

David, Cristina C.

Working Paper

Towards an Efficient Path to Food Security: The Philippine Case

PIDS Discussion Paper Series, No. 1998-39

Provided in Cooperation with:

Philippine Institute for Development Studies (PIDS), Philippines

Suggested Citation: David, Cristina C. (1998) : Towards an Efficient Path to Food Security: The Philippine Case, PIDS Discussion Paper Series, No. 1998-39, Philippine Institute for Development Studies (PIDS), Makati City

This Version is available at:

<https://hdl.handle.net/10419/187381>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Towards an Efficient Path to Food Security: The Philippine Case

Cristina C. David

DISCUSSION PAPER SERIES NO. 98-39

The *PIDS Discussion Paper Series* constitutes studies that are preliminary and subject to further revisions. They are being circulated in a limited number of copies only for purposes of soliciting comments and suggestions for further refinements. The studies under the *Series* are unedited and unreviewed.

The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the Institute.

Not for quotation without permission from the author(s) and the Institute.



October 1998

For comments, suggestions or further inquiries please contact:

The Research Information Staff, Philippine Institute for Development Studies
3rd Floor, NEDA sa Makati Building, 106 Amorsolo Street, Legaspi Village, Makati City, Philippines
Tel Nos: 8924059 and 8935705; Fax No: 8939589; E-mail: publications@pidsnet.pids.gov.ph
Or visit our website at <http://www.pids.gov.ph>

**Towards an Efficient Path to
Food Security: The Philippine Case***

*Cristina C. David***

Because of pervasive market failures in agriculture arising from instability in domestic and world markets, public good nature and strong economies of scale of certain inputs and technologies and their generation, imperfect information, high transactions costs, externalities in production, and so forth, government interventions are required in achieving long-term efficiency in resource allocation. However, government policy and institutional interventions have been motivated not only by long-term efficiency objectives, but also by food security and income distributional considerations within the sector, and between producers and consumers of food and raw material products. Moreover, the policy and institutional framework adopted by the government has been conditioned over time by the changing political economy factors (David 1996).

The objective of this paper is to analyze how the government price, property rights, and public expenditure policies have affected food security goals which continue to be largely dependent on the growth performance of the agricultural sector. The first section describes the growth performance of the sector over the past four decades. In the next three sections, the changing patterns of price and market policy interventions, policies on property rights, and public expenditure allocations are examined to infer how government policy and institutional

*Paper presented at the Taipei International Conference on East Asian Food Security Issues in 21st Century, April 16-17, 1998, Taipei, Taiwan.

**Research Fellow, Philippine Institute for Development Studies. The author is grateful for the excellent research assistance of Brenda B. Solis.

interventions have affected agriculture's performance. The summary and conclusions are presented in the last section.

Growth Performance

The agricultural sector which continues to account for more than 20% of gross domestic product and over 40% of employment has performed poorly since the 1980's (Table 1). Whereas the growth performance of Philippine agriculture compares well relative to other developing countries in South and Southeast Asia in the 1970's, the country had the lowest growth rate in gross value added in agriculture (GVA) and agricultural exports in 1980's. Growth performance in GVA and agricultural exports have improved in the 1990's, but these are still comparatively lower than those achieved by neighbouring countries.

The poor performance of Philippine agriculture since the 1980's has been caused in part by depressed world commodity prices. The fact that the decline in the agricultural growth rates was most severe in the Philippines, however, suggests that the country has been losing its competitive advantage in the sector. Indeed, the ratio of agricultural imports to exports have increased from 30% in 1960 to 100% by the mid-1990's (Table 2) as the measures of revealed comparative advantage in agricultural and all major agricultural exports have declined sharply (Table 3).¹

Labor and Land Productivity

The apparent loss in competitive advantage is consistent with the trends in productivity indicators. Table 4 shows the growth rates in gross value added in crops and livestock, labor employment in agriculture, and cultivated and crop area; and their trends are depicted in Fig. 1.

¹Note that sugar is exported only to the US premium market, as sugar is actually an import competing crop.

It should be emphasized that the slow growth in agriculture since the 1980's has been due largely to the poor performance of the crops sub-sector, as growth rates in livestock and poultry were relatively high. The rapid growth of livestock and poultry industries over the past two decades reflect the effects of increasing demand as well as improved management and introduction of new technologies embedded in imported breed, veterinary medicines, and feed ingredients. The growth rate in number of workers employed in agriculture between 1980-1995 was about equal to the population growth rate. Somewhat surprising is the higher growth rate of cultivated area than crop area since the 1980's suggesting that opportunities for double cropping became less and a shift from shorter to longer-duration crops were occurring.

The growth rates in partial productivity measures reported in Table 5 and portrayed in Fig. 2 indicated a declining trend in labor productivity for the crop sub-sector, and implies a positive growth for the livestock and poultry sub-sector. Although positive, the growth rate in land productivity for crops small particularly in terms of cultivated areas. It was not possible to derive a measure of total factor productivity. But since the use of non-farm inputs -- chemical fertilizers and pesticides -- have been observed to increase at a higher rate than traditional inputs of labor and land, the stagnation of labor and land productivity for the crop sector, would most likely reflect a similar pattern in terms of total factor productivity.

Growth by Commodity

Crops currently account for about 75% and livestock and poultry 25% of gross value added. Among crops, rice the main staple crop, is the most important accounting for 26% of gross value added and 30% of total crop area. It is followed by coconut in economic importance, but is the leading agricultural export. Corn, which is also a staple crop in upland areas of Visayas and Mindanao as well as the main feed crop, is then next followed by sugar. All the four major crops contribute about half of crop value added and occupy 80% crop area.

As consistent with Table 4, livestock particularly poultry showed the highest growth rate in value added. Average growth rates fluctuated widely, but the low performance of the crop sector since the 1980's appear to be generally true across crops. It should be emphasized that the average growth rates of rice in the 1980's and 1990's while lower than the earlier years compare well relative to other crops. Because of increased demand for rice arising from increased income and substitution of rice for corn, however, imports of rice steadily increased in the 1990's as the growth rate in rice production was only slightly above population growth.

The declining trend of corn production in the 1990's mainly through reductions in crop area planted occurred for the white corn used mostly as subsistence crop, rather than for yellow corn used for feeds. This is mainly because the rising price protection of corn shown in the next section made corn relatively more expensive than rice as a staple food and because technology development in corn hybrids and government subsidy programs were focused on yellow corn.

As in corn, sugar's performance was low and erratic despite high price protection because of lack of technological change. Given the bias of government policies against exports pointed out in the next section, the stagnation of the coconut and banana industries was not surprising. What is discouraging is the generally poor performance of other minor crops, many of which are high valued per hectare, that contributes a total of 45% to gross value added in crops.

The next three sections examine whether government policy and institutional interventions have contributed to the erosion of the country's competitive advantage and hence to the poor performance of the agricultural sector since the 1980's. These include the price and market policy interventions, policies on property rights and the public expenditure allocations.

Price Intervention Policies

Past studies have already amply demonstrated that up to the early 1980s, price intervention policies both economy-wide and commodity-specific have created an incentive structure that is significantly biased against agriculture (David 1983; Bautista 1987; Intal and Power 1991). Moreover, that bias has been primarily through the overvaluation of the peso due to the industrial protection system and other economy-wide policies to defend an unsustainable deficit in the balance of payments.

Economy-wide Policies

Over the past decade, the government has adopted various structural adjustment and stabilization measures to correct fundamental distortions in the economic incentives and imbalances in the external and public sector accounts, including trade policy reforms to remove quantitative trade restrictions and reduce the level and dispersion of tariffs, liberalization of the foreign exchange market, and others. As a result, the overvaluation of the exchange rate, which was in the order of 20 to 30% from 1960 up to the mid-1980s, dropped down to 20% by 1992 (Table 7). This rate of peso overvaluation remains sizeable, imposing a substantial penalty against agricultural profitability particularly on exportable agricultural commodities.

Furthermore, the real effective exchange rates appreciated significantly in 1988 and 1989 and even more sharply between 1991 and 1996, which tended to lower relative prices of tradable agricultural products (Fig. 4). This unfavorable trend has been caused by several factors. First, trade liberalization which should reduce distortions in the exchange rate was not accompanied by appropriate nominal exchange rate adjustments and other macroeconomic policies (Medalla et al. 1995). Second, short-term foreign capital inflows attracted by high interest rates due to the tight monetary regime accommodated an increase in the current account deficit, causing the real exchange rate to appreciate (de Dios and Associates 1993; Lamberte 1995). And finally,

domestic inflation rates were higher than those of trading partners, particularly in 1995 when sharp increases in food prices led to double-digit inflation.

With the substantial devaluation of the peso in late 1997 and the ability to control inflation, the real exchange rate began to increase. By early 1998, the real exchange rate have risen by 40%. The devaluation was caused not so much by balance of payment difficulties, but by the flight of short-term foreign capital and the contagion effect of currency devaluation in neighbouring countries.

Commodity-Specific Policies

A wide variety of policy instruments directly affect agricultural output and input prices. Although import tariffs are generally levied on all agricultural products and inputs, their protective effect is limited as tariff protection is essentially redundant on exportable and non-tradable commodities. Up until early 1996, non-tariff barriers -- quantitative trade restrictions, import prohibitions, price controls, and government monopoly control in international trade -- have been the dominant commodity-specific policy interventions in agricultural output markets. Tariffs are more commonly applied on inputs and agricultural products which are not locally produced in any significant quantity. Except in the aftermath of the devaluation in 1970 and the sharp increases in world commodity prices in the mid-1970s, there have been few attempts to intervene in the production and trade of exportable agricultural products.

Table 8 shows the trends in the nominal protection rates (NPRs) of major agricultural commodities which provide a measure of the impact of commodity-specific policies on agricultural prices. As expected, exportable commodities received no price protection, and in the 1970s and the early 1980s were in fact penalized by NPRs ranging from -4% to -28%. The changing rates of nominal protection over time reflect to some extent government's attempts to stabilize domestic prices, as evidenced by the low and negative NPRs for exportable commodities

during the 1970s in response to the devaluation and the subsequent boom in world prices. But the continued low or negative rates of protection in the early 1980s, despite the sharp drop in world prices since the late 1970s indicated the practical difficulties not only of protecting producers of exportable commodities from low world prices but also of doing away with policies that had outlived their original purpose as vested interests are created.

It is clear, however, that there has been an upward trend in the nominal protection rates, particularly among the import competing commodities agricultural product in recent years. Sugar is historically the most highly protected initially because of the country's access to the US premium market. Since the late 1980s, domestic prices of sugar have been about equal and often higher than export prices to the US, at about double the CIF world prices. Corn also has had one of the highest nominal protection rates together with sugar and chicken. NPR for rice has also risen; it reached about 65% in 1995 and 1996, reflecting a drastic reversal of rice price policy from the historically pro-urban to pro-farm bias.

The 1997 devaluation reversed the rising trend. The nominal protection rates for rice, corn, and sugar declined only slightly in 1997. However, the estimates shown in parenthesis which refer to December prices and using P37 to \$1 exchange rate likely to prevail in 1998 indicate sharp reductions. Being an election year, the government ensured adequate imports to prevent any increase in nominal prices of these basic commodities.

Trends in Terms of Trade

Increases in the nominal protection rates have been, in fact, sufficiently high to counter the declining trend in the relative price of agriculture to non-agriculture in the world market and the appreciations in the real effective exchange rates in the 1990s as evidenced by the more gradual decline in the domestic terms of trade of agriculture since the 1980's (Fig. 5). Indeed, many major import-competing agricultural products have been characterized by positive net price

protection after considering the indirect disprotective effects of the overvaluation of the exchange rate. In the case of corn, sugar, and chicken, the net price protection exceeded 50%, even higher than most manufacturing industries. Similarly, the rice sector has become highly protected by 1995. On the other hand, exportable agricultural commodities continue to be penalized, by the overvaluation of the exchange rate that has worsened in the 1990's due to the steep appreciation of the real exchange rate in that period. Although the recent devaluation raised the real effective exchange rate, the domestic terms of trade in agriculture declined slightly in 1997 as the government reduced trade barriers as evidenced by the reduction of nominal protection rates in major import competing commodities

Effective Protection Rates

Resource allocation is affected by the effective rates of protection which considers not only the policy effects on output prices, but also its effects on intermediate input prices. For agricultural crops, the proportion of cost of intermediate inputs to value of output is still relatively low, and hence, trends in the nominal and effective rates of protection will not differ significantly. Given the declining trend in nominal protection rates of inputs to agricultural crops reported in Table 9, however, effective rates of protection would have risen even faster than nominal protection rates. The favorable impact of trade liberalization in agricultural inputs can be observed in the falling trends in the real prices of farm machineries, agricultural chemical, fertilizers which were in contrast to the rising real wages (Fig. 6). In the case of livestock and poultry, effective rates of protection may not have increased as much as NPRs, because the implicit tariff on corn, the most important ingredient in animal feeds, rose at a higher rate.

While the dispersion of protection rates within the agricultural sector has widened, the difference in the estimated average rates of effective rates of protection between agriculture and manufacturing has narrowed (Table 10). During the 1970s and 1980s, estimates of effective rates

of protection of the manufacturing sector ranged from 44% to 79%, much higher than those for agriculture which ranged from 5% to 9% (Tan 1979; Medalla et al. 1995).

By the mid-1990s, the average effective rates of protection between agriculture and manufacturing were about equal (Manasan 1996). This has been mainly because of declining protection rates of manufacturing including agricultural inputs, increasing rates of protection among the major import competing agricultural products, and decreasing share of exportable agricultural commodities. Projected estimates of effective rates of protection, in fact, indicate that the agricultural sector would have higher rates of effective protection relative to manufacturing given the scheduled reductions in tariff rates up to the year 2000 (Manasan 1996).

WTO Agreement

The country's membership in the World Trade Organization (WTO) could have set a decisive path towards an efficient price intervention framework for Philippine agriculture as well as improve market access and world prices of the country's agricultural exports.

Unfortunately, the specific agreement itself and the manner of implementation thus far, suggest that virtually none of these potential benefits will be forthcoming unless drastic redirection of government policies is achieved.

First of all, the rice sector, one of the most heavily regulated commodities, has been exempted from tariffication for the next 10 years, similar to the case of Japan and South Korea; this is because rice, as a food staple, is a politically sensitive issue.

Second, while the quantitative trade restrictions were lifted on April 1996, these were replaced by applied tariffs that are equal to the high binding tariffs (EO 313), the maximum tariffs

committed under the WTO. As Table 11 indicates, those binding tariffs of mostly 100% are typically higher than the nominal protection rates received under the regime of quantitative trade restrictions, and definitely higher than book tariff rates under the earlier EO 470 which programmed the unilateral tariff reductions of a wide range of agricultural and industrial goods. Moreover, tariffs on a number of imported agricultural products considered close substitutes for commodities where QRs are to be lifted (e.g., feed wheat and barley as substitutes for corn) were raised. Although the applied tariffs are scheduled to decrease over the next 10 years for these commodities, they will be only about equal to or higher than tariffs rates in 1995 under EO 470 and definitely much higher than the 5% target average tariff at the end of that period.

Third, the administration of the minimum access volume (MAV) provision of the Agreement has inevitably resulted in rent-seeking, inequities, high bureaucratic costs, and inefficiencies in allocating government revenues generated from importations. With the MAV provision, a tariff quota system has been established where a certain quantity of a number of agricultural commodities may be imported at a relatively low (in-quota) tariff rate, and others will have to pay the higher applied (out-quota) tariff rate. Because most of the MAV volume are much lower than import demand at the in-quota tariff, large quota rents are created unless the right to import the MAV volume is auctioned and granted on the basis of the highest bid. The few exceptions are the high MAVs for live animals, which the Department of Agriculture claims, are merely clerical errors and now are being negotiated for technical correction.

Overall, the Philippine agriculture's drift towards increasing protection has not been prevented under the current WTO agreement, because of the high binding tariffs and the exemption of rice, the single most important agricultural commodity, from coverage. In fact, the increases in the tariff protection of hogs, poultry, and meat products to compensate for the high

nominal protection of corn have been facilitated. Of course, tariff ceilings, albeit high, have now been set to limit increases in price protection.

The implementation guidelines of the MAV ensure that quantitative trade restrictions continue to be in effect despite tariffication. They extend the role of government parastatals, promote rent-seeking, fragment the budgetary process, and cause inefficiencies in public expenditure allocation. In any case, the GATT-URs failure to provide some control over government parastatal involvement in agricultural trade, often as a monopolist, also allows WTO member countries to counter the spirit of the agricultural agreement on market access.

Recent analyses of the Agriculture Agreement now indicate that any expansion of market access in other countries and improvement in world prices will be very limited because of widespread dirty tariffication, concentration of tariff reductions on commodities where tariffs were already low, unusually high tariff equivalent due to low world prices in base year, exemption of rice from coverage in a few countries, and continued monopoly power of government parastatals (Hathaway and Ingco 1995; Winters 1995).

The current rules on reduction in aggregate measures of support and export subsidies will also have a limited impact on world prices for at least two reasons: rules apply to the aggregate and not to individual commodities allowing some major traded products to maintain high domestic support and export subsidies, and unilateral reductions adopted after the base year of 1986-88 already form the major part, if not all, of the obligations under the Agreement.

Property Rights

As the rate of population growth continue to be high, the supply of land, major factor input in agriculture, has increasingly become scarce. Cultivation frontier has moved progressively into the marginal upland areas, while widespread deforestation, soil erosion, and intensive

cultivation have degraded land quality. To maintain agricultural competitiveness, long-term investments in land improvements and flexibility in land market transactions (sales and rental) to facilitate changes in land use/cropping patterns as well as land management patterns (small vs large farm vs contract farming, etc.) are necessary. However, government policy of retaining ownership of lands with slope beyond 18 degrees (with some exceptions) and agrarian reform programs have tended to stifle efficient operation of land markets and lowered incentives for long-term investments in land improvements and tree crops. These effects are reflected in the declining share of agricultural loans to gross value added in agriculture (GVA) and total loans reported in Table 12.

Upland Policies

Because most of the uplands is still classified as public lands, full property rights cannot be conferred, even in slightly sloping areas suitable for crop production, agro-forestry, or livestock pasture. A variety of user rights arrangements have been instituted such as Certificates of Stewardship Contracts (CSC), Community Forest Management (CFM), Industrial Forestry Management Arrangements (IFMA), pasture leases, and so forth. CSC's are granted to small upland dwellers, but area coverage of these as well as of CFMAs and IFMAs are still relatively small. Moreover, these property right instruments do not have collateral value because of the limited terms of tenure and non-transferability. A 25 year tenure (renewable once) would still be short in relation to growth period of forest products. On the other hand, the very low rental fee for pasture leases have led to excess demand and consequently, to allocation of these rights in large parcels to politically powerful families and inefficient management of these lands.

Agrarian Reform

To address the highly unequal distribution of rural incomes caused mainly by the inequitable distribution of lands, a series of land reform programs have been instituted, starting

with the 1963 law (RA 3844) which fixed the sharing ratio between tenants and landlords. Land transfer was effected for rice and corn by the Presidential Decree 27 signed in 1972, according to three steps - first with the conversion of tenancy arrangements from share tenancy to leasehold; second, the issuance of Certificate of Land Transfer where payments to landlords or the Land Bank are considered amortizations; and finally, the granting of emancipation patents or title of ownership.

In 1987, RA 6675 better known as the Comprehensive Agrarian Reform Program (CARP) was passed which aims at redistribution of all agricultural land to tillers, together with fair compensation to the landowners. The Program was designed not only to include land redistribution, but also the provision of support services to beneficiaries. Because of inherent political difficulties and high cost of implementing the land transfer program, the target hectareage will not be met by the end of 1998, the ending date of the Program.

Certain provisions of the agrarian reform programs, as well as its slow implementation have increased distortions in land markets with unintended negative effects.

- * Share tenancy was made illegal, even if such labor-land market arrangements may be efficient and a means for landless households to step up the agricultural ladder.
- * Under PD 27, when the land reform was confined to rice and corn, land owners were discouraged from growing these crops in areas where intercropping of rice or corn with coconut or other crops have been traditionally practiced.
- * Weak controls and lack of national land-use or zoning policy have allowed the premature conversion of agricultural land use to non-agricultural purposes induced by CARP.
- * Prohibition of land sales even after land reform has been effected eroded collateral value of land in the formal credit market constraining investments, which is particularly

detrimental for those for investments in land development and tree crop farming, and cultivation of non-traditional crops requiring more cash inputs.

- * The linking of CARP implementation to provision of support services lowers efficiency in delivery of such services, as short-term, subsidy types of instruments tend to be funded, rather than long-term productivity-enhancing public investments.

Public Expenditure Policy

Because of the unique features of agriculture and natural resources that cause market failures, public expenditures for increasing productivity, improving market efficiency, and protecting the environment are required to maintain and enhance the country's competitive advantage. Public expenditures, however, have also been aimed at improving the unequal distribution of income, landownership, and access to forest, fishery, and other natural resources. Oftentimes, public expenditures for price subsidies, concessional credit programs, and other types of subsidies are justified on the basis of mitigating the penalties imposed on agriculture by other economic policies, particularly price intervention policies. More recently, significant public resources have also been spent on the rehabilitation of natural resources -- forests, coral reefs, mangroves, etc. -- to reverse the rapid deterioration of the ecosystem.

Trends Over Time

Public expenditures for agriculture and natural resources in real terms quickly recovered in the late 1980s, after bearing the brunt of contractionary policies in the early 1980s (Fig. 7). After reaching a peak around 1990, it began to decline and recovered again in 1995. As a proportion to GVA and total public expenditures net of debt service, public expenditures for the sector was already moderately high at 6% to 7% in 1987 and about 10%, in 1995. However, Fig. 8 shows much of that recovery in public expenditures were allocated to the strengthening of

natural resources and environmental management and rehabilitation of forest and fishery resources; they also went to rice price stabilization and redistributive purposes, namely the agrarian reform program; and much less to productivity enhancing investments. Irrigation, the single largest item of public expenditures between 1974 and 1984 (close to half of agricultural public spending and 20% of total infrastructure budget), dropped sharply about the mid-1980s, and continued to decline gradually into the 1990s.

Allocation By Purpose

A disaggregation of public expenditure for agricultural and natural resources between 1987 and 1994 is reported in Table 13. Close to one-fourth of public expenditure has been allocated for natural resource and environment, mostly for forest rehabilitation and protection. Fisheries, accounted for only about 15% of that allocation. Beyond that, public expenditures for agriculture (crops and livestock) have been mostly for redistributive purposes, with little regard for their productivity impact. The agrarian reform program accounted for about one-fourth of total expenditures. Although about half of that was spent on support services, most of the so-called support services are also redistributive in nature i.e., subsidies for credit programs and inputs, cooperative development, etc. The budgetary allocation for the National Food Authority (NFA) responsible for rice price stabilization constitutes nearly 10%, and this can easily increase to 12% if the cost of market regulations in other agencies are included.

Only about 30% to 40% of public expenditures for the sector (representing about 3% of gross value added of crops and livestock) have been allocated for productivity-enhancing expenditures which the market will fail to provide. Agricultural research or technology generation, in particular, is severely underfunded with public expenditures representing only 0.3% of gross value added in contrast to an average of 1% among developing countries and 2%-3% among developed countries (Pardey et al. 1991). Indeed, total public expenditure for technology

generation of the Departments of Agriculture, Environment and Natural Resources, and Science and Technology as well as state colleges and universities is only about half the budgetary allocation for the NFA.

Public expenditures for agriculture continue to be disproportionately in favor of the rice sector (about half) which presently accounts for less than 15% of gross value added of the sector. Aside from the budgetary allocation for irrigation and price stabilization, rice dominates expenditures for extension, land redistribution, credit programs, and subsidies for seeds, fertilizers, farm machineries, and post-harvest facilities. Yet, the transition problems encountered with the introduction of modern rice technology in the late 1960s and the implementation of land reform in rice in the mid-1970s that would have justified subsidies for credit and modern inputs are long over. With respect to production credit for rice, traders, millers, and input dealers have successfully replaced land owners and rural banks as the major sources of credit. In fact, interest rates from these informal sources of production credit are about the same as those charged by cooperatives, the conduit for government-supported credit programs (IAS 1995).

Budgetary allocations for the exportable agricultural subsector have been quite meager in comparison with the 20% implicit tax indirectly imposed by the overvaluation of the exchange rate. An exception is the major effort to address the falling productivity of the coconut industry by financing fertilization and replanting through a foreign-funded program. Whereas the distribution of subsidized fertilizer was on schedule, however, very little progress has been made on the replanting program where public support is most needed. Because of uncertainties about land reform, land owners hesitate to make long-term investments; they prefer to convert land use to non-agricultural purposes thereby avoiding the land reform program.

There has also been very little effort, thus far, to address the problem of declining competitive advantage of major import-competing commodities, particularly corn and sugar

through productivity-enhancing public expenditure programs. While irrigation investment may not be socially profitable for these commodities, technology generation in sugar and corn is clearly underfunded. Budgetary allocation for sugar research has been only about 0.5% of its contribution to gross value added, and for corn, it has been minuscule at about 0.1%.

Summary and Conclusions

Overall, the policy and institutional framework continue to be a constraint in achieving sustainable growth of the agricultural sector and thus to an efficient path to food security. While price intervention policies have become more favorable to the sector, these have been achieved by increasing protection of major import-competing commodities and reducing implicit tariffs on inputs rather than reducing disincentives on exportable commodities caused by distortions in exchange rates. Thus, improvements in agricultural incentives have occurred at the cost of greater inefficiencies in resource allocation arising from widening distortions in prices within agriculture, and between agriculture and agro-processing. Higher food prices have also had adverse effects on equity because a greater majority of the rural and urban poor are net buyers of the highly protected food commodities. And the high and wide dispersion of tariffs among close substitutes promote rent-seeking. Technical smuggling of cattle and wheat, for example, will intensify given the large differential tariff between breeders and ordinary live cattle and between feed wheat and wheat for food.

The wide distortions of prices within agriculture is particularly detrimental not only to the growth and employment objective of the whole economy, but of the agricultural sector itself. Because supply of land which is a major input in agricultural production is essentially fixed, artificially raising profitability of rice, corn, and sugar increases the cost of land for other crops. Consequently, competitive advantage of exportable agricultural commodities in the world market

is reduced indirectly. Corn is the single most important input to the hog and poultry industries, whose potentials for growth are high and whose contributions to gross value added in agriculture and labor and land productivities are even higher than corn. The high corn price policy has hindered the international competitiveness of the hog industry (still consisting mostly of small, backyard producers), as studies have showed the country's comparative advantage in hog production (Gonzales and Perez 1991).

The very high protection of sugar hurts not only the consuming household, but also the food processing industry, which accounts for 40% and 20% of manufacturing value added and employment, respectively. In contrast to sugar which is clearly import-competing and for which domestic consumers have to pay about twice as much as world price, the food processing industries heavily using sugar as an input has greater export potential. At least 25% of domestic production of processed vegetables, fruits, chocolate, and sugar confectioneries are exported.

The excessively high protection of a number of food commodities have had adverse effects on equity because a great majority of the rural and urban poor are net buyers of the highly protected food commodities. High food prices also put pressure on wages as evidenced by the clamor for increasing minimum wages resulting from the food price-induced inflation in recent years. High wages labor-intensive manufacturing industries less competitive in relation to the low wage-cheap food economies such as Vietnam and China.

The inefficiencies caused by price intervention policies are not only through the distortions in incentives but through the choice of policy instruments. Continued use of quantitative trade restrictions rather than tariffs promotes rent-seeking, reduces government revenues, incurs significant bureaucratic cost, and introduce price uncertainties. And recent policy changes in response to the WTO agreement seems to have exacerbated rather than mitigated such problems.

While the property rights policies both for public and private lands are well-intended as environmental and equity objectives, slow implementation and certain provisions that limit these property rights in terms of length of tenure and transferability have inadvertently had negative effects. Land market transactions have been greatly hindered, incentives for long-term investments lowered, collateral value of land eroded, and land conversions from agricultural to non-agricultural uses accelerated.

Although public expenditures for agriculture has recovered in the late 1980s, after bearing the brunt of contractionary policies in the early 1980s, much of that recovery was allocated for redistributive purposes (agrarian reform and market subsidies) and strengthening of natural resource and environmental management, rather than on long-term productivity-enhancing investments to reverse the declining competitive advantage of the sector. The continued use of quantitative trade restrictions have not only limited the generation of tax revenues, but dissipated scarce government resources on the high cost of administering market regulations, particularly NFA operations. Agricultural research in particular has been severely underfunded with public expenditures representing only 0.3% of gross value added in agriculture in contrast to 1% among developing countries and 2-3% among developed countries. Budgetary allocations have also continued to be disproportionately in favor of the rice sector, with very meager allocations to other major commodities such as corn and others. On the other hand, public investments for market infrastructure also continue to favor large urban centers particularly those close to Metro Manila.

The issue is not only the level of public expenditure and its allocation, but equally important are the inefficiencies caused by weaknesses in the bureaucracy in terms of organizational structure, incentive problems, transitional difficulties with devolution, and instability in leadership. In particular, the fragmentation of the research and development system,

as well as the weak linkage between research and extension have failed to promote technological development in many key commodities especially corn, coconut, sugar and other traditional crops. Moreover, the weak planning, political factors, and excessive graft and corruption have lowered effectiveness of public investments in market infrastructure.

Although performance and government management of agriculture indicate a bleak picture, recent economic and political developments may induce and/or ease the adoption of policy and institutional reforms. First, the substantial devaluation of the exchange rate presents an opportunity to reduce the major distortions in market incentives. Since the border price in pesos of import-competing commodities will increase by 30-40%, the high import tariffs of major agricultural commodities may be reduced significantly without lowering nominal prices. In this way, the relative output prices with the sector will be less distorted, benefiting the exportable commodities where the country has a comparative advantage, as well as the hog and poultry industries hurt by the high rates of protection on corn and its substitutes. Furthermore, as the out-quota and in-quota tariffs on major import competing commodities equalize, the use of quantitative trade barriers would have been truly abolished (except for rice) minimizing bureaucratic cost and rent-seeking. And as trade liberalization continue to proceed and the macroeconomic management of short-term fluctuations of foreign capital and borrowing inflows improve in response to the current economic crisis, the overvaluation of the exchange rate that generally hurt agricultural incentives will be reduced.

The weaknesses in the property rights structure in land are much more politically difficult to resolve. However, the Congressional Commission on Agricultural Modernization has recently passed a law that substantially increase the budgetary allocation for agriculture. This increase was specifically allocated for productivity-enhancing investments, particularly irrigation and research and development. During the deliberations of this Commission, the organizational and other

institutional weaknesses of the government bureaucracy involved in agricultural were also recognized. And a second bill is to be submitted in the next Congress with the purpose of streamlining the bureaucracy to enhance the efficiency in the provision of the necessary support service to the sector.

References

- Anderson, Kym, Hayami, Y. and others. 1986. The Political Economy of Agricultural Protection: East Asia in International Perspective, Allan and Unwin: Sydney.
- Anderson, Kym. 1994. "Food Price Policy in East Asia," Asian-Pacific Economic Literature, Vol. 8 (2) p. 15-30.
- Bale, Malcolm and E. Lutz. 1981. "Distortions in Agriculture and their Effects: An International Comparison," American Journal of Agricultural Economics, Vol. 63, No. 1 pp. 8-22.
- Bautista, Romeo. 1987. "Production Incentives in Philippine Agriculture: Effects of Trade and Exchange Rate Policies." Research Report No 59, Washington: International Food Policy Research Institute.
- Bautista, Romeo and A. Valdes (eds.). 1993. The Bias Against Agriculture: Trade and Macroeconomic Policies in Developing Countries, ICS Press, San Francisco.
- Clarete, Ramon and J. A. Roumasset. 1983. "An Analysis of the Economic Policies Affecting the Philippine Coconut Industry," Working Paper No. 83-08, Makati: Philippine Institute for Development Studies.
- David, Cristina C. 1983. "Economic Policies and Agricultural Incentives," Philippine Economic Journal, Vol. 11.
- David, Cristina C. 1996. "Food Policy: Its Role in Price Stability and Food Security," Paper presented at the Annual Conference of the Philippine Economic Society, Makati City.
- David, Cristina C. 1996. A Agricultural Policy and the WTO Agreement: The Philippine Case, @ Paper presented at the Conference on food and Agricultural Policy Challenges for the Asia- Pacific, Manila. Oct. 1996.
- De Dios, Emmanuel S. and Associates. 1993. "Poverty, Growth and the Fiscal Crisis", Philippine Institute for Development Studies and International Development Research Center, Makati City.
- Gonzales, Leonardo and N. D. Perez. 1991. "The Economics of Hog and Poultry Production" in M. W. Rosegrant and L. A. Gonzales. The Corn-Livestock Sector: Performance and Policy Implications, IFPRI and Philippine Department of Agriculture.
- Hathaway, Dale and M. Ingco. 1995. "Agricultural Liberalization and the Uruguay Round" in The Uruguay Round and the Developing Economics, WB Discussion Paper Number 307, ed. by W. Martin and L. Alan Winter.

- Institute of Agrarian Studies. 1995. "Agrarian Reform Beneficiaries Performance Monitoring and Evaluation System." University of the Philippines at Los Baños.
- Intal, Ponciano; M. Lamberte; C. David; M. Austria; C. Cororaton; E. Medalla; and V. Pineda. 1996. "The Emerging World Trading Environment and Developing Asia: The Case of the Philippines." Asian Development Bank.
- Intal, P.S. and J.N. Power. 1991. "The Philippine", in Krueger, A. O., et al. (eds.). The Political Economy of Agricultural Pricing Policy. Baltimore and London: The Johns Hopkins University Press.
- Johson, D. Gale. 1991. World Agriculture in Disarray (2nd ed.), St. Martins Press, New York.
- Lamberte, Mario. 1995. "Managing Surges in Capital Inflows: The Philippine Case," Journal of Philippine Development, Vol. 22, No. 1, Makati: Philippine Institute for Development Studies.
- Lindert, Peter H. 1991. "Historical Patterns of Agricultural Policy" in Timmer, C.P. (ed.) Agriculture and the State: Growth, Employment, and Poverty in Developing Countries, Ithaca and London: Cornell University Press.
- Medalla, Erlinda, et al. 1995. "Philippine Trade and Industrial Policies: Catching Up with Asia's Tigers," Philippine Institute for Development Studies, Makati City.
- Pardey, P.G., J. Roseboom, and J.R. Anderson. 1991. "Regional Perspectives on National Agricultural Research" in P.G. Pardey, J. Roseboom, and J.R. Anderson (ed.). Agricultural Research Policy: International Quantitative Perspective, Cambridge University Press.
- Tan, Norma. 1979. "The Structure of Resource Flows in the Philippine." in R. H. Bautista and J. H. Power, ed., Industrial Promotion Policies in the Philippines, Makati: The Philippine Institute for Development Studies.
- Tyers, Rodney and K. Anderson. 1992. Disarray in World Food Markets: A Quantitative Assessment, Cambridge University Press.
- Winters, L. Alan. 1995. "Implications of the Uruguay Round Agreements: Critical Issues and Adjustment Requirements." in Implications of the Uruguay Round Agreements for the Asian and Pacific Region. United Nations, New York.

Fn: taiwantx.wpd
ccd-4/15/98

Table 1. Average growth rates of agriculture gross value added and agricultural exports in selected South and Southeast Asia countries (%).

	1970-80		1980-90		1990-94	
	Agricultural gross value added	Agriculture export	Agricultural gross value added	Agriculture export	Agricultural gross value added	Agriculture export ^d
Philippines	4.9	14.6	1.0	-4.6	1.4 ^b	3.2
Indonesia	2.0	20.0	4.9	4.7	4.3	6.8
Malaysia	6.5	19.3	3.8	3.1	2.4	2.4
Thailand	4.2 ^a	21.2	3.9	4.9	2.4	3.6
India	1.8	14.6	3.2	0.8	2.4	2.8
Pakistan	3.0	13.8	4.3 ^c	3.2	3.5	-5.4
Nepal	0.8	-2.9	2.7	0.7	0.4	8.4
Bangladesh	1.4	2.6	1.9	-1.5	2.6	-2.9
Sri Lanka	1.8	9.7	2.1 ^e	0.03	2.1 ^e	-8.1

^a Refers to 1972-80.

^b Refers to 1990-95.

^c Refers to 1981-90.

^d Refers to 1990-93.

^e Refers to 1990-93.

Source of basic data: ADB Key Indicators, various issues.
FAO SOFA 1995.

Table 2. Agriculture's share in total imports, exports, and ratio of its share in imports to exports (%).

	<u>Shares</u>		<u>Imports</u> <u>Exports</u>
	<u>Imports</u> (1)	<u>Exports</u> (2)	
1960	19	64	31
1965	21	63	36
1970	14	44	34
1975	10	54	26
1980	8	35	31
1985	9	26	46
1990	10	15	96
1993	9	13	101

Table 3. Trends in revealed comparative advantage in agriculture and selected major agricultural exports.^a

	Agriculture ^b	Coconut	Sugar ^c	Banana	Pineapple (canned)
1960	3.0	-	-	-	-
1965	2.7	131.8	15.3	-	-
1970	2.6	145.0	21.4	-	-
1975	3.8	211.2	22.0	29.3	-
1980	2.9	224.1	12.1	30.4	82.2
1985	2.4	212.3	7.6	31.2	91.6
1990	1.5	210.8	3.8	23.3	69.7
1995	1.2	181.2	1.5	13.8	40.5

^a Estimated as the ratio of the share of a commodity group in a country's exports to that commodity group's share of world exports.

^b Includes fisheries.

^c Note that sugar has been historically exported to the US typically at a premium price (i.e., higher than world prices). Hence a value greater than unity in this case does not reveal comparative advantage. However, the sharp declining trend may still be interpreted as a rapid deterioration in comparative advantage.

Except for 1960 and 1995, all are 3-year averages centered at year shown.

Table 4. Growth rates of gross value added in agriculture by crops and livestock (including poultry), agricultural employment, cultivated land, and crop area.

	<u>Gross value added in agriculture</u>			Labor	<u>Land</u>	
	Total	Crop	Livestock		Cultivated	Crop
1960-1965	5.0	5.0	5.0	2.4	0.9	1.4
1965-1970	3.2	3.5	2.1	2.4	0.9	2.1
1970-1975	6.4	7.6	1.5	2.4	3.0	4.0
1975-1980	5.9	5.0	5.4	3.8	3.0	2.4
1980-1985	0.3	-0.6	2.0	3.9	1.4	0.7
1985-1990	3.4	1.8	8.5	0.2	1.4	0.2
1990-1995	2.4	1.6	4.8	2.1	1.4	-0.5

Table 5. Growth rates of labor and land productivity of the crops and agriculture (crops and livestock incl. poultry) sectors (%).

	Agriculture			Crops		
	Labor	Land		Labor	Land	
		Cultivated	Crop		Cultivated	Crop
1960-1965	2.5	4.1	3.5	2.5	4.1	3.5
1965-1970	0.8	2.3	1.1	1.1	2.6	1.4
1970-1975	3.9	3.4	2.3	5.1	4.6	3.4
1975-1980	2.1	2.9	3.4	1.3	2.0	2.6
1980-1985	-3.5	-1.1	-0.4	-4.4	-2.0	-1.3
1985-1990	3.2	2.0	3.2	1.6	0.4	1.7
1990-1995	0.3	1.0	2.9	-0.5	0.2	2.0

Table 6. Growth rates of gross value added (at constant prices) of palay, corn, corn, coconut, sugar, banana, other crops, livestock and poultry, 1960-1996 (%)

	Palay	Corn	Coconut	Sugar	Banana	Other Crops	Livestock	Poultry
1960-65	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1965-70	4.3	5.8	0.8	6.6	7.1	2.7	1.8	3.1
1970-75	3.6	6.5	6.6	7.3	10.3	11.3	0.4	4.9
1975-80	4.9	4.2	3.2	-1.6	15.4	6.4	1.6	13.4
1980-85	2.7	2.7	-0.8	-3.7	-0.5	-2.9	2.5	1.3
1985-90	2.8	3.5	-9.4	-1.5	-5.2	5.1	7.2	10.4
1990-95	2.6	-1.1	0.6	2.9	0.3	1.7	3.6	6.5
1995-96	7.0	0.6	-1.5	20.8	-0.4	1.9	6.6	11.3
1996-97	-0.1	4.3	5.9	-10.0	2.6	5.1	5.2	8.0

Table 7. Selected estimates of the degree of real exchange rate overvaluation, Philippines (%).

	Intal & Power ^a	Medalla & Associates ^b
1960-61	24	
1962-66	19	
1967-69	23	
1962-69		45
1970-74	20	12
1975-79	27	
1975-80		30
1980-82	28	
1989		26
1992		21

^a Intal, Ponciano, and J. H. Power (1991). "The Philippines" in A. O. Krueger et al., Political Economy of Agricultural Pricing Policy, Baltimore and London: The Johns Hopkins University Press.

^b Medalla, Erlinda, M. (1995). Philippine Trade and Industrial Policies: Catching Up with Asia's Tigers, Philippine Institute for Development Studies, Makati City.

Table 8. Trends in nominal protection rates of major agricultural commodities, 1970-1995 (%).^a

	1970-79	1980-84	1985-89	1990-94	1995	1996	1997
Rice	-4	-13	16	19	68	65	49 (17) ^c
Corn	24	26	67	76	127	69	105 (62)
Sugar ^b	5	42	154	81	104	113	60 ()
Coconut products							
Copra	-17	-28	-6	0	0	0	0
Coconut oil	-4	-4	7	18	10	5	0
Desiccated coconut and copra cake and meal	-4	-4	0	0	0	0	0
Bananas, pineapple, tobacco, abaca	-4	-4	0	0	0	0	0
Pork	6	-9	43	31	44	na	na
Chicken	34	46	39	74	84	na	na

^a NPR is the percentage difference between domestic wholesale price and border price converted by the official exchange rate. The border price is an FOB export unit value for exportable products and the world price adjusted by 15% as a measure of CIF import unit value for importable products. In the case of pork and chicken, the CIF import unit value of Singapore was used.

^b Weighted average of NPR on sugar exported to the US (ratio of export unit value to the US to the border) price and NPR on sugar for domestic use (ratio of domestic wholesale price to border price). Border price is the FOB world price of sugar adjusted by 15% to obtain the CIF price.

^c Figures in parenthesis refers to December 1997, assuming exchange rate of ₱37=\$1.

Table 9. Trends in implicit tariffs on agricultural inputs, Philippines, 1970-1995 (%).

	Fertilizer ^a		Pesticide ^b	Tractors ^b		Threshers ^{bc}	Water pumps
	Urea	Ammophos		2 wheel	4 wheel		
1970-74	-13	-9	29	21	21	24	46
1975-79	28	54	35	46	24	24	46
1980-84	21	19	35	46	24	24	46
1985-89	11	15	20	30	10	30	30
1990-94	5	12	16	28	10	22	24
1995	5	na	3(10) ^d	10	10	20	10

^a Based on price comparisons, i.e., percentage difference between ex-warehouse price and CIF import unit value.

^b Based on book rates. Implicit tariff from 1960-84 includes the import tariff and advance sales tax (10% and 25% mark-up). The advance sales tax was abolished in 1986 and hence the implicit tariff from 1985 onwards include only the tariff rate.

^c Includes also other farm implements.

^d Figure in parenthesis refer to insecticides and the 3% refer to herbicide, fungicide and other agricultural chemicals.

Table 10. Estimated effective protection rates by major sectors (%).

	Agriculture, fishery, and forestry	Manufacturing	All sectors
Tan			
1974	9.0	44.0	36.0
Medalla et al.			
1983	10.3	79.2	52.8
1985	9.2	74.1	49.3
1986	5.0	61.2	39.8
1988	5.2	55.5	36.3
Manasan (preliminary)			
1993-95	24.4 (28.1)	29.1	26.7
2000	19.1 (25.9)	19.2	18.4

Source: Tan, Norma A. 1979. "The Structure of Protection and Resource Flows in the Philippines," in Bautista, R. M., et al. Industrial Promotion Policies in the Philippines, Philippine Institute for Development Studies, Makati.

Medalla, Erlinda, et al. 1995. Catching Up With Asia's Tigers. Philippine Institute for Development Studies, Makati.

Manasan, Rosario G. (forthcoming). Assessment of Tariff Reform in the 1990s.

Note: Figures in parenthesis refer to crops and livestock only.

Table 11. Nominal protection rates, book tariff rate, and GATT binding tariff and minimum access requirements for 1995 and 2005.

	NPR 1990-1994	EO 470 1995 (%)	Binding tariff		Tariff (%)	Minimum access	
			1995	2005		Quantity (000 mt) 1995	2004
Rice	19	50	na	na	50	59.73	238.94
Corn	76	20	100	50	35	130.16	216.94
Sugar	80	50	100	50	50	38.43	103.40
Coffee		50			50	.06	.06
Garlic		30	100	40			
Onions		30	100	40	30	1.61	2.68
Potatoes		30	100	40	50	930	1550
Cabbage		30	100	40	30	2.10	3.51
Pork	31	30	100	40	30	32.52	54.21
Poultry meat	74	50	100	40	50	14.09	23.49
Beef		30			30	4.00	5.57
						<u>000 heads</u>	
Live hogs					30	2570.00	2570.00
Live poultry					40	5708.12	9513.54
Cattle					30	12.20	20.34

Table 12. Trends in loans granted to agriculture in real terms (1985 prices) and as percentages of gross value added in agriculture and total loans granted.

	Agricultural loans (₱million)	Agricultural loans as % of	
		GVA	Total loans
1970	24,196	33	12
1975	30,882	29	6
1980	53,480	47	9
1985	28,050	26	8
1990	25,774	21	6
1993	27,054	21	2

Except for 1960 and 1993, all years are three-year averages centered at year shown.

Table 13. Distribution of public expenditures for agriculture and natural resources by policy instruments, 1987-1994 (₱million)

	1987-94	1994
Agrarian Reform	32,775 (26)	5,179 (24)
Land Acq'n Dist'n	16,204	3,272
Support Services	16,571	1,907
Natural Resources and Environment	28,602 (23)	4,805 (23)
Fishery	4,240	697
Forestry/others	24,362	4,108
Agriculture	67,675 (51)	11,575 (53)
Irrigation (NIA)	15,600 (12)	1,704 (8)
Price stabilization (NFA)	11,746 (9)	2,765 (13)
Research	5,074 (4)	985 (5)
Extension	9,497 (7)	2,014 (9)
Coconut development	2,082 (2)	368 (2)
Livestock	1,826 (1)	467 (2)
Others	21,850 (17)	3,272 (15)
Total	129,052	21,559

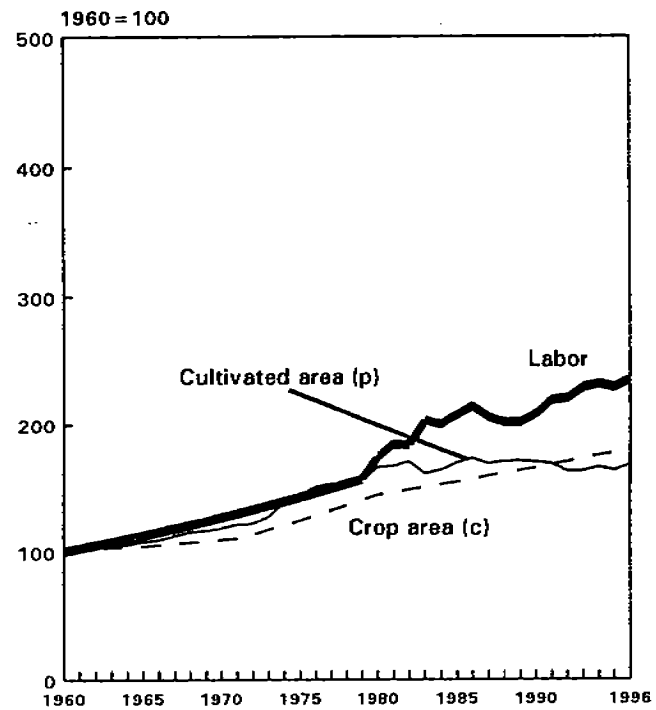
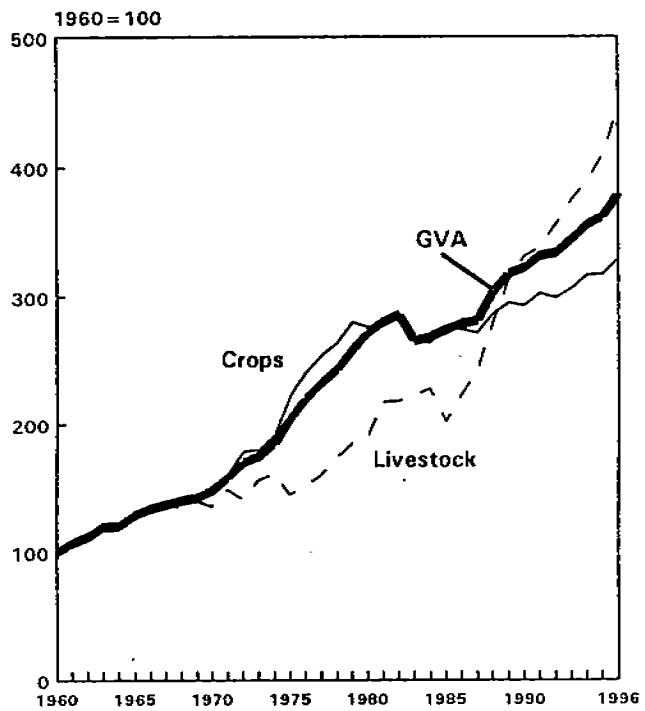


Fig.1. Trends in real gross value added in agriculture by crops and livestock (incl. poultry agricultural labor), cultivated land and crop area, 1960-1996.

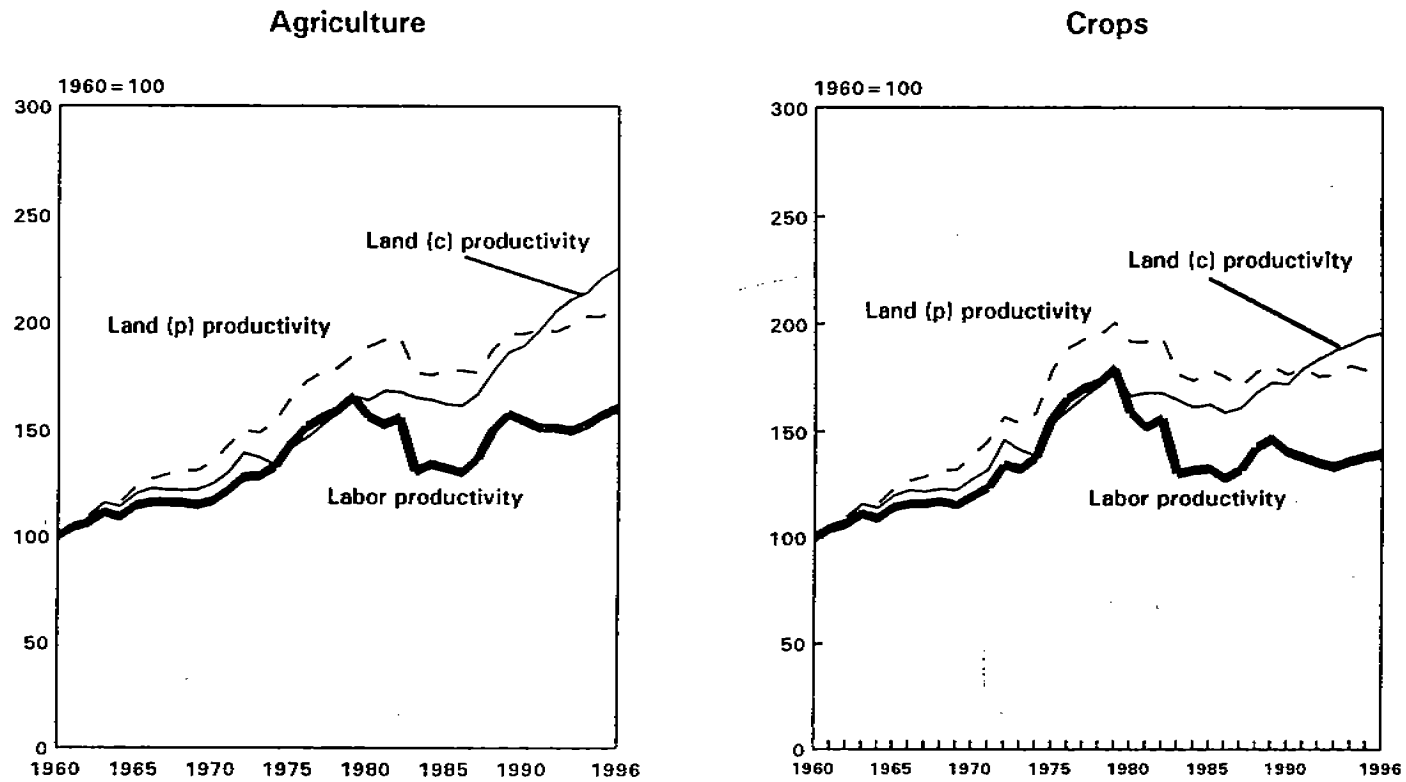


Fig.2. Trends in labor and land [cultivated area (p); crop area (c)] productivity for the crop and agriculture (crops and livestock incl. poultry) sector, 1990-1996.

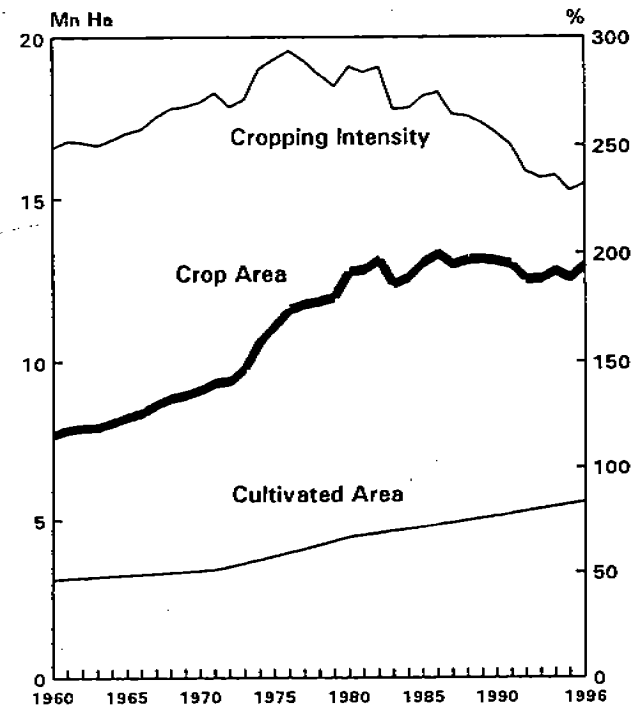
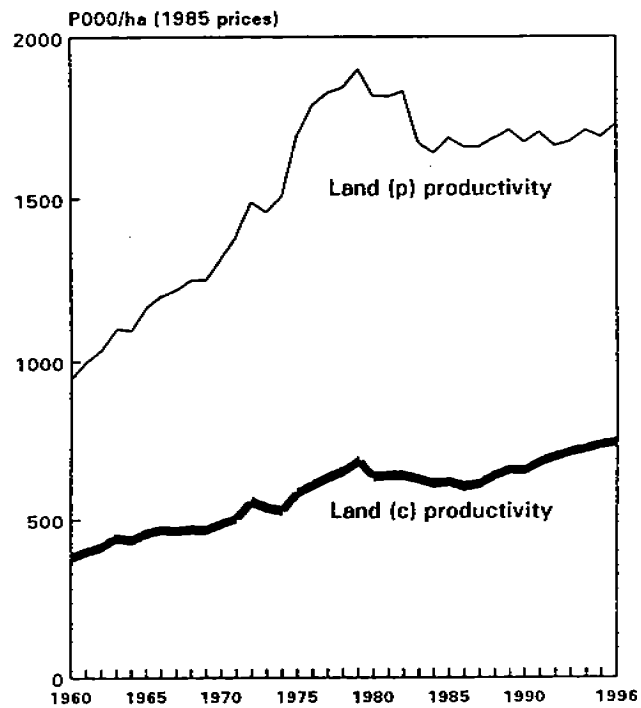


Fig.3. Trends in cultivated land, crop area, cropping intensity, and land [cultivated (p); crop area (c)] productivity of the crop sector, 1960-1996.

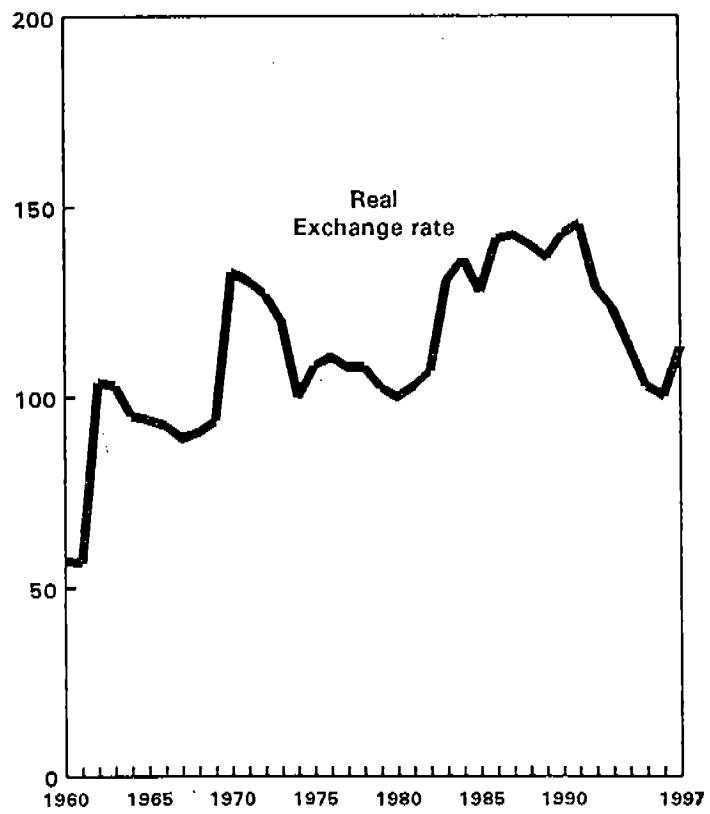


Fig.4. Trends in the real exchange rate, 1960-1997.

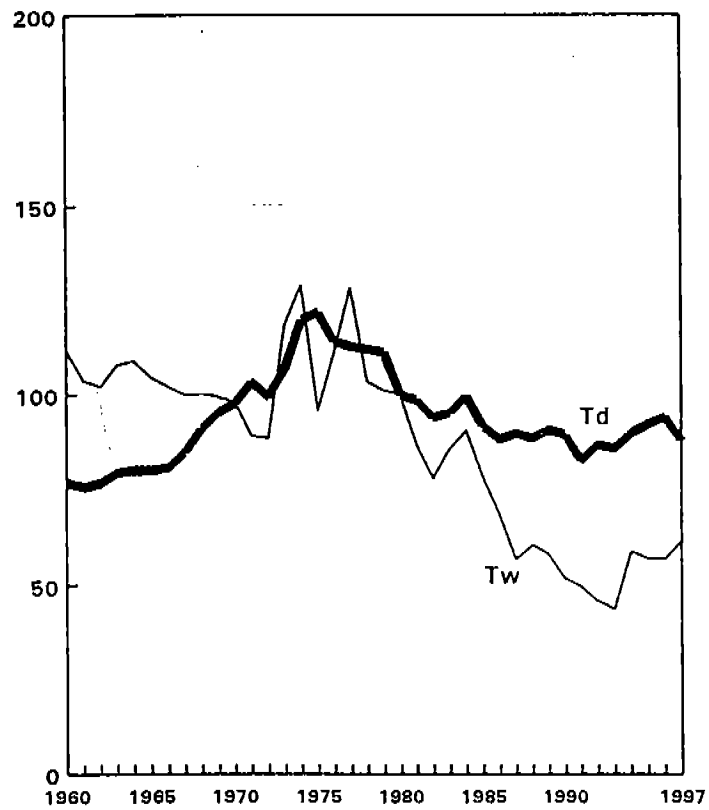


Fig.5. Trends in the real world (Tw) and domestic (Td) agriculture/non-agriculture terms of trade, 1960-1997.

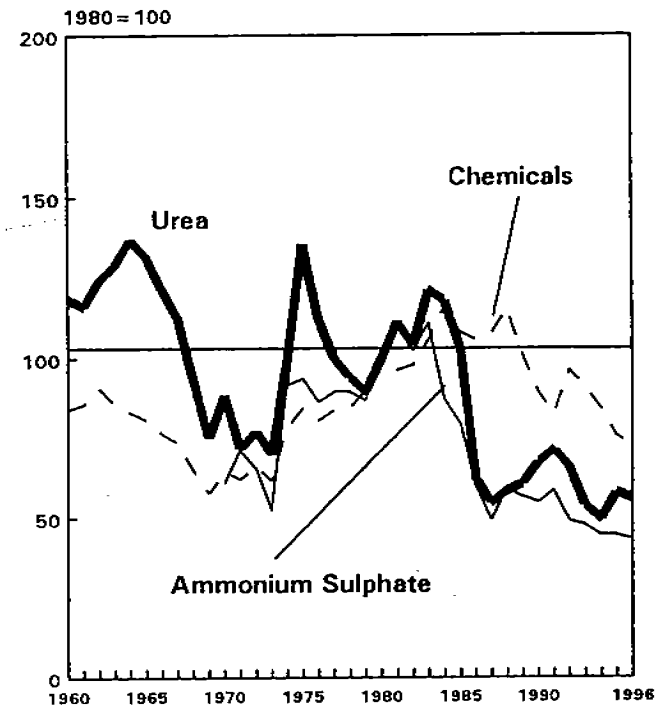
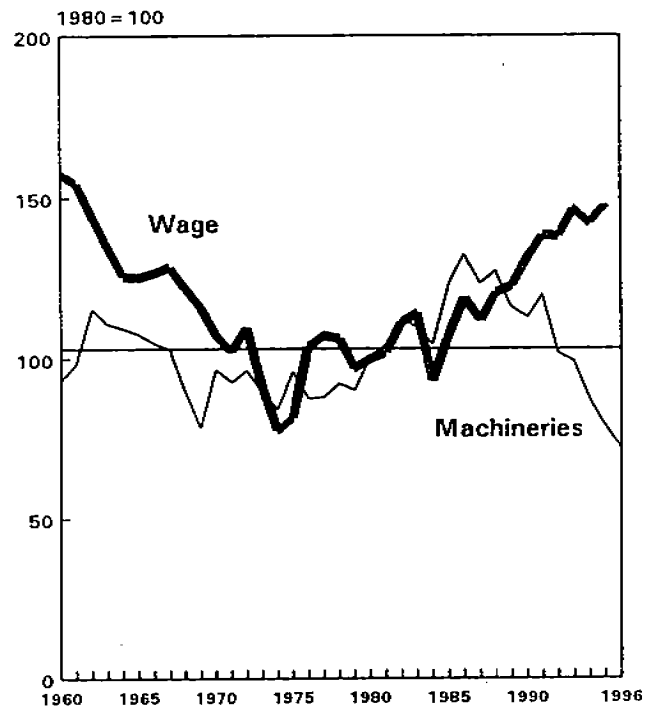


Fig.6. Trends in index of real wage, and retail prices of urea, ammonium sulphate, machineries, and chemicals, 1960-1996.

* deflated by GVA deflator

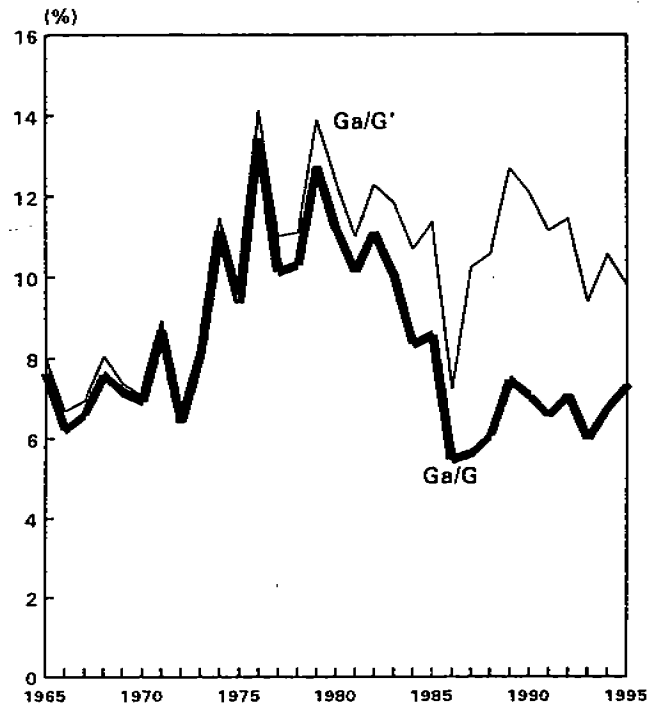
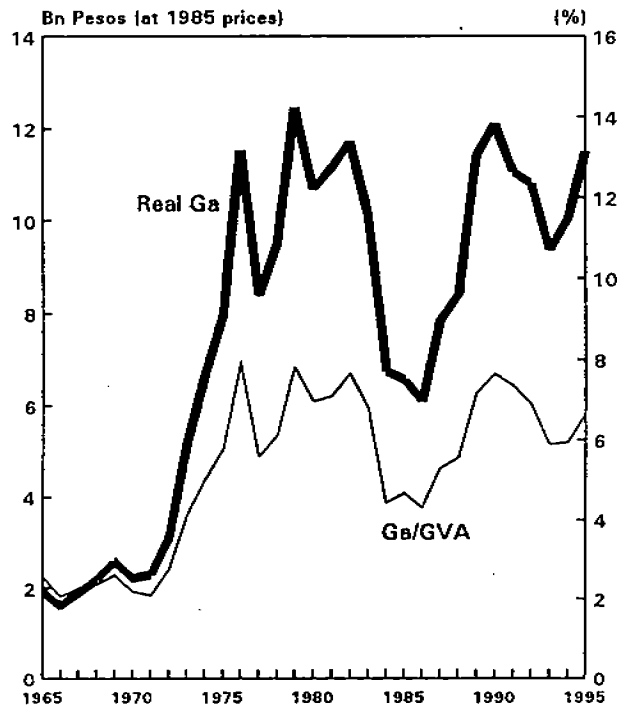


Fig.7. Trends in real government expenditures in agriculture (Ga), its ratio to gross value added in agriculture (GVA), total government expenditures (G), and G less debt service (G').

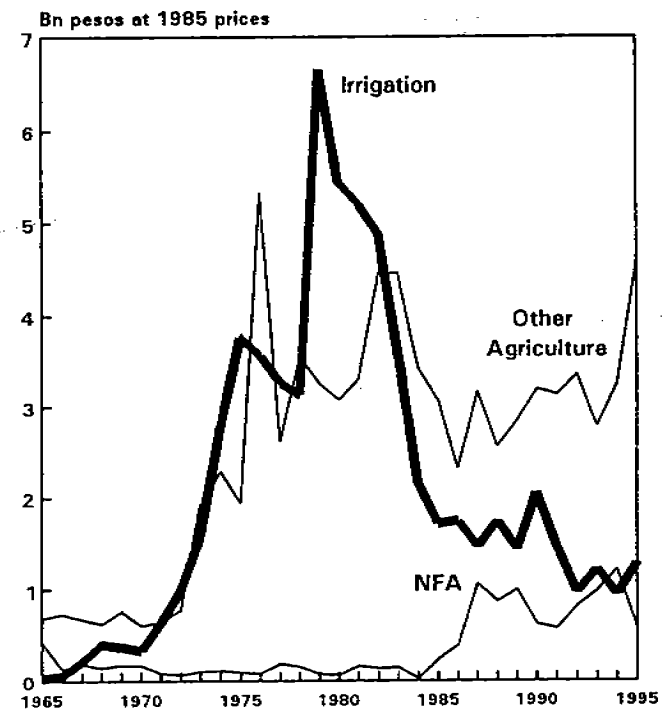
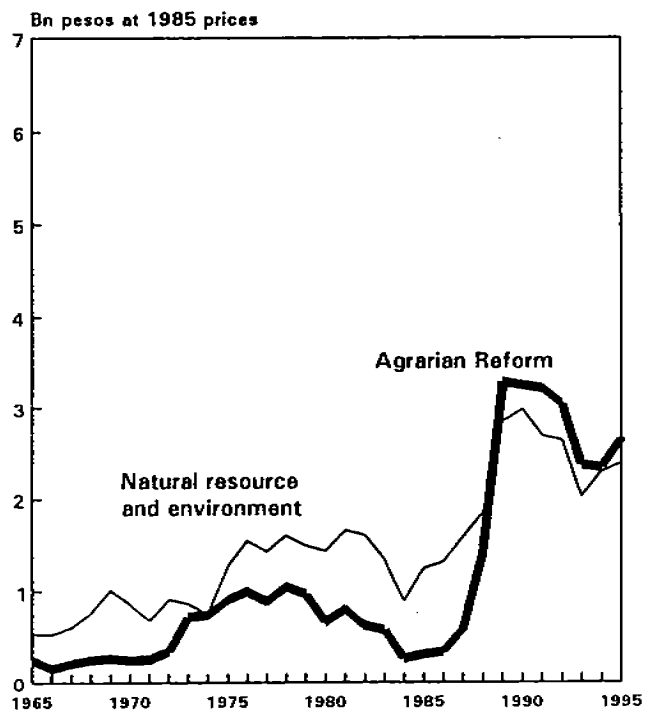


Fig.8. Trends in real government expenditures in agriculture by policy instrument.