreign trade so far. The growth of imports in real terms was higher in the third and fourth quarters of 1997 than during the first two quarters of the year. Aggregate merchandise exports have been growing at a robust pace in 1997 and at an even faster pace during the first two months of 1998.² Indeed, given the substantial real appreciation of the peso during the early 1990s, the depreciation of the peso arising from the crisis should in principle be conducive to the growth of exports. During the early 1990s, the appreciation of the peso, the reduction in tariffs and the rise in wage rates reduced the international competitiveness of some labor intensive manufactures and forced them to restructure to maintain or improve their international competitiveness in the face of greater competition (e.g., textiles). The textile industry is a good example of an industry in the process of industrial restructuring in order to be able to face a more open economy. Thus, the sector's output has been declining for a number of years now at the same time that textile exports have been growing as some of the textile firms succeeded in developing export niches. There are no indications yet that the process of industrial restructuring accelerated or slowed down because of the crisis.

The robust growth of merchandise exports last year and this year, as it has been for a few years now, was fueled largely by electronics exports, including computer parts. The surge in electronics exports is likely not caused by the exchange rate adjustments but

rather the effect of the surge in investments in export oriented electronics and computer parts during the past three years. About 75 percent of all of the investments in the Philippine Export Zone Authority 's (PEZA) sanctioned industrial estates and special economic zones during 1995-1997 were in the electronics and semiconductor industry.

It is likely that the depreciation of the peso would be beneficial to the export sector in the medium term. Of course, what matters is real depreciation of the peso, not nominal depreciation. In this regard, one of the significant impacts of the crisis is that the substantial nominal depreciation of the peso has so far been translated into a significant real depreciation of the peso, thereby providing hopes that the output and trade effects of the depreciation would be appreciably positive in the future. In contrast to the devaluations of the peso in the past decades, which ended up largely into higher inflation rates, the substantial depreciation of the peso during the crisis has not translated so far into significantly higher inflation rate. A number of reasons can be attributed to this; namely, (a) the relatively tight monetary and fiscal policy adopted, (b) the high protection rate in food crops like rice before the crisis, coupled with the large duty free importation of rice and corn by the government which effectively dampened upward price adjustments in such politically sensitive items like rice; (c) responsible and relatively non-inflationary wage adjustments in the face of the crisis, and (d) reduction in the world price of oil, an important imported input for the Philippines.

Real exchange rate, trade reform and industrial restructuring. Over the medium term, the real depreciation of the peso is expected to serve as the much-needed complementary measure, which the government failed to resort to when it started to implement the on-going trade reforms in the 1980s. Basically, the currency adjustment would further reduce price distortions, which in the long run would benefit the economy. In particular, the real depreciation of the currency is expected to improve the relative price of tradables (especially export-oriented sectors with relatively high value-added) with respect to non-tradables.

² Estimates of services exports in the national income accounts are not very reliable because of problems related to the attribution of peso conversions of foreign currency deposits (FCDs).

A recent study by the Philippine Institute for Development Studies (PIDS) has tried to simulate the impact of the on-going trade reforms implemented by Executive Order 264 (together with more recent amendments) on output and income. Using the same model, this paper attempts to analyze the impact of the Asian currency crisis by comparing the estimated potential effects of the on-going trade reforms with and without exchange rate adjustment. The scenarios with exchange rate adjustment provide some indication of the possible impact in the medium term of the peso depreciation in the aftermath of the East Asian crisis.

The model is partial equilibrium in nature in that it assumes zero cross-price elasticities and could not incorporate other factors such as investment and monetary variables. These shortcomings limit the analysis to comparative statics. The advantage of the model, however, is its multisectoral, input-output framework, highlighting best the variation in effective rates of protection and the varying effects of trade reforms across sectors, incorporating to some extent linkages among them.

Basically, the model works as follows. Changes in tariffs (or tariff equivalents in the case of removal of quantitative restrictions) effected by trade reforms result in changes in effective rates of protection. Given supply elasticities, these changes result in changes in the level of production (output), and ultimately, the level of income. The change in income level then results in changes in final demand (given income demand elasticities). The changes in tariffs also affect the output prices which induce, in addition, changes in demand, given price elasticities. Under the fixed exchange rate assumption, the changes in supply and demand are translated into changes in the trade balance, i.e., exports and imports. Under the flexible exchange rate assumption, the exchange rate acts as the mechanism to achieve trade balance. (See **Figure 1.**)

Impact simulation is done for three scenarios. The first scenario represents trade reforms under EO264 with fixed exchange rate (i.e., without exchange rate adjustment). The next two scenarios simulate the impact of the same trade reforms but with real exchange

rate adjustment, one at 10 percent and the other at 20 percent real depreciation (to approximate likely permanent real exchange rate change arising from the crisis). The results of the last two scenarios are compared with those of the first to indicate the impact of the exchange rate changes

The results of the simulation for the three scenarios are presented in **Table 3**. Results of the simulation using the model show positive output effects of trade reforms with or without exchange rate adjustment. However, without exchange rate adjustment, output growth would increase by only around 0.4 to 0.75 percentage points (for low and high elasticity assumptions, respectively) due to trade reforms under EO 264, and income growth would even decline although slightly by around 0.03 to .06 percentage point. This is attributed mainly to a decline in the growth in manufacturing value-added. This also implies a reallocation of resources to sectors with relatively lower value-added ratio, which characterizes the Philippine manufacturing sector including its major exports. The effects on the growth in both output and value-added for agriculture are positive. This is mainly because EO 264 maintains protection in agriculture while lowering industrial tariffs substantially to 10 percent and below. Most benefited is the exportable sector, which could grow by around 4 to 8 percent. This is brought about mainly by the improved relative prices facing the sector with trade reforms.

With real exchange rate adjustment, growth in both output and income increase by much more. The growth in output could increase by as much as 4.3 to 7.8 percentage points with 10 percent real exchange rate adjustment, and by even much higher rates (from 8.1 to 14.8 percentage points) with 20 percent real exchange rate adjustment. The corresponding effect on income is slightly less at around 3.5 to 6.3 percentage points for 10 percent adjustment and 7 to 12.6 percentage points for 20 percent adjustment. This implies up to 1 to 2 percentage points increase in GNP per year.

These results are of course drawn from a model subject to some constraints and limitations and the magnitudes are by no means absolute. Nonetheless, the results highlight the complementary role of the exchange rate in trade reforms.

It is likely that the output and export impact of the peso depreciation will take time to occur. To some extent, this is dependent on the state of the real interest rate and the availability of credit considering that investments and financing are important means of seizing the opportunities offered by the real depreciation of the peso. As the interest rate declines further, as it has in recent weeks, and as uncertainties arising from the presidential election settle down, it is likely that the output and trade effects of the real peso depreciation will become more apparent and appreciable.

The Impact of the East Asian Crisis on Philippine Social Development and Environment

The two key pillars of sustainable development are social development and poverty alleviation on the one hand, and natural resources and environment regeneration and protection on the other hand. The East Asian crisis impacts on the two pillars of sustainable development through a number of mutually interacting channels, both direct and indirect. One channel is the employment, income and poverty channel arising from the general slowdown of the economy. Another channel is the interest rate and inflation channel because investments in both human resource development and natural resource regeneration are long gestating. The third channel is the real exchange rate channel that impacts on the relative profitability of production of industries, especially export-oriented, import competing and non-traded industries. The fourth channel is fiscal contraction and expenditure realignment, which has a direct bearing on the government provision of social services and natural resources and environment management. The eventual impact of the crisis through the above mentioned channels and probably others would depend in part on the institutional, political and policy factors affecting the behavior and welfare of the various participants in the sectors and industries.

Employment, income and poverty. The Philippines has the highest poverty incidence and unemployment rate in Southeast Asia, more than one third of all

Philippine households being poor in 1994 using the official Philippine estimates (see **Table 4**). Thus, other things being equal, even a small decline in output and income will have potentially significant impact on the state of poverty in the country. In addition, most of the poor in the country are in the rural sector, primarily farmers. Hence, the state of Philippine agriculture has a particularly important bearing on the state of Philippine poverty. Finally, in regions outside of Metro Manila, wage income forms an important share of the income of households in the higher income brackets (Intal, 1994), indicating that industrialization and nonagricultural wage employment outside of Metro Manila is an important means of reducing poverty in the country.

The aggregate employment and unemployment estimates show that the continuous reduction in the total number of unemployed in 1996 and the first half of 1997 reversed to a continuous net increase in the number of unemployed since the third quarter of 1997 until the latest quarterly labor force survey in January 1998. Thus the slowdown in the economy during the second half of 1997 and the first quarter of 1998 has already taken its toll in the increase in the number of unemployed. The unemployment rate rose to 8.4 percent in January 1998 from 7.7 percent in January 1997 (see **Table 5**).

The poor performance in aggregate employment stemmed largely from a sharp decline in employment in agriculture and a sharp reduction in the increase in industrial employment especially in manufacturing. The poor performance in agricultural employment is largely caused by the serious drought in many parts of the country arising from El Nino thereby wreaking havoc on agricultural production. (For example, the Philippine government estimates that rice production declined by 12.7 percent during the first quarter of 1998 and is expected it to decline by 25 percent during the second quarter of 1998 compared to last year's output.) The marked slowdown in manufacturing growth in part caused by the East Asian crisis has meant, however, that the dislocation in the rural sector arising from the El Nino phenomenon could not be absorbed by the industrial sector. The January 1998 employment estimates show that Metro Manila and the urban areas registered large increases in unemployment rate while

the unemployment rate in the rural areas remained constant compared to January 1997. This suggests that the drought situation in many parts of the Philippine countryside encouraged migration into the urban areas especially Metro Manila.

The pattern of migration into the urban areas and especially Metro Manila during the crisis in the past months differs somewhat from the experience during the crisis in the early 1980s. In the early 1980s, more than one half of interregional migration was accounted for by migration into the uplands (Cruz, *et.al.*, 1992, p.33) thereby resulting in the rising population in the uplands. The upland migration in the early 1980s was affected by the sharp fall in industrial production arising from the serious economic crisis the country experienced at that time together with relatively better agroclimatic conditions that allowed increases in agricultural output. In contrast, the El Nino phenomenon hit hard the uplands given the reliance of the uplands on rainfall for agricultural production.³ Thus, the poverty and sustainable development problem in the face of the East Asian crisis and the El Nino phenomenon is less about upland migration and soil erosion than it was during the early 1980s and is more about rural distress and rising urban unemployment.

Rural distress will likely be most acute during the first half of 1998 because of the severe drought caused by El Nino. The substantial reduction in agricultural output together with the large peso depreciation has not translated into significant price increases though. There are two major reasons for this. First, the rate of protection in the two major grains, rice and corn, was very high at around 65 percent in the mid 1990s. In effect, at least for rice, it has become largely a nontradeable commodity, and as such the domestic price is not affected as much by peso adjustments as by the interplay of domestic demand and supply. Second, in the face of the expected adverse effect of El Nino on domestic production, the domestic supply of rice was stabilized by large imports. Given that the domestic prices of grains have not risen substantially, farmers' incomes will likely suffer

³ The reported deaths of around 40 tribal people ("lumads") in severely drought-stricken parts of Mindanao because they ate wild yams which are poisonous unless prepared well to ease their hunger in recent weeks indicates that the uplands have also been badly hit by the El Nino phenomenon and therefore

significant declines in view of the poor harvest. Considering further that the bulk of the poverty problem in the country is among farmers, it is apparent that the major challenge facing the government in terms of poverty alleviation efforts this year and next year will be the rural sector.

In the non-agriculture sectors, the longer the high real interest rate regime remains, the greater are the dangers of growing pressures toward economic recession and larger numbers of corporate retrenchments or closures and worker layoffs. The number of firms that reported retrenchments ballooned during the fourth quarter of 1997 spilling into the first two months of 1998 (the latest date when data are available), although interestingly the number of firm closures declined substantially during the last quarter of 1997 compared to the first three quarters of the year. The number of workers affected by the firm closures or retrenchments increased significantly in January and February of 1998 compared to the previous year.

In order to minimize the adverse impact of the crisis on employees and firms, employers, labor unions and the government signed a social compact during an economic summit in February 1998 to work together to prevent strikes and layoffs as much as possible. To some extent the social compact is a positive development given the historically adversarial relationships between management and labor in the Philippines. The improved industrial relations environment is seen in the more cooperative arrangements that have been worked out at the firm level both within and outside the collective bargaining agreements; e.g., subcontracting to displaced employees, financial assistance to affected workers that is greater than what is stipulated in CBA provisions, training of affected workers, transfer to “sister” companies, greater focus on working conditions, etc.. Indeed, the wage adjustments that were agreed upon during the latest round of negotiations in the regional wage and productivity boards last December 1997 to February 1998 were remarkably restrained which contributed to the modest inflationary impact of the crisis in the Philippines.

cannot be expected to be an important migration destination at this time in contrast to the experience of the early 1980s.

The government has been monitoring the labor situation, partly because of the social compact. It is apparent however that the government monitoring system is geared primarily to the formal sector and establishments. The government's monitoring of the rural labor market is particularly inadequate. As a result, public discussion and proposed policy measures have centered on the formal sector while the rural sector, which was actually the hardest hit because of the El Nino phenomenon, has been relatively neglected.

The above discussion brings out the impact of the East Asian crisis as hobbling the industrial sector from providing better employment prospects for the distressed rural populace. In a way, the employment (and poverty) problem during the latter 1997 and early 1998 has been an El Nino problem aggravated by the East Asian crisis. The longer the East Asian crisis and the El Nino problem drag on, the greater will be the adverse effects on the employment and poverty situation in the country. At the same time, the employment problem becomes less tractable for the government because the stresses in the labor market are in the informal sector. For example, the January 1998 labor force survey shows that there has been an increase in the percentage of unpaid workers. Similarly, there have been anecdotal reports that children are being "bumped off" in the queue in the informal labor markets by older men. Since the working children likely come from the very poor families, their being "bumped off" may mean greater financial distress to the very poor.

The overseas employment market has been a major safety valve for the Philippines especially since the 1980s. The East Asian crisis sparked worries in the country that Filipino overseas workers in the East Asian region may be forced to go back home in view of the economic difficulties facing a number of countries in the region. This initial fear has so far not been realized, however. While there may have been a number who were sent back home, the number of Filipino overseas workers in East Asia actually rose in 1997 compared to the level the year before. Perhaps the deterioration in the domestic employment environment in the face of the economic slowdown in the

country may have been a factor for the rise in overseas employment. However, a more compelling reason is the substantial depreciation of the peso which made foreign employment more financially rewarding. The higher overseas deployment (by 13.3 percent) and the significant increase in remittances (by 76 percent in the fourth quarter) from Filipino overseas workers in 1997 (see **Table 2**) provided an important safety net in the face of the slowdown in the economy and the devastation wrought by El Nino in the countryside.

Budget. The high interest rates and the peso depreciation had an immediate adverse effect on the government's budget. The depreciation of the peso increased the 1998 government expenditure budget by about 3.9 percent while the increase in the Treasury bill rate raised the total budgeted expenditures by 5.0 percent. The total projected increase in budgetary expenditures arising from the peso depreciation, interest rate hike and increase in the inflation was estimated by the Department of Budget and Management at close to P50 billion. With the slowdown of the economy and the significant deceleration in import growth resulting in lower growth of tax revenues than had been earlier expected, the substantial increase in expenditures arising from the peso depreciation and hike in interest rates effectively threatens the government's public sector deficit to balloon.

In response, the Philippine government adopted a number of emergency measures, including a 25 percent mandatory reserve on all expenditures other than personnel and debt service, a 10 percent deferment in the internal revenue allocation (IRA) for local government units, suspension of all tax subsidies of government units, continuation of the selective ban on the creation of new civil service positions, suspension of about P14.4 billion worth of new programs and projects, and renewed effort to strengthen tax administration (MEFP, 1998).

The imposition of the 25 percent mandatory reserve impacts on the capability of the government to provide social services and safety nets in the face of the economic slowdown and the El Nino phenomenon. For example, with 80 to 90 percent of the

government budget for primary and secondary education being allocated to personnel costs, the 25 percent mandatory reserve has to be charged against regular programs with the likely negative impact being on the printing of instructional materials, the conduct of special education, school health and teacher training programs, and the construction of school buildings. For the Department of Health, the peso depreciation and the 25 percent mandatory reserve will likely mean less supply of drugs, reduced laboratory and diagnostic services, lower case finding and treatment, higher caseload of government facilities, and probable widening of service gaps particularly for vulnerable groups with limited access to health care (NEDA, 1998).

The budget of the Department of Environment and Natural Resources is shown in **Table 6 and Table 7**. Both tables show the impact of the 25 percent mandatory reserve. **Table 6** shows that it is the Department's major operations that will bear the brunt of the budget cuts. The program that will be most adversely affected is environment management, followed by forest management. The 1998 budget for protected areas and wildlife management dropped slightly from the 1997 level but is nonetheless significantly higher than the 1996 budget. Although budget appropriations tend to be somewhat bloated and can be further trimmed, nevertheless the large drops in operational budgets can be expected to impact negatively on the quality of services provided by the Department. Indeed, adjusting for inflation, the Department's MOOE budget for 1998, adjusted for the 25 percent mandatory reserve, is the lowest during the 1990s (see **Table 7**). The 25 percent mandatory reserve dramatically accelerated the drop in the MOOE budget in real terms since 1996.

The budget cuts are likely to be temporary and therefore the negative impact of the budget cuts would also probably be short term. The Memorandum of Economic and Financial Policies submitted by the Philippine government to the IMF explicitly gives preferential treatment to social programs, especially poverty alleviation programs for the 21 poorest provinces and the fifth and sixth class municipalities. The preferential treatment is in terms of making best efforts to protect such programs from the 25 percent mandatory reserve and the first priority for budget restoration in case the situation

improves during the course of the year. No such priority is accorded to the budgets for natural resource and environmental protection and regeneration programs.

Impact on the natural resources sector and the environment. Environmental indicators for the Philippines up to 1993 are shown in **Table 8**. The table indicates the seriousness of the environmental problem in the country. For example, total forest cover in 1993 declined to nearly half of the 1985 forest cover. Metro Manila's particulate matter in 1993 was almost twice the national ambient standards, starkly indicating the serious air pollution problem in the capital city. Dissolved oxygen in the country's largest freshwater lake astride to Metro Manila and the provinces of Rizal and Laguna, i.e., Laguna de Bay, was 50 percent higher than the national ambient standard. The rivers in the Metro Manila area itself are even much more polluted, almost biologically dead. The country's coastal resources are also in serious trouble, with a substantial decimation of mangroves and serious overfishing in a number of major municipal or coastal fishery areas. Padilla and de Guzman (1994) estimate that actual fishing effort in small, surface dwelling fishery has been twice what is needed for maximum economic yield; as a result, actual fish catch is lower than the optimal yield despite twice the fishing effort.

In view of the seriousness of the environmental problem in the country, it is useful to examine whether or not the crisis would exacerbate further the country's environmental problem. For example, there are indications that population pressure on coastal and artisanal fisheries intensified during the crisis years of the early 1980s (Cruz and Repetto, 1992, pp.47-50). It is not possible to make an assessment on this issue in relation to the East Asian crisis because of lack of data. Nevertheless, it appears that this time around, the increased population pressure may be less pressing because of the apparent urban-bound migration of the population during the crisis.

Another concern is the impact of the high interest regime and peso depreciation on private investments in natural resources regeneration and environmental protection. For example, reforestation programs offer the most realistic way of increasing the

country's depleted domestic supply (Niskanen and Saastamoinen, 1996). Niskanen and Saastamoinen (1996) show that tree plantations, with various alternative management options including community forestry and intercropping, have substantially higher economic profitability (including environmental effects) than financial profitability in the Philippines. In addition, improving the efficiency of wood processing in the Philippines would likely improve the economic and financial profitability of mahogany tree plantations, similar to the experience of teak plantations in Thailand. High interest rates can be expected to discourage private investments in reforestation and modernization of wood processing plants, unless the government continues with its subsidization of reforestation activities.

In the medium term, exchange rate changes impact on the natural resources sector and the environment by influencing the relative profitability of natural resource based industries as well as the structure of production of industries which have different pollution intensities. To analyze the corresponding potential impact on the environment, this paper combines the results of the exchange rate and trade reform simulation discussed earlier with the ENRAP (Environment and Natural Resource Accounting Project) estimates of pollution abatement costs by industry. The different output structures implied by the different scenarios would yield different average pollution intensities for the whole economy. The potential impact of the currency devaluation is then indicated by the difference in the average pollution intensity associated with the different scenarios.

To provide an indicator of environmental protection costs across activities, **Table 9** presents estimates of pollution intensity (abatement cost per unit value of output) by sector derived from the results of ENRAP. In general, pollution (air and water) abatement costs are estimated using the valuation of waste disposal services needed to reduce pollution to a non-damaging level. Full installation and operation of pollution control devices are costed and an effective emission reduction rate of 90 percent is applied. In the case of agriculture and forestry, the environmental protection costs pertain to the costs of shifting upland agriculture to soil conservation technologies.

The average abatement cost per unit of output for all activities is estimated at around 1.62 (in percent) using output in domestic prices as weights; a lower average of around 1.57 (also in percent) is obtained using output in border prices as weights. The higher average using domestic prices indicates that sectors with higher nominal protection tend to have higher pollution intensity. As such, trade reforms could be expected to lead to a lower average pollution intensity for the whole economy.

Among the industries, the industry “other metallic activities” has the highest pollution at 33.0 percent followed by forestry activities at 28.8 percent (this includes incremental costs of upland agriculture in forest lands shifting to less erosive technologies). The other mining activities are also high at 10.3 percent for gold and 11.9 percent for copper. Agriculture is only slightly lower than the average at 1.58 percent. Interestingly, manufacturing industries register relatively low abatement cost ratios, all except for wood products being lower than one percent.

These estimates of pollution intensity by sector are used together with the production/output structures resulting from the earlier simulations. Specifically, the simulation results of the three scenarios together with the pollution intensity estimates, yield simulations of pollution intensity associated with four different cases: (a) pre-EO 264, (b) post-EO 264 under fixed exchange rate, (c) post-EO 364 with 10 percent exchange rate adjustment., and (d) post-EO 264 with 20 percent exchange rate adjustment.

The results of the exercise are summarized in **Table 10**. The pre-reform scenario is associated with the highest pollution intensity at around 1.57 percent. It appears that trade reforms under EO 264 with or without exchange rate adjustment potentially reduces the average pollution intensity of the economy. The average pollution intensity decreases to around 1.53 percent without exchange rate adjustment to 1.49 percent with 10 percent adjustment and to around 1.45 percent with 20 percent adjustment in the real exchange rate. For the purposes of the paper, however, what is more important to note is how the potential pollution intensity differs in the scenarios with and without exchange rate adjustment. **Table 10** indicates that the potential improvement in pollution intensity is higher with

exchange rate adjustment. The pollution intensity associated with 10 percent real devaluation (at 1.49) is around 3 percent lower than that without devaluation. The reduction in pollution intensity with 20 percent devaluation is even higher at more than 5 percent.

However, despite the improvement in the structure of production towards the less pollutive industries as a result of trade reform and real peso depreciation, the level of production of most of the sectors also increases because of the favorable income and demand effects of the trade liberalization-cum-real exchange rate adjustment. Thus, there remains the continuing pressure on the country's environment, even if the growth industries have better capabilities at investing in pollution abatement facilities. (The best example of the growth industries with better capabilities at environmental investments is the electronics industry, which in the Philippines involves mostly multinationals and where the firms are located mainly in industrial estates with waste treatment facilities.)

For industries with large environmental impacts like mining and forestry as well as traditional manufacturing industries composed mostly of old firms or small and medium scale firms, the real peso depreciation improves producer incentives but at the same time increases the potential adverse environmental effects. The challenge is in instituting nonprice regulations and schemes that can maximise the potential benefits from the real peso depreciation and at the same time minimise the adverse environmental impact. For example, for forestry, the government may pursue increased taxation on logging outside of privately-owned or community-owned reforested areas, thereby encouraging investments in reforestation and at the same discouraging logging on primary growth forests. Similarly, the government may initiate incentives for the provision of common treatment facilities surrounding traditional industries (e.g., tannery in Meycauayan, Bulacan), in tandem with stricter enforcement of pollution control rules, in order that the increased domestic production of, say tannery, would not worsen further the quality of the environment (e.g., river in Meycauayan). Without the complementary policies addressing specifically the pollution problem, the real exchange rate depreciation arising from the crisis could result in further environmental degradation.

The East Asian Crisis, El Nino and the Challenge of Philippine Sustainable Development

There are three major broad areas of challenges facing the Philippines in its drive towards sustainable development. The first is the reform of the industrial protection system and improvement of the macroeconomic environment for sustainable development. In the Philippines, reducing the pressure of population and poverty on agricultural land and natural resources requires that the non-agriculture sectors, especially the industrial sector, take a larger role in employment creation. It is important therefore that the industrial protection system and the macroeconomic environment encourage higher investments and employment creation.⁴

The second is pricing and investing for the future. The proper valuation of resources and the social cost of resource extraction and clear delineation of property rights are essential for minimizing the trade-off between economic growth, social equity and environmental/resource protection. However, this is easier said than done because this involves a complex set of issues related to the design of implementing policies to encourage appropriate pricing, fair and effective property rights delineation and private investments in resource regeneration and agriculture. As the Philippine experience shows, the political economy of pricing and property rights reforms is particularly difficult. Considering that the sustainability of rural development and poverty reduction requires appropriate resource pricing and prosperous agriculture, among the policy challenges for sustainable development include the redirection of government expenditures and public investment toward providing the infrastructure and technological requirements of sustainable agriculture (e.g., rural roads, integrated pest management).

The third sustainable development challenge is investing in people, institutions and governance structures and mechanisms for sustainable development. This involves improving policies and government programs to support investments in human capital formation especially of the rural poor, strengthening national and local linkages in natural

⁴ This paragraph and the next two paragraphs are largely taken from Intal (1992).

resource management in tandem with the increased reliance on local communities and organizations in monitoring and maintaining the natural resources stock, and the integration of environmental and equity considerations in decision making at the national and local levels.

The East Asian crisis is related primarily to the first sustainable development challenge. In this regard, the crisis does not only present problems but also offers opportunities. While there are short term costs and problems arising from the macroeconomic adjustment process, the real exchange rate correction that the crisis engendered for the Philippines is an important complement to the redesign of industrial protection policies that the Philippine government has been pursuing during the past decade. With trade and investment liberalization and real exchange rate adjustment, the overall incentive structure is more conducive to greater allocative efficiency and export orientation consistent with the country's comparative advantage, especially in semi-skilled labor. As a result, the country's non-agriculture sectors in general and the industrial sector in particular will likely be more important generators of employment in the future.

The East Asian crisis brought out the importance of strengthening the prudential, transparency and corporate governance environments in the concerned countries. Improvements in such areas will contribute to a more sustainable and robust economic growth in the region in the future. As the Philippines becomes more economically integrated with the rest of the region, it is clear that the improved policy and institutional regimes in its partner countries also augur well for the economic prospects of the Philippines. Similarly, as the country pursues further the internal reforms in the fiscal and monetary sectors in response to the crisis, the Philippines strengthens further its macroeconomic environment for sustainable development. And as the economy grows steadily and the country's demographic transition accelerates (i.e., lower fertility rate), the country's domestic saving rate will likely rise thereby strengthening further the macroeconomic fundamentals for sustainable development.⁵

⁵ The Philippines has the lowest saving rate among the major East Asian developing countries. The East Asian "miracle" is founded in part on the high domestic saving rates among the high performing economies.

The El Nino phenomenon brings out inadequacies in the country's poverty monitoring and emergency food mechanism. It also brings out the importance of improving the policy and institutional regimes on water use and investments. The tragic death of a number of tribal people indicates that tribal people, especially those in the uplands, have been left out in the country's poverty monitoring and social safety net mechanisms; they are in some sense the "great neglected".

The El Nino phenomenon, while largely outside of the control of the government and populace, shows the importance of addressing issues related to water pricing and water resources development. The water shortage in Metro Manila since last year, while immediately attributable to the El Nino phenomenon, is fundamentally linked to the lack of appropriate pricing for raw water. As a result, the development of appropriate dams has rested on the public sector and has been dependent on government budgetary largesse and official development assistance. The net result is that the supply of water has been erratic and inadequate for the growing industrial, commercial, household and agricultural needs. Water resources development has also been neglected in the country because the institutional arrangements within the bureaucracy have been weak and diffused. The Presidential Task Force on Water Resources Management has been studying a number of these issues. The Task Force is in the process of finalising a number of recommendations to address institutional, informational and incentive inadequacies in the water resources sector.

The El Nino phenomenon may have some international dimension. The severity of the current El Nino may be related to the unusual global warming this year. If so, then preventing the severe effects of El Nino in the future would call for addressing the global warming problem. Considering that this problem is contributed mainly by the developed countries, it is important that the developed countries offer more ambitious targets in reducing their contributions to greenhouse gases and global warming.

There is also some international dimension to the restructuring of the industrial protection system and improvement of macroeconomic management for sustainable development in developing countries like the Philippines. This includes the improvement of trade and sector policies of developed countries to be more supportive of the reform efforts of developing countries to make their economic development more consistent with their evolving comparative advantages. Two specific areas for reform in developed countries are worth highlighting here; namely, agricultural trade and subsidy policies as well as protection policies on labor intensive manufactures. Also, there may be a need to address the potentially destabilising effects of international capital flows under a regime of imperfect information and inadequate regulatory institutions, as brought out in the East Asian crisis.

Concluding Remarks

Sustainable development has turned out to be the overarching and unifying framework for sound development policy and equity-oriented institutional arrangements. The fundamental issue, however, is whether there is sufficient political will, both domestically and internationally, to effect reforms in policies and institutions consistent with the demands of sustainable development (Intal, 1992).

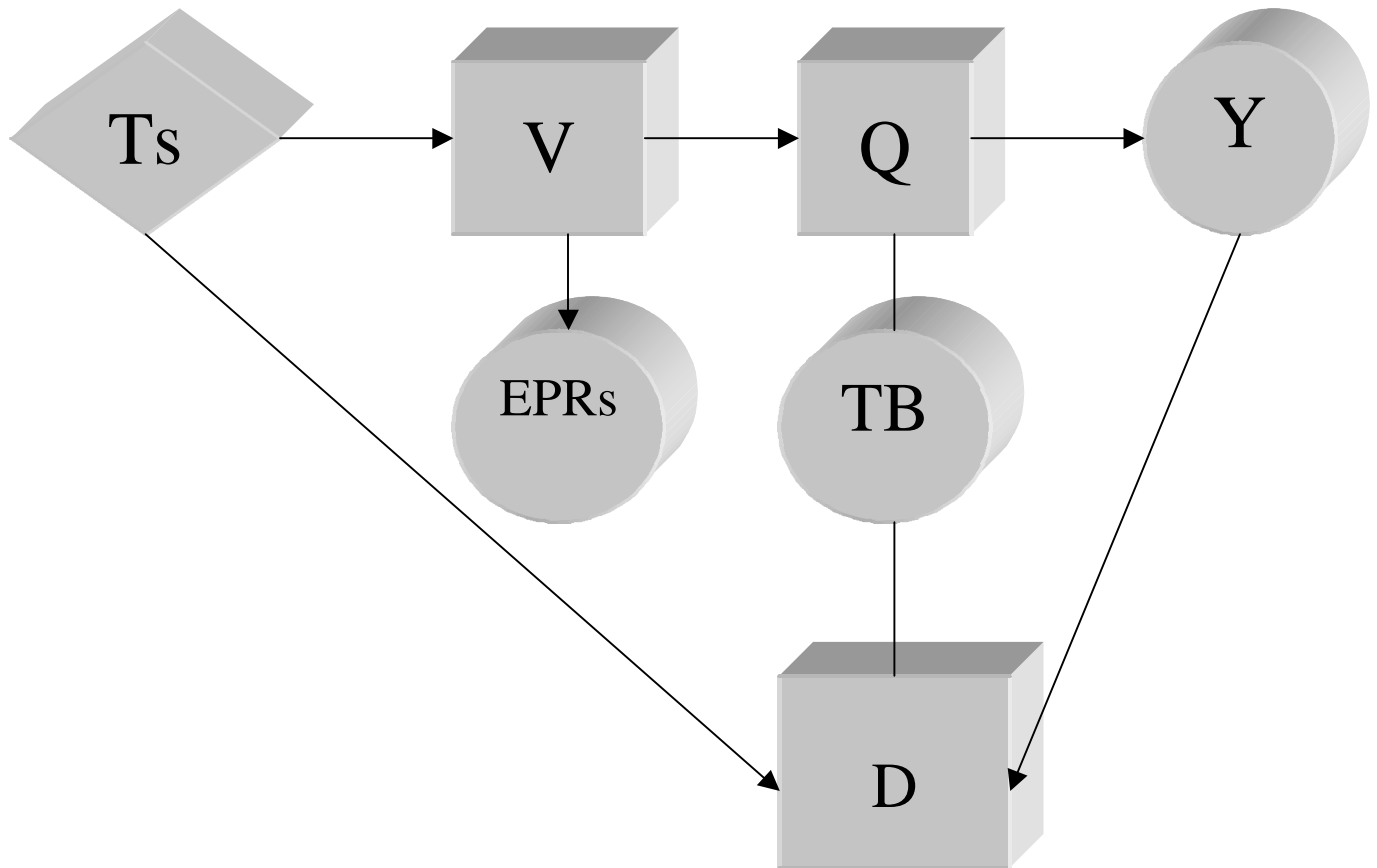
Finally, it is apparent from the above mentioned sustainable development challenges that the path to sustainable development is a long, difficult and multifaceted process. Despite efforts by the Philippine government to address a number of the sustainable development challenges facing the country, much remains to be done in the future to ensure that Philippine development is indeed sustainable.

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Figure 1. Analyzing the Impact of Trade Reforms on Output and Income



Where:

- T** - Tariffs
- V** - Effective Prices = $P_j - S_{aj}P_i$
- EPR** - Effective Protection Rates
- Q** - Output Supply
- Y** - Income
- TB** - Trade Balance
- D** - Demand

Table 1
Selected ASEAN Countries: Macroeconomic Vulnerabilities
(Averages, in percent of GDP unless otherwise indicated)

Item	Indonesia		Malaysia		Philippines ¹		Thailand	
	1991-95	1996	1991-95	1996	1991-95	1996	1991-95	1996
Export growth rate (value in U.S. dollars)	11.4	10.3	20.3	5.8	16.6	17.8	19.7	1.3
Exchange rate								
Real effective exchange rate {percent change over the period; appreciation (-)} ²	-3.3	-5.1	-7.8	-4.2	-36.9	-5.9	-4.7	-5.2
Balance of payments (in percent of GDP)								
Current account deficit	-2.4	-3.6	-6.5	-5.2	-3.6	-4.1	-6.7	-8.0
Capital inflows (net) ³	4.0	5.2	11.5	7.7	3.8	8.9	10.4	9.2
Debt								
External debt (in percent of exports of goods and services)	191.5	178.5	43.8	40.3	168.2	103.6	105.5	118.6
Short-term debt (in percent of external debt)	7.7	8.5	18.2	23.7	15.2	13.8	44.4	43.6
Debt-service ratio (in percent of exports of goods and services)	32.4	32.8	6.7	5.7	25.4	15.4	10.9	11.4
Financial stability								
Central government balance (in percent of GDP)	-0.2	1.0	0.1	0.7	-1.6	-0.4	2.8	2.3
Public debt (in percent of GDP)	37.2	27.7	21.8	15.9	113.0	88.0	17.2	10.1
	1995-96	Mid 97	1995-96	Mid 97	1995-96	Mid 97	1995-96	Mid 97
International claims held by foreign banks								
Short-term/Reserves (ratio) ⁴	1.9	1.7	0.4	0.6	0.6	0.8	1.2	1.5
Memo Item:	Mexico							
International claims held by foreign banks	End 94	End 95						
Short-term/Reserves (ratio)	5.2	1.5						

Sources: Hicklin, Robinson & Singh (1997); Short-term/Reserves estimates from Radelet & Sachs (1998)

¹All ratios are in percent of GNP, unless otherwise indicated

²For 1996, December 1996 over December 1995

³Includes errors and omissions

⁴ Average of December 1995 and 1996

Table 2
PHILIPPINES: MACROECONOMIC INDICATORS
(In percent unless otherwise indicated)

Indicator	Annual		Quarterly							
	1996	1997	1996				1997			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP growth rates	5.7	5.1	5.1	6.1	6.1	5.4	5.0	5.8	4.9	4.7
Real GNP growth rates	6.9	5.8	6.9	8.1	6.9	6.1	5.8	6.4	5.7	5.2
Growth (at constant prices) in:										
Agriculture	3.1	2.8	1.9	5.9	3.6	1.6	3.7	2.9	0.7	3.4
Manufacturing	6.3	5.7	6.1	6.4	6.8	6.0	4.0	6.9	6.2	5.8
Services	6.5	5.6	6.1	5.9	6.7	7.1	6.4	6.2	5.6	4.5
Investment Rate (GDCF as % of GNP; in real terms)	24.4	25.4	25.7	23.2	23.9	24.8	27.9	23.9	24.1	25.6
Inflation rates	8.5	5.1	11.6	10.5	7.1	4.8	4.7	4.5	4.9	6.1
Unemployment Rate (period average)	8.6	8.7	8.3	10.9	7.5	7.4	7.7	10.4	8.7	7.9
Overall Balance of Payments Position (% of GNP)	4.7	-3.9	4.4	7.4	6.3	1.4	2.5	-3.4	-4.8	-10.4
Current Account Balance (% of GNP)	-4.5	-4.9	-3.8	-9.4	-0.2	-4.8	-2.3	-7.1	-6.9	-3.3
Trade Balance (% of GNP)	-5.2	-6.2	-4.6	-10.1	-1.1	-5.1	-3.3	-8.2	-8.4	-4.7
Growth in Dollar Exports of Goods & Services	24.3	21.5	30.5	18.3	20.6	19.0	32.0	24.3	15.4	17.0
Growth in Merchandise Exports	17.7	22.8	25.8	13.9	11.8	20.9	17.5	26.5	24.7	22.2
Growth in Dollar Imports of Goods & Services	22.5	21.2	26.3	18.5	23.4	22.8	26.9	18.0	28.7	12.9
Growth in Merchandise Imports	20.8	14.0	31.0	23.4	16.9	14.2	14.2	8.3	20.9	12.9
Change in Workers' Remittances	11.3	33.3					29.3	5.8	29.0	76.1
Change in Net Foreign Investments	118.6	-78.2					7.5	-128.2	-101.5	-98.2
Change in Direct Investments	-1.7	-16.5					10.6	-10.6	-46.5	-21.1
Change in Portfolio Investments	778.6	-116.1					3.8	-170.3	-147.7	-115.2
Overall Fiscal Surplus/Deficit (-) (% of GNP)	0.3	0.1								
Ratio of Debt Service Burden to Exports of G & S (%)	12.7	11.3								
Ratio of Debt Service Burden to GNP (%)	5.8	6.2								

Note: Growth rates for quarters are on year-on-year basis

Sources: PIDS Data and Information Resource Program; BSP Selected Philippine Economic Indicators, Yearbook 1996 & March 1998; NSCB National Income Accounts, various years.

Table 3
SIMULATION OF THE IMPACT OF TRADE REFORMS (E.O. 364)

SECTOR	W/O Exchange Rate Adjustments		With 10% Exchange Rate Adjustments		With 20% Exchange Rate Adjustments	
	A	B	A	B	A	B
OUTPUT	0.75	0.40	7.81	4.27	14.85	8.13
<i>Importables</i>	-2.09	-1.16	11.07	6.02	24.22	13.20
<i>Exportables</i>	7.85	4.27	21.45	11.77	34.96	19.22
AGRICULTURE	0.82	0.51	5.87	3.67	10.93	6.83
<i>Importables</i>	0.74	0.46	8.82	5.51	16.89	10.56
<i>Exportables</i>	2.03	1.27	9.18	5.74	16.33	10.20
MANUFACTURING	1.92	1.03	17.08	9.11	17.16	32.18
<i>Importables</i>	-2.08	-1.11	12.72	6.78	14.67	27.51
<i>Exportables</i>	10.33	5.51	26.51	14.14	22.70	42.56
INCOME	-0.06	-0.30	6.29	3.48	12.61	6.99
<i>Importables</i>	-4.02	-2.21	8.24	4.57	20.50	11.34
<i>Exportables</i>	6.20	3.40	19.15	10.61	32.02	17.77
AGRICULTURE	0.92	0.58	6.42	4.02	11.93	7.46
<i>Importables</i>	0.77	0.48	8.85	5.53	16.93	10.58
<i>Exportables</i>	2.01	1.26	9.16	5.72	16.30	10.19
MANUFACTURING	-0.12	-0.06	14.88	7.94	29.83	15.91
<i>Importables</i>	-4.97	-2.65	9.53	5.09	24.04	12.82
<i>Exportables</i>	8.49	4.53	24.51	13.07	40.37	21.53

A : Effects of E.O. 264 using high supply elasticities

B : Effects of E.O. 264 using low supply elasticities

Table 4
POVERTY INDICATORS, 1985-95

Economy	Head-count index			Poverty gap		
	(percent)			(percent)		
	1985	1993	1995	1985	1993	1995
Malaysia	10.8	<1.0	<1.0	2.5	<1.0	<1.0
Thailand	10.0	<1.0	<1.0	1.5	<1.0	<1.0
Indonesia	32.2	17.0	11.4	8.5	2.6	1.7
Philippines	32.4	27.5	25.5	9.2	7.3	6.5
China	37.9	29.7	22.2	10.9	9.3	7.0
Papua New Guinea	<i>15.7</i>	n.a.	21.7 ^b	3.7	n.a.	5.6 ^b
Lao PDR ^c	<i>61.1</i>	<i>46.7</i>	<i>41.4</i>	<i>18.0</i>	11.5	9.5
Vietnam	<i>74.0^d</i>	52.7	42.2	<i>28.0^d</i>	17.0	11.9
Mongolia	85.0	n.a.	81.4	42.5	n.a.	38.6
East Asia ^a	37.3	27.9	21.2	10.9	8.4	6.4
East Asia excluding China	35.6	22.7	18.2	11.1	6.0	4.6

Memo Item:	1985	1988	1991	1994
Philippines				
<i>(in % of families below poverty line)</i>				
Subsistence	24.4	20.3	20.4	18.1
Total basic expenditure	44.2	40.2	39.9	35.5

n.a. Not available

Note: All numbers in this table (except for Lao PDR) are based on the international poverty line of \$1 per person per day at 1985 prices. Figures in italics indicate specific data sources different from all the figures and follow some methodological exemptions.

a. Includes only those economies presented in the table

b. Data are for 1996

c. Available data on purchasing power parity (PPP) exchange rates and various price deflators for Lao PDR are not very reliable and lead to anomalous results. Poverty estimates for Lao PDR are based on the national poverty line, which is based on the level of food consumption that yields an energy level of 2,100 calories a person per day and a nonfood component equivalent to the value of nonfood spending by households who are just capable of meeting their food requirements. While the \$1 dollar a day poverty line is based on characteristic poverty lines in low-income countries that have comparable food and nonfood consumption needs, this is a different methodological approach than that used for the rest of the economies in the table. Thus the poverty estimates for Lao PDR are not strictly comparable to those for other economies.

d. Preliminary estimate from Dollar and Litvack forthcoming.

Sources: Ahuja, et. al. (1997); Memo item for the Philippines are from Gerson (1998)

Table 5
EMPLOYMENT INDICATORS
(Numbers in thousands; rates in percent)

Selected Variables	January		April		July		October	
	1996	1997	1996	1997	1996	1997	1996	1997
Labor Force Participation rate	65.5	65.4	69.1	68.8	66.3	65.7	65.8	65.5
Employment Rate	91.7	92.3	89.1	89.6	92.6	91.3	92.6	92.1
Total Employed Persons	26527	27346	27358	28105	27419	27531	27442	27888
By Class of Worker								
Wage and Salary	12171	12974	12395	13386	12934	13917	13096	13565
Own-account	10246	10332	10367	10416	10395	10016	10297	10647
Unpaid Family Worker	4110	4040	4595	4302	4090	3598	4049	3675
By Industry								
Agriculture	11485	11428	11975	11601	11668	10987	11451	11260
Manufacturing	2645	2686	2627	2791	2754	2697	2756	2755
Unemployment Rate	8.3	7.7	10.9	10.4	7.5	8.7	7.4	7.9
Change in the number of unemployed	-28	-101	-180	-92	-278	385	-147	182
Underemployment Rate	21.0	21.1	22.2	23.4	21.5	23.1	19.4	20.8

Note: Numbers may not add up to total due to rounding.

Sources: PIDS Data and Information Resource Program; NSO Sectoral Statistics, online edition; BLES Labstat Updates, Vol. 2, No. 1.

Table 6
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
New Appropriations, by Program/Project, 1996-1998

	1996	1997	1998
I. OFFICE OF THE SECRETARY			
A. PROGRAMS			
1. General administrative and Support Services			
a. General Administrative and Support Services	645,636,000	656,765,000	832,746,000
b. Productivity Incentive Benefits		38,478,000	38,146,000
Sub-Total, Gen. Administrative and Support Services	<u>645,636,000</u>	<u>695,243,000</u>	<u>870,892,000</u>
2. Support to Operations			
a. Coordination, formulation and integration of ENR sectoral plans and policies	86,236,000	100,657,000	118,368,000
b. Coordination, monitoring and evaluation of ENR programs and projects including those devolved to Local Government Units	57,078,000	63,541,000	70,852,000
c. Information system development and maintenance	37,943,000	58,071,000	19,715,000
d. Statistical services	11,633,000	13,572,000	14,674,000
e. Production and dissemination of technical and popular materials in the conservation and development of natural resources including environmental education	92,909,000	41,633,000	44,900,000
f. Legal services	45,486,000	51,197,000	63,469,000
g. Conduct of special studies, designs and development in support of forestry, mining and environmental management operations	27,000,000	28,000,000	55,520,000
h. Adjudication of pollution cases	3,957,000	4,077,000	3,507,000
i. Provision for operations against illegal forest resources extraction/utilization activities, including payment of rewards to informers in the discovery and seizure of illegally collected/ transported forest products and apprehension of violators of Section 68 (b) of P.D. No. 705, as amended by E.O. No. 277, the hauling fees of confiscated logs, space rentals, guards, representation expenses and other expenses in the disposal/selling of confiscated illegally cut logs, subject to Special Budget and approval by the President	8,100,000	10,500,000	8,460,000
j. Laboratory services	25,159,000	40,702,000	33,445,000
Sub-Total, Support to Operations	<u>395,501,000</u>	<u>411,950,000</u>	<u>432,910,000</u>

Table 6 continued

	1996	1997	1998
3. Operations			
a. Forest management	1,655,358,000	2,025,587,000	1,569,430,000
b. Land management	555,784,000	628,663,000	689,061,000
c. Protected Areas and Wildlife Management	149,700,000	300,136,000	268,760,000
d. Mines and Geo-Sciences Development	115,408,000	---	---
e. Environmental Management	295,461,000	305,403,000	144,287,000
f. Ecosystems Research and Development	111,765,000	146,068,000	255,043,000
Sub-Total , Operations	<u>2,883,476,000</u>	<u>3,405,857,000</u>	<u>2,926,581,000</u>
<i>Total, Programs</i>	<u>3,924,613,000</u>	<u>4,513,050,000</u>	<u>4,230,383,000</u>
B. PROJECTS			
1. Locally-Funded Project (s)			
a. Construction of Regional Office V Building	10,000,000		
b. Lon-oy Watershed Development Project in Region I		11,838,000	
c. Maasin Watershed Project in Region VI		6,266,000	
d. Rehabilitation of Riverbanks and Lakeshore Project- National Capital Region		1,090,000	
e. Env't'al and Natural Resource Accounting			69,750,000
f. Water Resources Dev't and Management			100,000,000
Sub-Total, Locally-Funded Project(s)	<u>10,000,000</u>	<u>19,194,000</u>	<u>169,750,000</u>
2. Foreign-Assisted Projects(s)			
a. Industrial Pollution Control Project	3,620,000		
b. Natural Resources Management Pogram	9,807,000	16,516,000	36,124,000
c. Environment and Natural Resources - Sector Adjustment Loan Project	357,639,000	187,553,000	162,754,000
d. Pasig River Rehabilitation Project	5,050,000	4,305,000	8,500,000
e. Conservation of Priority Protected Areas Project	15,915,000	18,300,000	16,273,000
f. Integrated Environmental Management for Sustainable Development			
g. National Integrated Protected Areas System Program (EU Grant)			11,470,000
Sub-Total, Foreign-Assisted Project(s)	<u>392,031,000</u>	<u>228,840,000</u>	<u>235,121,000</u>
<i>Total, Projects</i>	<u>402,031,000</u>	<u>248,034,000</u>	<u>404,871,000</u>
TOTAL, NEW APPROPRIATION	4,326,644,000	4,761,084,000	4,635,254,000
Source: General Appropriation Act, 1996-1998. DBM			

(page no. 3 of 3)

II. NATIONAL MAPPING AND RESOURCE
INFORMATION AUTHORITY

A. PROGRAMS

1. General administrative and Support Services			
a. General Administrative and Support Services	36,568,000	40,908,000	45,819,000
b. Productivity Incentive Benefits		1,412,000	1,420,000
Sub-Total , Gen. Administration and Support	<u>36,568,000</u>	<u>42,320,000</u>	<u>47,239,000</u>
2. Operations			
a. Water, Coastal and Land Surveys	45,294,000	91,876,000	141,184,000
b. Mapping and Remote Sensing	36,330,000	43,097,000	52,552,000
c. Information Management and Statistical Services	11,789,000	20,982,000	18,863,000
Sub-Total , Operations	<u>93,413,000</u>	<u>155,955,000</u>	<u>212,599,000</u>
<i>Total, Programs</i>	<u>129,981,000</u>	<u>198,275,000</u>	<u>259,838,000</u>

B. PROJECT

1. Foreign Assisted Project			
a. Acquisition of Two Hydrographic/Oceanographic Vessels (Instituto de Credito of the Kingdom of Spain and Banco Santander)			<u>317,922,000</u>
Sub-Total , Foreign Assisted Project			<u>317,922,000</u>
<i>Total, Projects</i>			<u>317,922,000</u>

TOTAL, NEW APPROPRIATION 129,981,000 198,275,000 577,760,000

III. MINES AND GEO-SCIENCE BUREAU

A. PROGRAMS

1. General administrative and Support Services			
a. General Administrative and Support Services		16,136,000	57,683,000
b. Human Resource Development		437,000	446,000
c. Productivity Incentive Benefits		1,696,000	1,874,000
Sub-Total, General Administration and Support		<u>18,269,000</u>	<u>60,003,000</u>
2. Support to Operations			
a. Planning and Policy Formulation		5,401,000	5,491,000
b. Mineral Economics, Information and Publications		9,346,000	8,254,000
c. Research and Development		21,499,000	29,110,000
Sub-Total, Support to Operations		<u>36,246,000</u>	<u>42,855,000</u>
3. Operations			
a. Mineral Lands Administration		116,085,000	195,279,000
b. Geoscience Development and Services		29,584,000	66,073,000
Sub-Total , Operations		<u>145,669,000</u>	<u>261,352,000</u>
<i>Total, Programs</i>		<u>200,184,000</u>	<u>364,210,000</u>

TOTAL, NEW APPROPRIATION 200,184,000 364,210,000

GRAND TOTAL, NEW APPROPRIATIONS 4,456,625,000 5,159,543,000 5,577,224,000

Source: General Appropriation Act, 1996-1998. DBM

Table 7
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
(In thousand pesos at constant 1985 prices)

PARTICULARS	1990	1991	1992	1993	1994
A. CURRENT OPERATING EXPENSES	1,874,548	1,423,262	1,330,428	1,281,141	1,443,250
1. Personal Services	1,029,934	858,720	873,239	761,802	741,011
2. Maintenance and Other Operating Expenses	844,613	564,542	457,189	519,339	702,238
B. CAPITAL OUTLAYS	1,373,919	828,829	524,611	559,650	572,985
TOTAL	3,248,467	2,252,091	1,855,039	1,840,791	2,016,235

PARTICULARS	1995	1996	1997	1998 approved a/	adjusted b/
A. CURRENT OPERATING EXPENSES	1,252,010	1,410,734	1,462,821	1,656,252	1,525,439
1. Personal Services	765,861	855,721	914,062	1,132,998	1,132,998
2. Maintenance and Other Operating Expenses	486,148	555,013	548,758	523,254	392,441
B. CAPITAL OUTLAYS	189,935	341,376	466,872	342,420	239,446
TOTAL	1,441,944	1,752,110	1,929,693	1,998,672	1,764,885

Source of basic data: General Appropriations Act, 1990-1998 DBM

Notes:

a/ approved budget (R.A. No. 8250)

b/ approved budget less 25% of authorized regular appropriation for non-personal service items (Administrative Order no. 372)

Table 8
ENVIRONMENTAL INDICATORS IN THE PHILIPPINES

YEAR	Forest Cover (thousand has.)	Particulate Matter* (mg/Ncm)	Sulfur Dioxide* (ppm)	Carbon Monoxide* (mg/Ncm)	Dissolved Oxygen** (mg/l)	Suspended Solids** (mg/l)
1970	15,898.90	--	--	--	--	--
1971	15,875.01	--	--	--	--	--
1972	15,671.10	--	--	--	--	--
1973	13,893.96	--	--	--	--	--
1974	13,690.06	--	--	--	--	--
1975	13,476.04	70.75	0.040	4.70	--	--
1976	13,272.14	73.00	0.025	4.70	--	--
1977	13,068.23	79.00	0.024	4.18	--	--
1978	12,864.33	73.60	0.026	4.40	--	--
1979	12,661.00	67.20	0.028	3.75	--	--
1980	12,456.52	88.00	0.018	3.83	8.67	43.10
1981	12,252.61	81.50	0.022	4.43	8.14	39.73
1982	11,963.41	86.25	0.016	3.98	8.51	38.89
1983	11,759.50	93.00	0.027	4.00	8.38	32.13
1984	11,555.60	84.00	0.014	8.10	7.62	23.45
1985	10,368.03	--	--	--	7.53	44.77
1986	9,180.47	--	--	--	8.13	47.26
1987	6,789.64	159.13	0.007	--	7.90	37.26
1988	6,460.60	151.57	0.013	--	7.42	47.03
1989	6,307.40	188.56	0.011	--	8.00	71.35
1990	6,158.80	172.50	0.011	--	7.80	47.78
1991	6,015.40	173.38	0.013	--	7.85	38.63
1992	5,900.20	176.63	0.008	--	7.73	56.30
1993	5,787.46	142.17	0.012	--	7.50	--

Notes:

Source: Rufo and delos Angeles (1996)

1. * Annual averages are only for Metro Manila
2. ** Annual averages are only for Laguna Lake
3. Ambient Standards (source: Philippine Environmental Quality Report 1990-1995)

Particulate Matter - 90 mg/Ncm

Sulfur Dioxide - 0.03 ppm

Dissolved Oxygen - 5 mg/L

Suspended Solids - not available

Carbon Monoxide - not available

Table 9
POLLUTION INTENSITY BY SECTOR, 1988
In Percent

PSIC	Industry & Process	Pi
AGRI., FORESTRY & FISHERY		
11-13		1.585
11	<i>Agric'l crops production</i>	2.343
111	Palay production	2.343
112	Corn production	2.343
113	Vegetable production	2.343
114	Fruits & nuts (excl. coconut) production	2.343
115	Coconut production incl. copra-making	2.343
116	Sugarcane production	2.343
117	Tobacco production	2.343
118	Fiber cops production	2.343
119	Agri. crops production	2.343
12	<i>Livestock, poultry & other animal prod.</i>	0.524
121	Livestock & livestock products	0.524
122	Poultry & poultry products	0.524
13	<i>Agricultural services</i>	0.036
14	<i>Fishery</i>	0.102
15	<i>Forestry</i>	28.790
MINING & QUARRYING		
21	<i>Metallic ore mining</i>	15.621
211-212	Gold ore mining	10.272
213	Copper ore mining	11.940
214	Nickel ore mining	5.920
215	Chromite ore mining	7.981
219	Other base metal ore mining	32.939
214-219		48.818
22	<i>Non-metallic mining & quarrying</i>	3.286
221	Coal mining	2.030
222	Crude petroleum & natural gas explo & prod'n	21.645
223	Stone, quarrying, clay and sand pits	1.063
229	Other non-metallic mining & quarrying	0.149
221,222,229		5.349
MANUFACTURING		
31	<i>Mfr. of food, beverage & tobacco</i>	0.253
311-312	Food manufacturing	0.240
313	Beverage manufacturing	0.552
314	Tobacco manufacturing	0.087

Table 9 continued

PSIC	Industry & Process	Pi
32	<i>Textile, wearing apparel & leather industries</i>	0.235
321	Textile manufacturing	0.347
322	Wearing apparel	0.099
323-324	Mfr. of leather & leather products	0.416
33	<i>Mfr. of wood & wood products incl. fur & fixtures</i>	0.983
331	Mfr. of wood & wood products	1.289
332	Mfr. & repair of furniture	0.238
34	<i>Mfr. of paper & paper prod.; Print'g & pub'g</i>	0.462
341	Mfr. of paper & allied products	0.564
342	Printing, publishing & allied industries	0.304
35	<i>Mfr. of chem. & chem. prod., petroleum, coal rubber & plastic products</i>	0.134
351,352,356	Mfr. of chemicals & plastic products	0.240
353-354	Petroleum ref. & mfr.of misc.prod.petr. & coal	0.039
355	Rubber products	0.181
36	<i>Mfr. of non-metallic mineral products</i>	0.775
361	Mfr. of pottery, china & earthenware	0.877
362	Mfr. of glass & glass products	0.580
363	Mfr. of cement	0.609
369	Mfr. of other non-metallic mineral prod.	1.360
37	<i>Basic metal industries</i>	0.304
371	Iron & steel basic industries	0.335
372	Non-ferrous metal basic industries	0.210
38	<i>Mfr. of fabricated metal prod., mach. & eqpt.</i>	0.155
381	Mfr. of fabricated metal products	0.186
382	Mfr. of machinery except electrical	0.643
383	Mfr. of electrical machinery, etc.	0.088
384	Mfr. of transport eqpt.	0.213
385	Mfr. of profl. & sci. & meas'g & controlling eqpt.	0.120
386	Mfr. & repair of metal furn. & fixtures	0.361
385,390		0.105
39	<i>Other manufacturing industries</i>	0.104
390	Other manufacturing industries	0.104
Tradeable Sectors (PSIC 11-39 or IO 1-169)		1.624 a/ 1.567 b/

a/ using domestic output (Qd) as weights

b/ using border output (Qb) as weights

Table 10
IMPACT ON AVERAGE POLLUTION INTENSITY BY MAJOR GROUPING
In percent

I-O	PSIC	Description	Pre-E.O. 264	Post E.O. 264		
				W/O Exchange Rate Adj.	With Exchange Rate Adjustment	
					10%	20%
1-26	11-14	Agriculture & Fishery	1.359	1.374	1.388	1.400
27	15	Forestry	28.790	28.790	28.790	28.790
28-37	21-22	Mining & quarrying	9.299	9.377	9.379	9.380
38-169	31-39	Manufacturing	0.269	0.270	0.270	0.270
1-169	11-39	All Sectors	1.567	1.535	1.486	1.447

* using high trade elasticities, based on 1988 input-output structure