Philippine Agriculture over the Years: Performance, Policies and Pitfalls[1]

Cielito F. Habito and Roehlano M. Briones[2]

Introduction

Although many still think of the Philippines as an agricultural economy, strictly speaking, it is not. Agriculture, fishery and forestry directly account for just one-fifth (20 percent) of the economy's aggregate domestic output (GDP). Ever since the 1960s, the direct share of agriculture in the GDP had fallen below one-third, and by 1981, the sector's share had decreased to only 23 percent. Growth from this level was rather anemic, averaging 1.7 percent per annum during the period 1981-2003, compared to the average overall GDP growth of 2.6% over the same period. While agriculture output was largely stagnant through the years, industry and especially services significantly raised their output shares, particularly in the past two decades (**Figure 1**).

Agriculture's importance looms larger when it comes to employment, with nearly two-fifths (i.e. 37 percent) of jobs currently coming from the sector. Still, the services sector accounts for close to half of both output and jobs in the economy. But if one considers agro-processing and agricultural inputs manufacturing and trading (i.e. agribusiness sectors) along with basic agricultural production, about 40 percent of GDP and two-thirds of jobs in the economy arise from agriculture (Tolentino et al. 2001). Unfortunately, agriculture also displays the most erratic growth among the economy's major sectors, with growth rates tending to fluctuate widely from quarter to quarter (**Figure 2**). The sector's recent growth performance manifests the same volatility. While the sector's full year real GDP growth performance was well within the target for 2004 and exceeded the preceding year's performance, the most recent quarters have seen dramatic slowdowns from previous quarters, due mostly to unfavorable weather conditions.

Notwithstanding these challenges, the critical role of the agriculture sector in a country's overall economic development as stylized in economic development literature is well known. First, it provides food and vital raw materials for the rest of the economy. Second, it provides a significant market for the products of the non-agricultural economy, as buyer of farm inputs as well as consumer goods and services produced in the non-agricultural economy. And third, as the sector grows and modernizes in the face of limited supplies of

---

[1] Paper presented at the conference entitled "Policies to Strengthen Productivity in the Philippines," sponsored by the Asia-Europe Meeting (ASEM) Trust Fund, Asian Institute of Management Policy Center, Foreign Investment Advisory Service, Philippines Institute of Development Studies and the World Bank, held in Makati City, June 27, 2005.

[2] Professor of Economics and Director, Ateneo Center for Economic Research and Development, Ateneo de Manila University; and Senior Fellow, Brain Trust Inc. and Former Postdoctoral Fellow, World Fish Center, respectively.

agricultural land, it releases surplus labor to the industry and services sectors. With 70 percent of the country's poor coming from the rural areas where agriculture is the dominant source of livelihood and employment, the importance of agriculture to the Philippine economy cannot be overemphasized. Thus, the Medium Term Philippine Development Plans (MTPDPs) of successive administrations have consistently recognized the critical importance of energizing and modernizing the agricultural sector in the overall pursuit of a vigorous and broad-based economic growth and development. But as we discuss below, success with this goal has continued to be elusive.

This paper reviews the trends in the Philippine agricultural sector's performance, and relates these to the policy environment within which the sector has operated through the years. The next section specifically examines the trends in production and productivity of the sector. The evolution of the policy environment that has influenced such performance is then reviewed in the following section. The last section identifies the pitfalls that have hampered investments in the sector and stifled growth in the agribusiness industry, and ends with a general indication of the needed interventions to overcome the sector's current hurdles.

Production and Productivity Trends

Labor productivity. Up until the 1970s, the Philippines' agricultural performance, in terms of both agricultural Gross Value Added (GVA) and agricultural exports, compared well with its neighbors and other Asian countries (**Figure 3a**). But by the 1980s and 1990s, the country had lagged behind most of the countries in the region (**Figures 3b** and **3c**). This came as agricultural output growth had slowed down dramatically through the decades (**Figure 4**). Moreover, the sector's growth had been rather erratic in the 1990s, especially with the periodic occurrence of the El Niño phenomenon that had appreciable impact on weather patterns and, consequently, agricultural performance.

Table 1 shows the average annual growth in GVA of major agricultural commodities since 1960. What is clear from the table is that growth rates of all commodities, except for livestock and poultry, have been slowing down over time. Furthermore, growth rates have been below the population growth rate, implying that production has not been able to keep up with increasing population.

Erratic and decelerating growth over the past two decades is a major concern, as agriculture continues to employ a large bulk of the country's poor. Balisacan (2003) estimates that in 2000, the poverty incidence in agriculture was 46 percent, the highest among the major sectors (with the exception of mining). It also contributed 61.3 percent to population poverty, far exceeding the next biggest sectors (construction, at 7.7 percent, and the unemployed, at 7.3 percent).

Employment in agriculture has been stagnant, even as overall employment continues to grow at a rate of about 2.4 percent per year from the 1990s onward (**Figure 5**). Hence,

while agriculture employed 36.4 percent of the labor force in 2003, this is now much lower than the 44 percent employed a decade earlier. This exit of employment out of agriculture has helped keep labor productivity in agriculture growing at modest rates, roughly on par with the growth rate in total employment (**Figure 6**). In common with other countries in Southeast Asia, such as Thailand and Indonesia, migration from the agriculture to non-agriculture sectors has been driven by wage differentials across sectors, although weakness in employment absorption in the other sectors has constrained the convergence of labor incomes (Butzer, Mundlak and Larson 2003).

Despite the mediocre growth of labor productivity, the 1990s actually was a period of mild recovery for the sector, after sharply declining in the 1980s. Closer examination reveals that within agriculture, labor productivity has stagnated in the crops subsector. The observed growth was therefore probably due to increasing productivity in livestock and poultry, where use of improved technologies and increasing scale of production considerably improved production efficiency (David 2003).

Nevertheless, labor productivity in Philippine agriculture compares favorably with other developing countries (**Figure 7**). The Philippines' labor productivity remains far ahead those of large, populous countries such as China and India; it is also greater than the neighboring Southeast Asian countries of Vietnam, Indonesia, and even Thailand. However labor productivity lags behind countries with higher per capita incomes, such as Malaysia, Brazil, and Chile. Moreover, some of the low productivity countries (China, India, and Vietnam) have experienced a more rapid labor productivity growth in the 1990s. It may be noted that the low growth rate of labor productivity reckoned in US$ in the 1990s is probably due to the depreciation of the exchange rate, as the Philippines was one of those hit by the currency crisis of the late 1990s.

Land productivity. It is not very meaningful to discuss land productivity by highly aggregated agricultural categories. To maintain focus given the large number of agricultural commodities, data is presented here only for the top five major crops in terms of production and area, namely rice, corn, coconut, sugarcane, and banana. Coconut and sugarcane are traditional exports, while banana is a nontraditional export.

The yield performance of these major crops follows a checkered history starting from the 1960s (**Table 2**). The growth rate of rice yield was fastest in the 1960s, and slowed down in the 1970s as the Green Revolution technology diffused and neared 100 percent adoption. However, contrary impressions notwithstanding, rice productivity growth picked up again in the 1980s before its recent slowdown. Corn follows a similar pattern: rapid growth in the 1960s, a slowdown in the 1970s, before picking up again subsequently. Unlike rice, however, corn has kept its yield growth fairly steady, with the spread of hybrid yellow corn, the concentration of corn in productive areas, and the withdrawal of marginal land from the subsistence farming of white corn (David 2003).

A more detailed look at production, area, and yield trends for the 1990s is provided in **Table 3**. Only corn and sugarcane have witnessed production declines from 1992-2003; the

rest have grown at a decent pace. For example, rice production rose from 9.5 million metric tons (MT) to 14 million MT. Part of this production growth is due to growth in area planted: for each crop, hectarage has increased over the last decade. The marked exception is corn, whose area has fallen quite rapidly over the period.

In the 1990s, the growth in area was, however, mostly outpaced by the output growth, due to yield increases. The significant exception is sugarcane; even corn, whose output and area fell, saw a respectable increase in yield over the period. Interestingly, coconut experienced yield growth quite late relative to the others, i.e. in the 1980s. This, however, coincided with an area decline, combined with overall production growth, signifying withdrawal from marginal lands and increased yields from productive areas. Sugarcane followed suit, with yield growth happening in the 1990s, although this was quickly reversed by the following decade. In the case of bananas, the period of rapid yield growth occurred in the 1970s, followed by a marked downturn, and a robust recovery in recent years. David (2003) points out that yield growth has also been observed in other nontraditional exports such as pineapple and mango. Such growth in yield may also be due to the adoption and spread of agricultural innovations (e.g. introduction of chemical spraying in mango), which may have started off in the larger commercial operations, then diffused among smallholders (e.g. in the case of pineapple).

It should be pointed out that agricultural modernization is not confined to cereals, despite the popular association between modernization and the Green Revolution technologies. Balisacan (1993) pointed out that production growth did not primarily originate from rice; over the period 1960-1980, rice contributed only 16 percent of the growth in agricultural GVA. It was the fruits and vegetables sector, particularly export crops such as banana, pineapple, and coffee, which contributed over one-half of agricultural GVA growth.

Comparisons with international experience suggest that the country is an average performer in terms of land productivity. According to Rosegrant and Hazell (2000), from 1967 to 1995, yield growth in developing Asia averaged 3.3 percent per year, with the highest growth experienced by China, Indonesia, Pakistan, and Vietnam. The lowest growth performance occurred in Nepal; the Philippines is somewhat in the middle. As in Indonesia, Korea, Malaysia, Sri Lanka, and Thailand, yield growth in the Philippines coincided with the period of the Green Revolution. In the South Asian countries, yield growth accelerated in the 1980s. The same is true for Vietnam, when the country initiated a regime of agricultural liberalization.

Marginal productivity. All the foregoing are average measures of productivity. A more accurate picture of productivity change is found at the margin: in fact, average productivity is useful only as a crude approximation of marginal productivity. Measuring marginal productivity, however, requires more sophisticated statistical methods.

A common application of marginal productivity analysis is growth accounting. Abstracting from measurement errors and random shocks, total output growth can be

decomposed into the growth of factors of production, and the growth of total factor productivity (TFP). Depending on the framework, the last term can be broken down into technological change and improvements in production efficiency. Mundlak et al. (2004) present a disaggregated breakdown of productivity growth (**Table 4**). For the Philippines, growth in agricultural output was fairly steady up to the 1970s, then declined sharply, partly due to the deceleration in input growth. However the decline in TFP growth is also a critical part of the story behind agricultural stagnation. The share of TFP growth was fairly significant (over a quarter of output growth) up to the 1970s, but then subsequently fell to less than 10 percent.

Meanwhile, for Thailand and Indonesia, overall growth was fairly robust, and seems to have been driven to a great extent by large and consistent growth of total factor productivity. For Thailand, TFP accounts for about a third of growth, with the greatest contribution happening in the 1970s. In Indonesia, TFP accounts for over 40 percent of growth, and in fact reaches near parity with factor growth by 1998.

FAO (2004) made a cross-country comparison of TFP growth, based on the Malmquist index. The growth rate of TFP can be decomposed into an efficiency component, and a technological change component. For most of the countries, the bulk of growth owes to technological change; only India registered negative growth in efficiency, pulling down TFP growth to negative levels. From 1981–2000, TFP growth has been fastest for China and Chile; on similar clip are Bangladesh, Thailand, Vietnam, and Brazil. The computation for the Philippines is fairly similar to the figure from Mundlak et al, and is quite low relative to other Asian economies.

Cost competitiveness. Cross-country comparisons of farmgate prices of various key agricultural commodities reveal the poor state of Philippine agriculture's competitiveness. Figures 8 to 12 show how Philippine farmgate prices for rice, fresh fruits, beef, pork and chicken meat compare with those of selected Asian countries. With the exception of chicken meat, wherein India has much higher prices, the Philippines consistently has the highest farmgate prices for the above agricultural commodities, indicating lack of price competitiveness in the international trading arena. While higher farmgate prices may at first glance appear to be favorable to Filipino farmers, this ultimately redounds to lower welfare for Filipino consumers. And because lack of international competitiveness constrains the potential for growth in the domestic agricultural enterprise sector, the Filipino farmers – who are also consumers themselves – must ultimately bear the adverse consequences of our inferior agricultural productivity and lack of cost competitiveness.

The Policy Environment

Based on the above discussions, productivity growth in the Philippines by whatever measure comes out to be mediocre, in comparison to both past performance, as well as to contemporaneous performance of other major developing economies.

It is a common observation that the poor performance of the Philippine agricultural sector in recent decades traces not so much to weaknesses in the production sector itself, but to failures and shortcomings in the policy and institutional environment within which the sector operates. This environment has been shaped by price intervention policies (including trade policies), public expenditure allocations, and institutional and governance weaknesses in the sector.

David (2003) argues that the policy regime has not established an appropriate incentive structure for the rapid development of agriculture. With the reversion of price policies towards agricultural protection in the 1990s, the protection favored import-competing rather than export-oriented sectors, thus continuing the regime of distortions, while further eroding the competitiveness of labor-intensive industries (i.e. because of artificially high food prices that raises the cost of wage goods).

The country has also failed to provide adequate quantity and quality of investments in several key areas. Irrigation investments have declined from the 1980s through the early 1990s. Similarly, investments in rural roads and ports have plummeted, significantly raising costs of rural access. Research & development (R&D) is badly underfunded, resulting in research intensity ratios[3] far lower than those in other countries. Moreover, much of the research resources are inordinately focused on rice, several times out of proportion to that commodity's GVA contribution. Agricultural support policies should specialize in expanding credit access and providing extension; instead, scarce resources have funded high-cost activities such as provision of post-harvest facilities, marketing, and credit subsidies, which are probably better off left to the market (Tolentino et al. 2001). A case in point is the tremendous fiscal and deadweight burden imposed by the National Food Authority's activities on rice trade (Roumasset 2000). Another policy with adverse unintended consequences for agricultural investments is land reform. Due to its slow pace of implementation, landowners yet to be subject to CARP have scaled back their investments significantly (Habito et al 2003; Briones 2002), thereby contributing to the overall slowdown in investments in the sector.

Price intervention and trade policies. Prior to and until the early 1980s, analysts argued that overall incentive structures in the Philippine economy had been biased against agriculture (David 1983; Bautista 1987; Intal and Power 1991). The bias was manifested in the overvaluation of the peso arising from the industrial protection structure and macroeconomic policies designed to defend an unsustainable deficit in the balance of payments (David 2003).

Policies undertaken in the mid-1980s began to address the bias, through moves to eliminate quantitative restrictions (QRs) on trade and reduce the level and dispersion of import tariffs. Nonetheless, the overvaluation of the peso persisted and worsened through the early 1990s as the real effective exchange rate appreciated sharply between 1992 and 1996. The result had been to lower the domestic relative prices of tradable agricultural products and raise their relative prices to foreigners, thereby providing a disincentive to exports. It was

[3]Ratio of research expenditures to GDP.

not until the rapid depreciation of regional currencies with the Asian financial crisis of 1997-1998 that the real effective exchange rate reversed its decline (i.e. appreciation of the peso), and underwent a depreciation that began to benefit the tradable goods sector.

Trade liberalization policies in the 1990s consciously aimed at improving the competitiveness of Philippine production sectors, especially the industrial sector, by reducing trade protection and fostering greater competition. In particular, the traditional bias of stronger protection in favor of industry relative to agriculture declined, even as overall trade protection was consciously reduced. Philippine ratification of the WTO Agreement in 1995 set in motion the replacement of all QRs with tariffs, while imposing a ceiling on tariff rates and reducing these over time. In practice, however, effective protection on traded farm products actually increased as the government resorted to "dirty tariffication," that is, having applied tariffs significantly higher than the nominal protection rates implied by the previous QRs. Because of this, the relative rates of protection enjoyed by the agricultural and industrial sectors underwent a reversal. The turning point occurred in 1995, when the EPR for agriculture exceeded that for industry for the first time.

Table 5 shows the evolution of the trade protection structure among the various Philippine economic sectors. Bautista, Power and Associates (1979) came up with the first widely published estimates of sectoral effective rates of protection in the country, for the year 1974. They estimated the EPR for agriculture and the primary resource sectors at an average of 9 percent, only about one-fifth of the estimated 44 percent protection enjoyed by manufacturing. Major agricultural commodities actually had significantly *negative* EPRs, indicating a penalty rather than protection on the sector. These included rice milling (-49 percent), corn milling (-46 percent), coconut including copra (-6 percent), dessicated coconut products (-10 percent), bananas (-6 percent), pineapple (-3 percent), tobacco (-8 percent), and sugar milling and refining (-12 percent). In contrast, manufacturing subsectors enjoyed extremely high rates of protection in 1974, topped by cigarettes (18,758 percent), bakery products (3,371 percent), cocoa and chocolate products (1,750 percent), flour milling (1,148 percent), and household electrical appliances (204 percent), to name but a few.

By 1998, the EPR on manufacturing as a whole had declined to 20 percent based on estimates by Manasan and Pineda (1999). Of the manufacturing subsectors, food processing (including rice, corn, coconut and sugar milling) was the most highly protected, with an EPR of 37 percent, and non-metallic mineral products was the least protected, with an EPR of 4 percent. On the other hand, effective protection of the agriculture sector had risen to 25 percent. By 2000, agriculture was estimated have received 24 percent effective protection, while that for manufacturing had further declined to 15 percent.

Another relevant element in the price intervention policy environment has been government-sanctioned monopolies in the trade of key farm products. Until recently, the government, through the NFA, exercised a monopoly over the international trade in rice and corn while undertaking domestic market interventions aimed at stabilizing prices and narrowing geographic divergences in prices. Similar monopoly powers had been exercised on the international trade of coconut oil, soybean meal, wheat and sugar until 1986. While

efforts to liberalize the trade environment have been undertaken since the late 1980s, the passage of the Magna Carta for Small Farmers (R.A. 7606) in 1991 provided blanket authority for restricting the import of agricultural products that might compete with domestic production. Similarly, the Seed Law (R.A. 7308) regulated the importation of seeds and planting materials.

It is often asserted that the Philippine manufacturing sector grew complacent, became inward-looking and perpetuated inefficiencies and consequent uncompetitiveness due to the relatively high levels of protection it enjoyed in the past. On the other hand, agriculture failed to modernize and achieve significant productivity improvements because it had traditionally been penalized by macroeconomic policies, including the trade protection – or more accurately, "disprotection" – structure described above. In both cases, large deviations in either direction from a "level playing field" kept Philippine producers from attaining international competitiveness, at the time when the country's immediate neighbors had already attained dynamic rates of growth and improvements in productivity.

With agriculture protection having risen significantly in the 1990s even as industrial protection declined, will these trends now lead agriculture into the same pitfall previously experienced by Philippine industry? Will this further perpetuate long-standing weaknesses and inefficiencies in the sector? In the particular case of sugar and sugar milling, now the most highly protected agricultural sub-sector, will this not only spell the final demise of the industry as a major export sector, especially with the loss of the US sugar quota system in 2004 and the eventual need to fully contend with global competition in this commodity?

While it is tempting to answer these questions in the affirmative, the answer can be a qualified 'no'. The difference between the past era of high rates of protection on manufacturing and the current period of relatively high levels of protection on agriculture is that the latter situation is clearly time-bound. This is because multilateral and regional trading arrangements (i.e. WTO, APEC and AFTA) are constantly providing the pressure to reduce trade protection, including and especially on agriculture. The country is likely to need to commit to certain deadlines for bringing down trade protection for agriculture, just as all countries are being asked to do so under the WTO. In the case of the Philippines, it is well acknowledged that the country is now simply "buying time" to be able to put in place meaningful and lasting support needed by the farm sector to be inherently competitive and modernized. This support includes rural farm-to-market roads, irrigation facilities and post-harvest facilities, all of which continue to be highly inadequate to support an internationally competitive agricultural sector. Unfortunately, with the government's current fiscal difficulties, budgetary allocations for these key public investments are unlikely to improve appreciably in the near term.

Public investments in agriculture. The Department of Agriculture (DA) received appropriations totaling P61 billion from 1995 to 1998, 43 percent more than originally projected because Congress consciously supplemented the agency's budget precisely to improve the capability of Government to meet its commitment under the WTO. However, actual allotment only came up to P48.2 billion, while actual utilization reached only P40.4

billion. Meanwhile, the expected contributions from the Asset Privatization Trust, minimum access proceeds, Department of Agrarian Reform (DAR) and Department of Public Works and Highways (DPWH) did not materialize. In essence, only about 55 percent of the total requirement envisioned in the Action Plan was realized.

There are several reasons for the seemingly low compliance to committed budgetary support to agriculture. On the demand side, it was apparent that the over-all requirement was on the high side. At the time the Action Plan was formulated, some projects or expenditure items were still in the conceptual stage such that their budgetary requirements were overstated. Others were eventually deemed of low priority and shelved. On the supply side, the DA and other contributing agencies encountered a number of project development and implementation bottlenecks such as long project preparation process, delays in fund releases and complicated bidding systems. These bottlenecks substantially lowered the absorptive capacity of the sector such that accomplishment would have remained low even if the full requirements of the Action Plan were met.

The following are the areas for which the proposed budget was to have been spent:

1. Irrigation. The National Irrigation Authority (NIA) needed some P27 billion for the construction and repair of regular rice irrigation projects as well as pump projects for diversified cropping. Only about half of this requirement was actually allocated, of which some 85 percent was utilized. This resulted in the rehabilitation of existing facilities that cover some 1.34 million hectares or about three times the target. Newly constructed irrigation facilities for rice, on the other hand, were able to cover some 39 thousand hectares or about 47 percent of target. Also, newly established and rehabilitated pump projects for diversified cropping covered some 2.6 thousand hectares or 30 percent of target.

   On the other hand, the Bureau of Soils and Water Management (BSWM) needed P772 million for small water impounding projects (SWIPS) and shallow tube wells (STWs). It received about P2.1 billion or three times its indicated requirements. This amount was fully utilized for SWIPs and STWs, resulting in the coverage of about 108 thousand hectares, also three times the target.

2. Farm-To-Market Roads. The Action Plan indicated that some P8 billion was needed for the construction of about 8,000 kilometers of farm-to-market roads during the three-year period. Total allotment came up to only about P1.5 billion, of which only P380 million or about 26 percent was utilized. Actual roads constructed only reached 381 kilometers or 10 percent of target.

   The NIA also received some P570 million for the construction of roads in existing National Irrigation Systems (NIS). It was able to utilize 96 percent of the amount, and construct/repair some 2,706 kilometers of roads.

3. Post-Harvest Facilities. Some P762 million worth of grains drying facilities for farmers' cooperatives were included in the Action Plan. About P489 million was actually allocated for mechanical dryers and multi-purpose drying pavements. This amount was fully utilized for some 446 mechanical dryers and 8,103 multipurpose drying pavements.

   The Plan also indicated the need for some P27 million for the construction of 18 bulk storage bins and P820 million for 4 bulk handling systems. These projects apparently received low implementation priority as these were not pursued.

4. Grains Centers. About 799 farm level grains centers (FLGCs), amounting to some P64 million, were considered necessary but only 104 were actually installed. The NFA also planned to build about 260 municipal level grains centers but eventually only built 21 farm-level and 32 municipal level grains centers.

   There were post-harvest facilities, not included in the December 1994 plan, that were also funded during the period 1995 to 1998. These included a total of 200 outdoor storage, 12 in-store dryers, and 1,000 moisture meters.

5. The Agricultural Competitiveness Enhancement Fund. RA 8178 provides that the tariff proceeds of the minimum access volume importation shall accrue to the Agricultural Competitiveness Enhancement Fund (ACEF) and shall be used to finance projects that increase the competitiveness of the sector. However, the relevant revenues for 1995, 1996, and 1997 never accrued to the Fund, basically due to the absence of clear procedures, pre-agreed among the DA, the Department of Budget and Management (DBM), the Bureau of Treasury (BTr), and the Bureau of Customs (BOC), on the documentation and release of these revenues. The guidelines have since been formulated, but no releases had been made even as late as 1999 (Habito et al. 1999).

   Meanwhile the DA had only been able to recommend five projects, worth a total of P101.6 million, for assistance through the Fund. A total of 101 project proposals have been received since 1997. The recommendations were made following DA AO 9 (series 1997), which provided guidelines on what and how projects can avail of the Fund. These guidelines came under scrutiny of the Senate and House Committees on Agriculture and Food in 1998, further delaying processing of other project proposals.

6. Agriculture and Fisheries Modernization. Congress passed the Agriculture and Fisheries Modernization Act (AFMA) in January 1998, spelling out the policies and measures to be implemented from 1999 to 2004 to prepare agriculture and fisheries for the challenges posed by globalization. The Act provided programs on the following:

   - irrigation
   - post-harvest facilities

- other infrastructure
- credit and financing
- information and marketing assistance
- product standardization and consumer safety
- human resource development
- research and development
- extension services
- rural non-farm employment
- trade and fiscal incentives

The Act also provided for the identification of Strategic Agricultural and Fisheries Development Zones (SAFDZs) that shall serve as centers of agriculture and fisheries development, and the formulation of a medium- and long-term comprehensive Agriculture and Fisheries Modernization Plan (AFMP). Both these provisions had not been completed as of late 1999. The identification of the SAFDZs had been delayed by political considerations, i.e. politicians competing for inclusion of their respective areas. This, in turn, held back the formulation of the AFMP, which was additionally hampered by inadequate capability to draft plans at the local levels.

The Act moreover provided that DA shall propose a budget of P37 billion for 1999. This shall consist of P20 billion for the implementation of AFMA on top of DA's regular appropriation that is equal to its 1998 appropriation. However, DA's actual appropriation in 1999 was only P14.7 billion, limited by overall budget constraints.

David (2003) observed that a large proportion of public expenditure in agriculture through the years has been redistributive in nature, financing what are essentially private goods and services, including foreign and domestic grain trading, provision of seeds and planting materials, animals, agro-processing factories, tubewell irrigation, credit, and so on. These procurements have been fraught with overpricing, underutilization, poor quality, and late delivery especially of seeds and planting materials. Credit programs have proved unsustainable due to low repayment rates and high transaction costs. Meanwhile, less than half of public spending on agriculture have gone to productivity-enhancing, public good-type expenditures. Public R&D expenditures, apart from being inordinately allocated to rice at the expense of commodities with great potential for raising sector output, represent only 0.4 percent of GVA in agriculture. This contrasts with the average of 1 percent among developing countries and 2-3 percent among developed countries (Pardey, Roseboom and Anderson 1991).

All told, the level of public investments in agriculture has been well below the actual requirements of the sector, and worse, these have been far from optimally allocated and utilized.

Institutional and governance weaknesses. One of the biggest stumbling blocks to significant progress in the Philippine agricultural sector has been the general weakness and

ineffectiveness of the bureaucracy that is tasked with implementing agricultural development initiatives. Analysts have constantly pointed to the following difficulties:

1. Overcentralization
2. Politicization of the bureaucracy
3. Lack of clear organizational framework
4. Fragmentation/weak coordination
5. Weak technical and managerial capability
6. Unclear communication lines
7. Unstable budget
8. Corruption

It is often remarked that the Philippine government has no shortage of good plans and programs to address various sectoral concerns, like those of the agricultural sector. It is, however, in the implementation of such plans and programs where the failures lie. Thus, governance and bureaucratic reforms, especially in the agriculture bureaucracy and in the local governments, lie at the heart of addressing the age-old constraints to stronger performance of Philippine agriculture.

Challenges and Constraints to Agribusiness

The lackluster performance of the Philippine agriculture sector is not surprising in light of the policy environment and public expenditure situation described above. Relative to neighboring countries, the unconducive domestic policy and institutional environment has hampered investments in the sector, whether at the small farm level or at the commercial farm level. Policies specifically concerned with the agricultural sector, as well as those addressing the larger economy and society, have all conspired to dampen investments in improved agricultural productivity, both from the private and public sectors.

Table 6 summarizes commonly-cited impediments to stronger investments in the sector, both by large-scale enterprises and small and medium enterprises (SMEs).[4] The various impediments identified may be categorized as originating from inappropriate policies (P), weaknesses in policy implementation including inadequate budgetary allocations (I), weak capacities on the part of either government or private enterprises concerned (C), weaknesses in governance, including graft and corruption (G), unfavorable market realities (M), and external factors beyond our control (E), e.g. policies of trading partners. Thus, the desirable interventions to address lack of investments in agriculture may take the form of any of the following: policy reforms via legislation or executive mandates, improved implementation/enforcement of existing policies and programs, capacity-building for the appropriate government or private sector entities, improved governance and control of corruption, appropriate market incentives, or bilateral/ multilateral negotiations.

[4]Derived from Dy (2005) and Habito and Bautista (2005).

Specifying the strategy and specific measures to address the above is beyond the scope of this paper. A separate paper by Rolando Dy deals with a strategic framework for addressing the above challenges, with a view towards invigorating the agribusiness sector out of its current lethargy.

One important trend of strategic significance in crafting the strategy for invigorating the agribusiness sector is worth mentioning here, and that is the rapid increase in demand for horticultural products overseas. Along with an observed shift in East Asia's diet pattern, there has been a rise in the per capita consumption in many East Asian countries of fruits, vegetables, fish, milk, alcoholic beverages, and nuts and oilseeds (**Table 7**). Data also indicate growing importance of horticulture crops (fruits and vegetables) and processed agricultural products in the agricultural trade of OECD countries. Although OECD countries are net exporters of cereals and dairy products, they are net importers of fresh fruits and nuts, processed fruits, fresh and processed vegetables, as well as meat and meat preparations (**Table 8**). Notably, the OECD countries' imports of these products have been growing rapidly, with fruits and nuts being their largest and fastest growing imported agricultural products.[5] Bananas, fresh and dried fruits (including pineapple) and edible nuts comprise the key imported fresh fruits and nuts while fruit juice accounts for half of imported processed fruit. Similarly, OECD imports of fresh and processed vegetables have also grown fast, especially frozen vegetables, dried vegetables and vegetables preserved other than by vinegar.

All these developments point to the strategic significance of efforts to further strengthen the country's existing comparative advantage in horticultural products, especially fruits, vegetables and nuts, or the the so-called "high value crops".

Summary and Conclusions

Data over the past 20 years show an unmistakable trend of deterioration in the performance of the Philippine agricultural sector, which becomes starker when taken against the performance of its neighboring countries in the region. While the picture is not devoid of some bright spots, the general picture remains disturbing, and implies the urgent need for determined corrective action. The required interventions to reverse the sector's decline comprise a mix of policy reforms, improved implementation of existing policies and programs, capacity-building, market reforms, improved governance and strong negotiation with trading partners. These are daunting tasks that government alone cannot undertake.

It is imperative, then, that all concerned sectors – government at the national down to the local levels, the private sector, and civil society – work together to bring about the conditions needed to modernize Philippine agriculture. The crying need is to make Philippine farms efficient and competitive as global competition intensifies into the next

---

[5]OECD (1997), p. 67.

century and millennium, and ensuring that such efficiency and competitiveness translates to the broadest benefits for the Filipino population.

***

References

Balisacan, A., 1993. "Agricultural Growth and Rural Performance: A Philippine Perspective." Journal of Philippine Development 20(2):289-317.

Balisacan, A. 2003. "Poverty and Inequality." *The Philippine Economy: Development, Policies, and Challenges*. A. Balisacan and H. Hill, eds. Ateneo de Manila University Press, Quezon City.

Bautista, Romeo M., John H. Power and Associates. 1984. ***Industrial Promotion Policies in the Philippines***. Philippine Institute for Development Studies.

Butzer, R., Y. Mundlak, and D. Larson. 2003. "Intersectoral Migration in Southeast Asia: Evidence from Indonesia, Thailand, and the Philippines." Policy Research Working Paper 2949, World Bank, Washington, D.C.

Briones, R. 2002. "Agricultural Investments and the Pace of Land Reform." *Loyola Schools eview (Social Sciences Edition)* 2: 29-42.

David, C. 2003. "Agriculture." *The Philippine Economy: Development, Policies, and Challenges*. A. Balisacan and H. Hill, eds. Ateneo de Manila University Press, Quezon City.

Dy, Rolando T. 2005. *Private Sector Investments and Rural Growth.* Manila: World Bank Office Manila.

Food and Agriculture Organization (FAO) of the United Nations. 2004. *State of Food and Agriculture 2004*. FAO, Rome.

Food and Agriculture Organization (FAO) of the United Nations. 2004. *FAOStat Agricultural Data.* http://faostat.fao.org/faostat, February 2004 update.

Habito, C. F., P.S. Intal, B. dela Peña, L. De Dios, C. Cororaton and D. Llorito. 1999. *Farms, Food and Foreign Trade: The World Trade Organization and Philippine Agriculture*. Department of Agriculture.

Habito, C. F., R. M. Briones, and E. S. Paterno. 2003. *Investments, Productivity, and Land Market Impacts of the Comprehensive Agrarian Reform Program* (*CARP*). CARP Impact Assessment Studies vol. 4. Department of Agrarian Reform, Quezon City.

Habito, C. F. and C. Bautista. 2005. "Making SMEs Work, Making SMEs Create Work Job Creation Through Small and Medium Enterprise Development." A joint study by the Financial Executives Institute of the Philippines (FINEX) and the Ateneo Center for Economic Research and Development (ACERD).

Manasan, Rosario and Rosario G. Querubin. 1996. ***An Assessment of the Tariff Reform in the 1990s***. USAID Paper, December.

Manasan, Rosario and Virginia S. Pineda. 1999. ***Assessment of Philippine Tariff Reform: 1998 Update***. AGILE Program Study Report.

Mundlak, Y., D. Larson, and R. Butzer. 2004. "Agricultural dynamics in Thailand, Indonesia, and the Philippines." *Australian Journal of Agricultural and Resource Economics* 48(1):95-126.

Organization for Economic Cooperation and Development. 1997. **The Uruguay Round Agreement on Agriculture and Processed Agricultural Products.** Paris: Organization for Economic Cooperation and Development

Organization for Economic Cooperation and Development. 1999. **OECD Agricultural Outlook 1999-2004.** Paris: Organization for Economic Cooperation and Development.

Pardey, P.G., J. Roseboom and J.R. Anderson (eds.). 1991. *Agricultural Research Policy: International Quantitative Perspective.* Cambridge, UK: Cambridge University Press.

Rosegrant, M., and P. Hazell. 2000. *Transforming the Rural Asian Economy: the Unfinished Revolution*. Oxford University Press, New York.

Tolentino, B., C. David, A. Balisacan, and P. Intal. 2001. "Strategic Actions to Rapidly Ensure Food Security and Rural Growth in the Philippines." In *Yellow Paper II: The Post-Erap Reform Agenda.*

Table 1. Growth Rates of Agricultural GVA by Commodity, 1960-2000 (1985 Prices)

Commodity	1960-70	1970-80	1980-90	1990-2000
Crops	3.9	6.8	0.6	1.2
Palay	4.5	4.7	2.7	1.8
Corn	5.3	5.9	3.5	-1.4
Coconut	2.3	4.9	-4.9	0.6
Sugar	4.8	2.9	-5.3	0.6
Bananas	5.5	15.6	-3	2.1
Others	3.6	9.5	1.1	1.7
Livestock & Poultry	3.2	3	4.7	4.8
Livestock	3.1	0.5	4.9	4.3
Poultry	3.7	9.2	4.4	5.6
Fisheries	6.9	4.5	2.4	1.4
Forestry	5.1	-4.4	-7	-21.5

Source: David (2003)

Table 2: Yield Growth for Major Crops, Annual Average by Decade, 1961-2003

	1961-1970	1971-1980	1981-1990	1991-2003
Rice	4.3	2.6	3.3	1.2
Corn	3.2	1.5	2.8	2.8
Coconuts	-2.6	1.7	4.9	2.8
Sugarcane	0.1	0.8	2.8	-0.8
Bananas	1	13.4	-2.5	3.1

Source: FAOStat (2004)

Table 3. Production, Area and Yield, Major Philippine Crops, 1992–2003

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Production ('000 mt)												
Rice	9,513	9,434	10,541	10,541	11,284	11,268	8,554	11,787	12,389	12,955	13,271	14,031
Corn	4,619	4,798	4,129	4,161	4,345	4,332	3,823	4,585	4,511	4,525	4,319	4,478
Coconut	9,384	11,328	11,207	12,183	11,937	13,708	12,806	12,142	12,995	13,208	13,683	13,700
Sugarcane	28,856	29,748	26,694	24,590	26,592	26,813	26,287	23,780	24,491	28,541	27,203	25,865
Banana	3,005	3,069	3,283	3,499	3,312	3,774	3,493	4,571	4,930	5,061	5,264	5,500
Area ('000 ha)												
Rice	3,237	3,282	3,652	3,759	3,951	3,842	3,170	4,000	4,038	4,065	4,046	4,094
Corn	3,482	3,149	2,692	2,736	2,729	2,726	2,354	2,642	2,510	2,487	2,395	2,485
Coconut	3,077	3,075	3,062	3,064	3,149	3,314	3,731	4,091	3,119	3,120	3,140	3,140
Sugarcane	356	384	402	375	396	352	344	314	395	387	384	391
Banana	321	326	332	322	327	338	328	372	328	387	390	400
Total	10,473	10,216	10,139	10,256	10,551	10,573	9,927	11,419	10,391	10,445	10,356	10,510
Yield (kg/ha)												
Rice	2,939	2,874	2,887	2,804	2,856	2,933	2,698	2,947	3,068	3,187	3,280	3,427
Corn	1,327	1,524	1,533	1,521	1,592	1,589	1,624	1,735	1,797	1,820	1,803	1,802
Coconut	3,050	3,684	3,660	3,976	3,791	4,136	3,432	2,968	4,167	4,234	4,358	4,363
Sugarcane	81,109	77,467	66,463	65,556	67,213	76,177	76,504	75,763	62,013	73,738	70,888	66,135
Banana	9,349	9,428	9,887	10,867	10,131	11,155	10,658	12,282	15,007	13,094	13,499	13,750

Source: FAOStat (2004)

Table 4. Trends in Productivity: Philippines, Thailand and Indonesia, 1961-1998

	1961-1998	1961-1980	1980-1998
Philippines			
Growth rates of output	2.6	3.8	1.4
Shares in growth:			
Factors	90	74	91
Total factor productivity	10	36	9
Thailand			
Growth rates of output	3.4	3.8	3.2
Shares in growth:			
Factors	68	66	73
Total factor productivity	32	34	27
Indonesia			
Growth rates of output	3.4	3.7	3.2
Shares in growth:			
Factors	56	57	51
Total factor productivity	44	43	49

Source: Mundlak et al. (2004)

Table 5. Effective Protection Rates, 1974-2000.

	1974*	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
SECTORAL WEIGHTED AVERAGES		29.4%	31.1%	34.6%	32.2%	30.5%	24.8%	27.3%	22.1%	19.1%	16.8%	14.9%
Agriculture, Fishery and Forestry	9.0%	27.1%	26.5%	29.1%	29.3%	29.8%	28.5%	21.6%	20.9%	18.6%	18.1%	17.2%
Agriculture	<0%	32.0%	32.2%	33.6%	35.0%	36.6%	35.5%	28.6%	26.8%	25.3%	24.4%	23.6%
Fishery	116.0%	17.1%	16.9%	23.6%	20.8%	18.6%	16.1%	9.5%	11.0%	6.2%	6.2%	4.6%
Forestry	-10.0%	17.4%	10.3%	11.2%	10.8%	10.7%	10.2%	2.8%	4.7%	2.9%	2.9%	2.9%
Mining	-13.0%	1.0%	0.2%	1.5%	0.5%	0.6%	1.1%	-1.2%	0.8%	0.3%	0.4%	0.3%
Manufacturing	44.0%	31.9%	34.6%	38.7%	35.1%	32.5%	24.8%	31.1%	23.9%	20.3%	17.3%	14.9%
Food Processing	>1000%	38.2%	44.7%	60.3%	50.7%	44.4%	34.2%	51.4%	41.9%	37.6%	31.8%	28.2%
Beverages and Tobacco	>300%	51.6%	47.1%	49.1%	48.4%	47.9%	48.1%	25.6%	27.6%	16.4%	13.7%	7.9%
Textile, Garments & Footwear	36.0%	25.0%	23.7%	24.1%	21.8%	21.8%	13.1%	12.7%	8.5%	11.1%	9.3%	8.4%
Wood and Wood Products	16.0%	32.8%	18.7%	20.1%	19.2%	19.2%	15.8%	20.6%	22.7%	17.4%	15.7%	10.3%
Furniture and Fixtures	0.0%	21.1%	26.7%	22.7%	19.0%	14.9%	13.1%	14.4%	15.8%	14.2%	10.5%	11.8%
Paper/Rub/Leather/Plast Prods	>200%	32.0%	31.4%	28.7%	26.1%	24.8%	20.5%	19.6%	20.1%	13.3%	11.0%	8.5%
Chemicals & chemical products	35.0%	28.0%	22.5%	21.8%	21.3%	21.4%	14.8%	11.5%	10.4%	7.3%	7.0%	5.8%
Non-metallic mineral products	16.0%	21.9%	32.8%	19.0%	25.8%	27.5%	18.0%	29.4%	5.1%	4.2%	3.8%	3.3%
Basic Metals & metal products	27.0%	22.6%	19.5%	20.1%	19.2%	18.5%	15.2%	13.1%	13.6%	9.4%	8.2%	7.4%
Machinery	30.0%	24.2%	24.0%	23.2%	20.7%	17.2%	11.3%	10.5%	10.8%	8.1%	8.0%	6.3%
Miscellaneous Manufactures	91.0%	20.4%	18.9%	17.8%	16.6%	14.4%	10.2%	10.2%	10.4%	6.0%	5.1%	3.8%

Sources: Bautista, Power and Associates (1984), Manasan and Querubin (1997) and Manasan and Pineda (1999) as compiled and cited in Habito et al. (1999)

Table 6. Impediments to Investments in Agriculture/Agribusiness

FACTOR	DETAILS	NATURE[6]
LACK OF ACCESS TO PUBLIC LANDS	• 60:40 domestic ownership (Section 2, Chapter XII of the Constitution)	P
	• 25 + 25 years of lease (Section 2, Chapter XII of the Constitution)	P
	• Tenurial instruments limit on crop mix	P
	• Frequent changes in forestry policies	P
LACK OF ACCESS TO PRIVATE LANDS	CARP provisions on:	
	• Land ownership ceiling	P
	• Transferability and holding period	P
	• Uncertainties of slow CARP implementation	I
	• Effects of the above on land consolidation and collateral value of agricultural lands	P, I
	• Construction and maintenance of access infrastructure (roads and bridges from farm areas to barangay center to trade center to port)	I
INADEQUATE INFRASTRUCTURE	• Availability of production infrastructure: irrigation, water supply, and reliable power	I
	• Quality of infrastructure (related to regular and periodic maintenance)	I
LOCAL GOVERNANCE WEAKNESSES	• Limited development outlook of LGU officials	C
		G
	• Misuse of IRA	I
	• Lack of cost-sharing by LGU in infrastructure and agriculture projects	I
	• The need for continuity of local policies in spite of frequent elections	M
	• Limited supply of loans for long gestating projects	
LIMITED ACCESS TO LONG-TERM FINANCING	• Lack of appropriate provisions on grace and repayment periods	M
	• No capitalization of interest during the crop gestation period	M

[6] P – government policies; I – implementation weaknesses; C – weak capacity (on the part of either government or private enterprise); G – weak governance/corruption; M – market realities; E – external factors (e.g. policies of trading partners)

Table 6 Continued

LIMITED ACCESS TO TECHNOLOGY	• Lack of funds for R&D • Insufficient access to technology information • Lack of skills to evaluate alternative technologies and to adopt new technologies • Entrepreneurial inertia (lack of perceived need for technology) • Difficulty in meeting government requirements to avail of technical assistance • Inadequate mechanisms for technology transfer from abroad	M I C C C P
LIMITED ACCESS TO RAW MATERIALS	• Inaccessibility of raw materials due to poor transport and communication infrastructure • Increased cost of raw materials due to government policies (e.g. high tariffs on protected agricultural products like sugar) • Instability/unreliability of raw material supplies due to household/backyard production structure	I P M
LACK OF GLOBAL MARKET ACCESS	• Non-tariff barriers on export of banana and pineapples to some countries • Discriminatory tariffs on export of canned tuna to EU • Lack of bilateral fishing rights to support domestic tuna industry (Palau, PNG, FSM, and Kiribati – all Pacific countries) • Inability to respond to increased volume demands (e.g. individualism and unwillingness to team up with competitors) • Lack of quality standardization arising from lack of systems and institutions for assessing and maintaining quality standards	E E E C I
UNSTABLE PEACE (LAW) & ORDER	• Perceived risk to life and property • Theft of agriculture produce and inputs • Tolerance of local officials for lawless elements	I I G
WIDESPREAD CORRUPTION	• Irregular payments to various government agencies	G
WEAK ENFORCEMENT OF CONTRACTS & LAWS	• Favoritism in decisions of government officials • Judicial interference • Weak enforcement of property rights • Organized crime	G G I I,G

Compiled from Dy (2005) and Habito and Bautista (2005).

Table 7. Per Capita Consumption of Horticultural Products in Selected East Asian Countries (Kg)

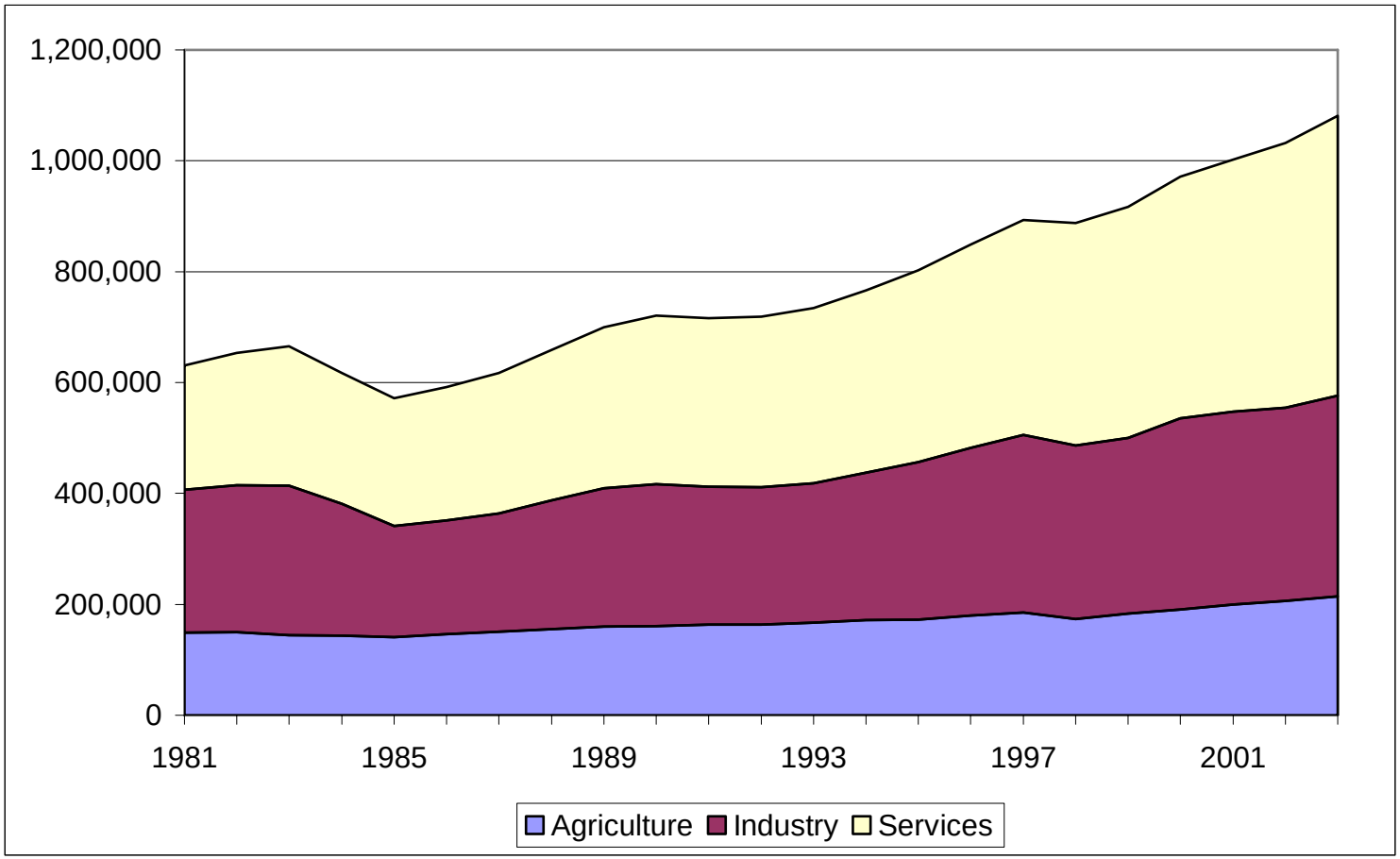
Commodity	Philippines			Korea			Hong Kong		
	1974-76	1984-86	1994-96	1974-76	1984-86	1994-96	1974-76	1984-86	1994-96
Cereals	122	133	128	229	191	166	147	134	117
Starchy Roots	42	39	36	37	20	16	23	18	32
Sweeteners	22	24	30	8	21	34	22	29	34
Nuts and Oilseeds	3.8	4.2	5	10	10	12	8	8	9
Vegetables	63	63	66	136	174	184	85	78	52
Fruit	80	124	113	23	445	89	70	74	103
Meat & Offals	16	16	27	7	19	41	76	100	137
Fish & Seafood	36	34	23	40	47	51	49	46	60
Oils and Fats	5	13	7	4	8	15	16	20	28
Commodity	Thailand			Malaysia			Japan		
	1974-76	1984-86	1994-96	1974-76	1984-86	1994-96	1974-76	1984-86	1994 96
Cereals	157	133	126	156	128	128	142	136	132
Starchy Roots	17	9	7	22	26	26	34	17	35
Sweeteners	13	15	28	31	35	52	28	33	32
Nuts and Oilseeds	16	21	18	18	17	18	10	10	11
Vegetables	41	35	31	18	22	33	111	112	108
Fruit	106	98	101	50	50	52	69	58	58
Meat & Offals	16	20	23	21	31	54	25	36	46
Fish and Seafood	21	20	26	33	46	54	69	69	71
Oils and Fats	2	4	6	12	19	15	11	14	14

Source: FAO Food Balance Sheets 1994-96

Table 8. Per Capita Consumption in OECD Countries of Horticultural Products (Kg)

Products	Imports (US$ B)		Exports (US$ B)		Annual Growth Rate (Percent)	
	1980-82	1990-92	1980-82	1990-92	Import	Export
Fruits and Nuts, Fresh or Dried	7.26	14.87	2.47	4.39	7.4	5.9
Of which						
Bananas, fresh or dried	2.03	4.29		0.05	7.8	31.1
Fruits, fresh or dried, n.e.s.	1.15	3.33	0.56	1.35	11.2	9.2
Fruit Preparations and Preserved Fruits	2.57	6.3	1.02	2.04	9.4	7.1
Of which						
Fruit juices	1.2	3.28	0.42	0.88	10.6	7.8
Fresh Vegetables	2.31	4.67	1.54	2.74	7.3	5.9
Processed Vegetables	1.89	4.24	1.25	2.14	8.5	5.5
Of which:						
Frozen vegetables	0.22	1.01	0.16	0.51	16.6	12.4
Vegetables preserved other than by vinegar	0.91	1.73	0.54	1.03	6.6	6.7

Source: OECD (1997)



Source: National Economic Development Authority.

Figure 1. GDP by Industrial Origin, 1981-1985
(Constant 1985 Prices, Million Pesos)

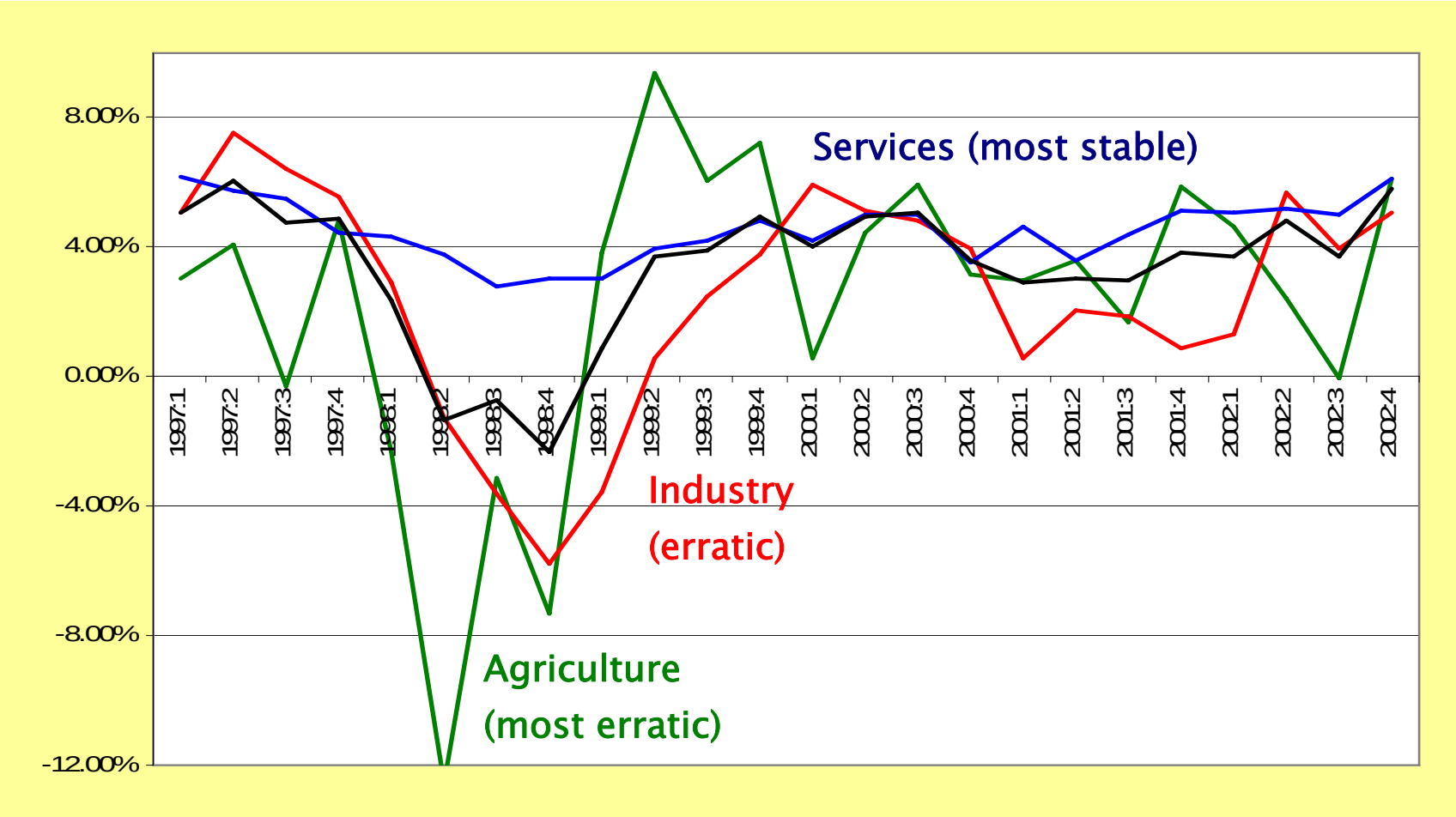


Figure 2. Quarter-on-Quarter Sectoral Growth Rates (Percent)

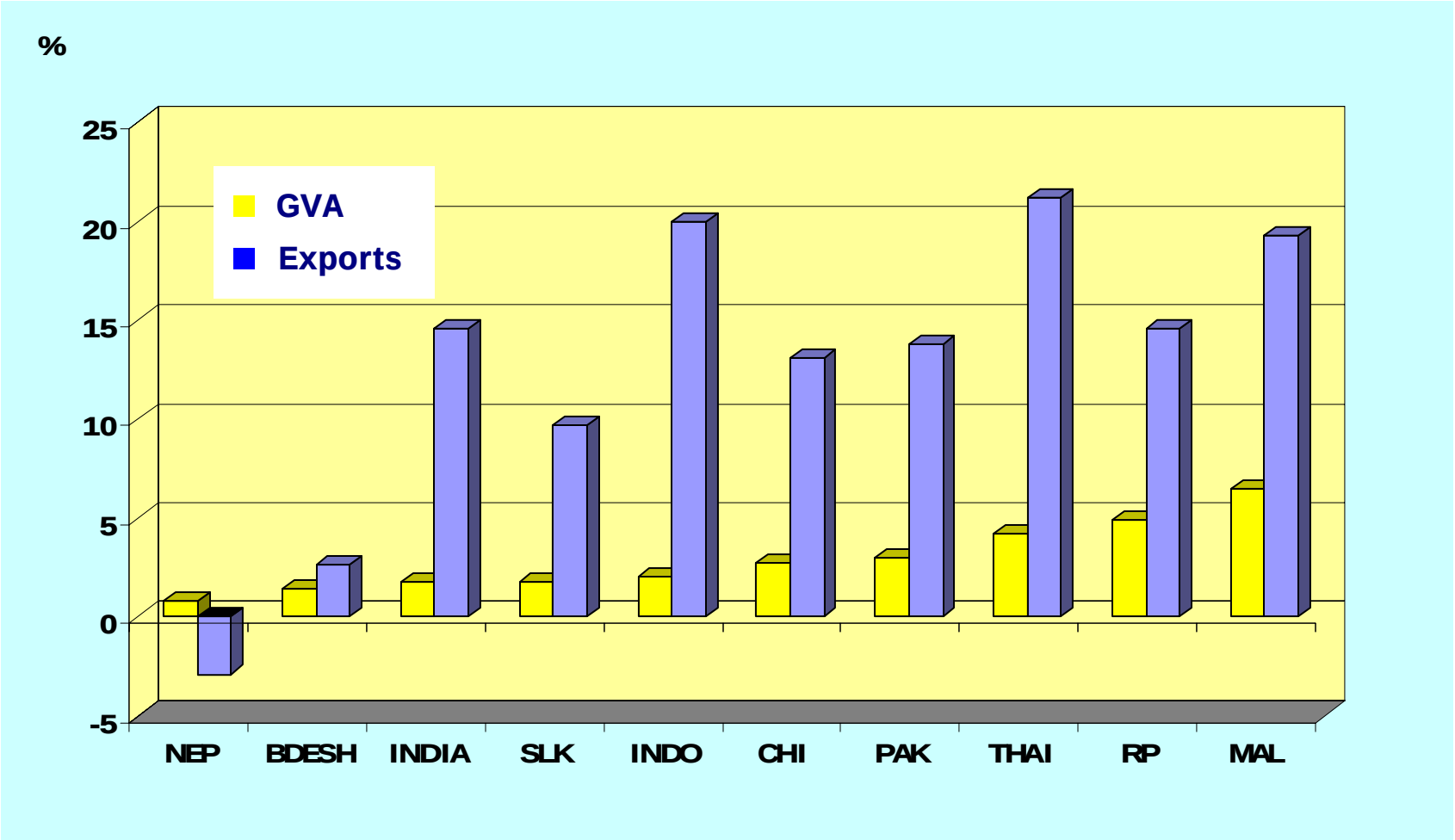


Figure 3a. Agricultural GVA and Exports Growth, 1970-1980

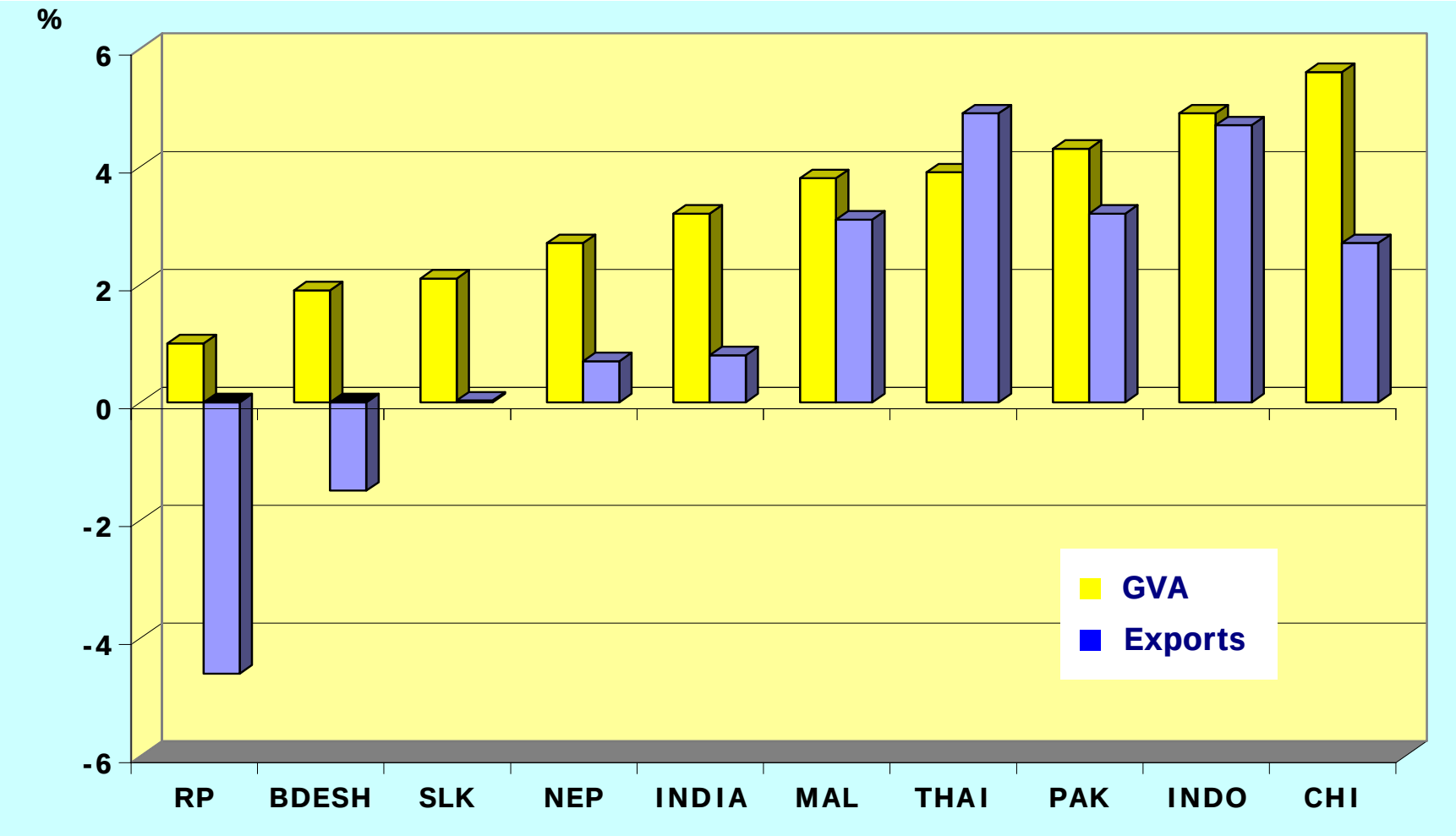


Figure 3b. Agricultural GVA and Exports Growth, 1980-1990

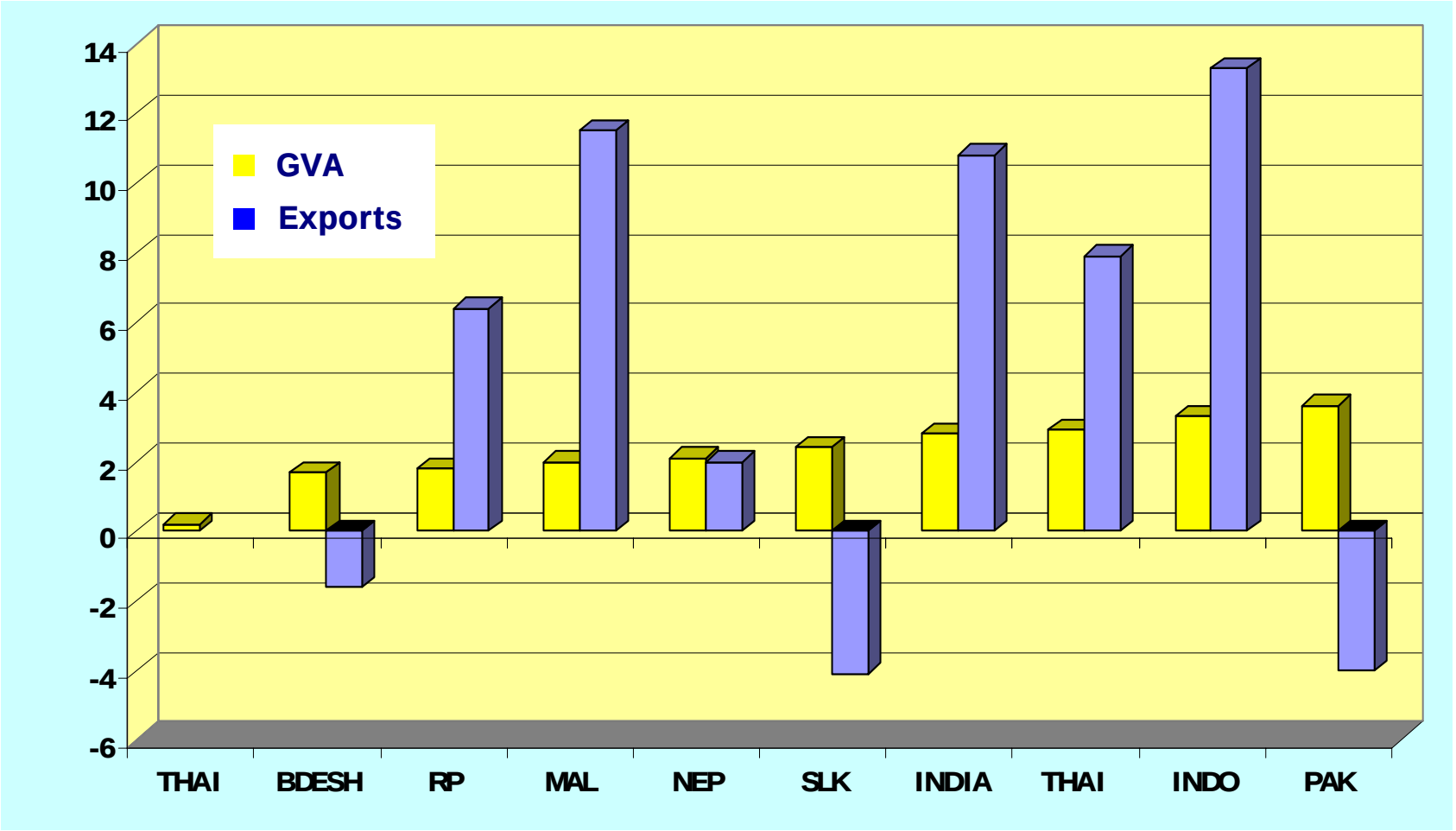


Figure 3c. Agricultural GVA and Exports Growth, 1990-1999

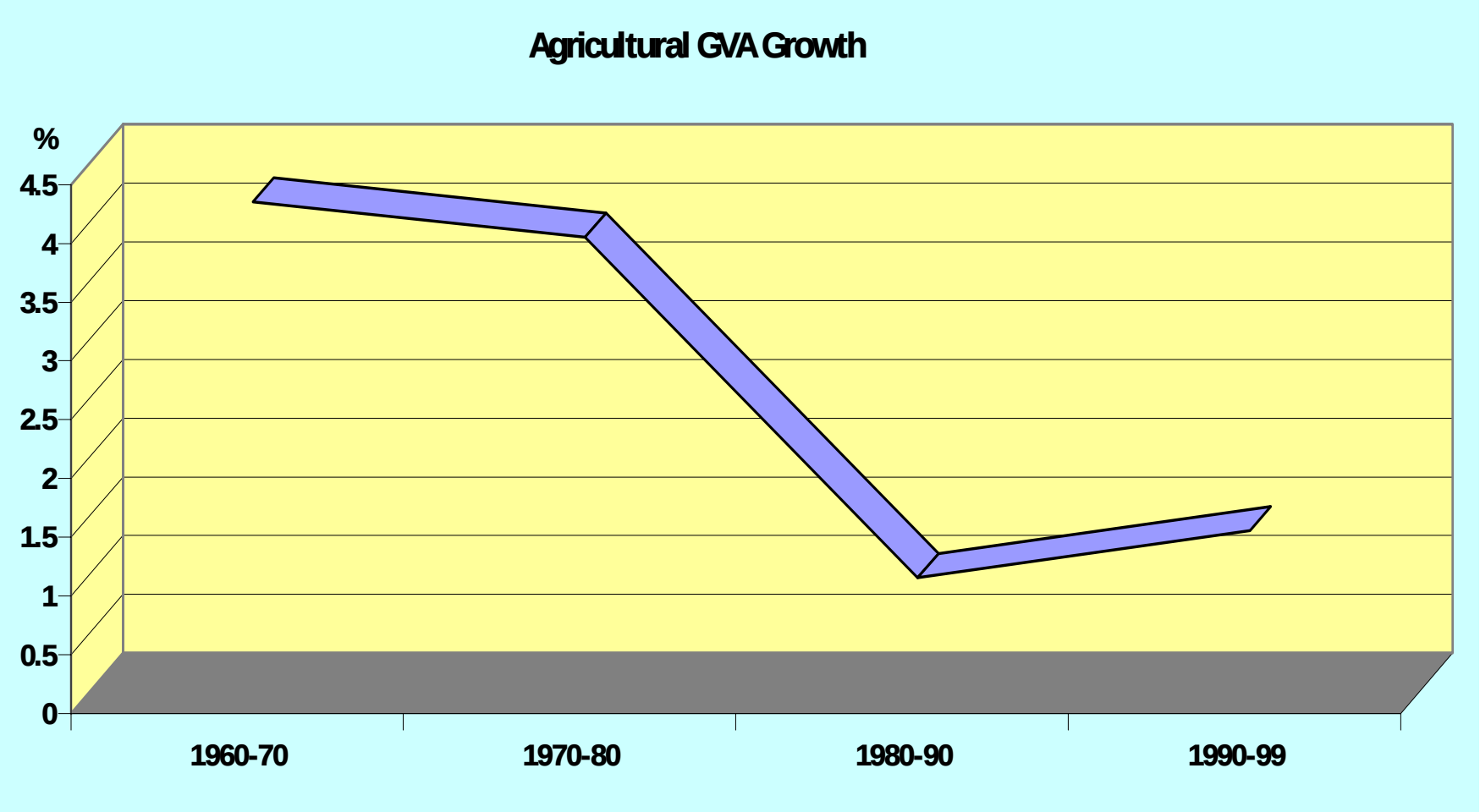


Figure 4. Agricultural GVA Growth Rate, 1960-1999

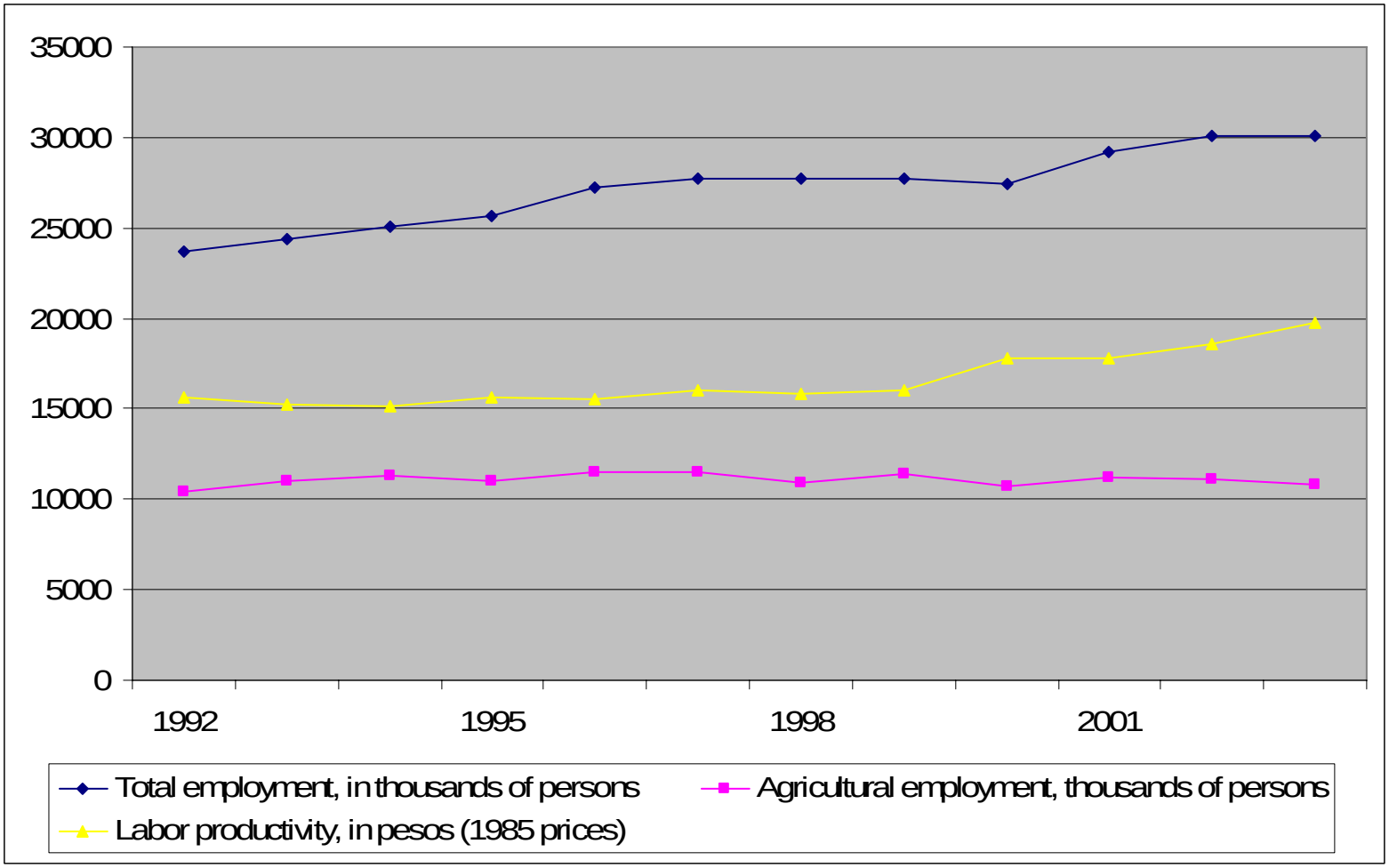


Figure 5. Growth in Employment and Labor Productivity, 1992-2003

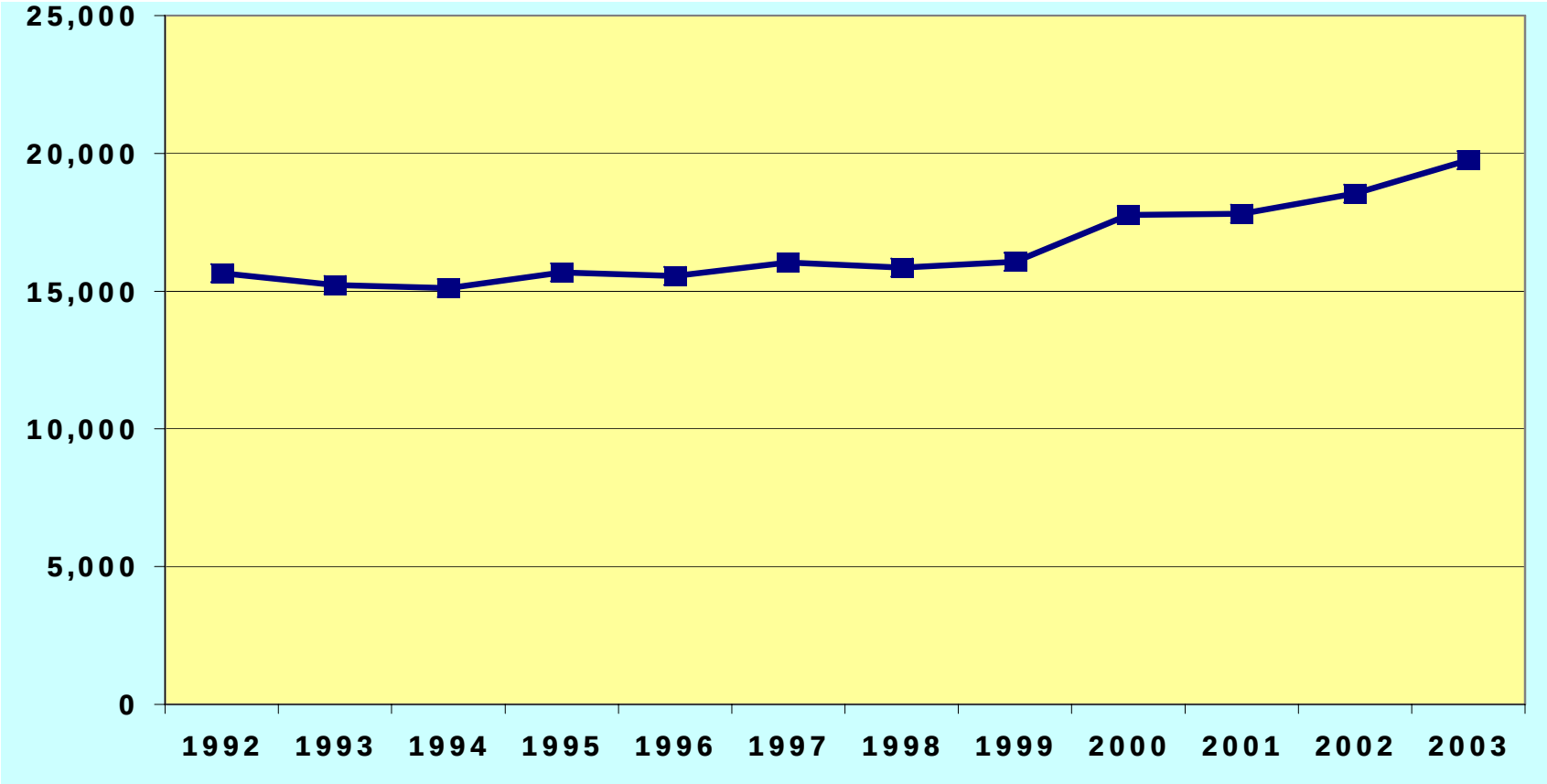


Figure 6. Labor Productivity in Agriculture, 1992-2003
(Pesos/Worker)

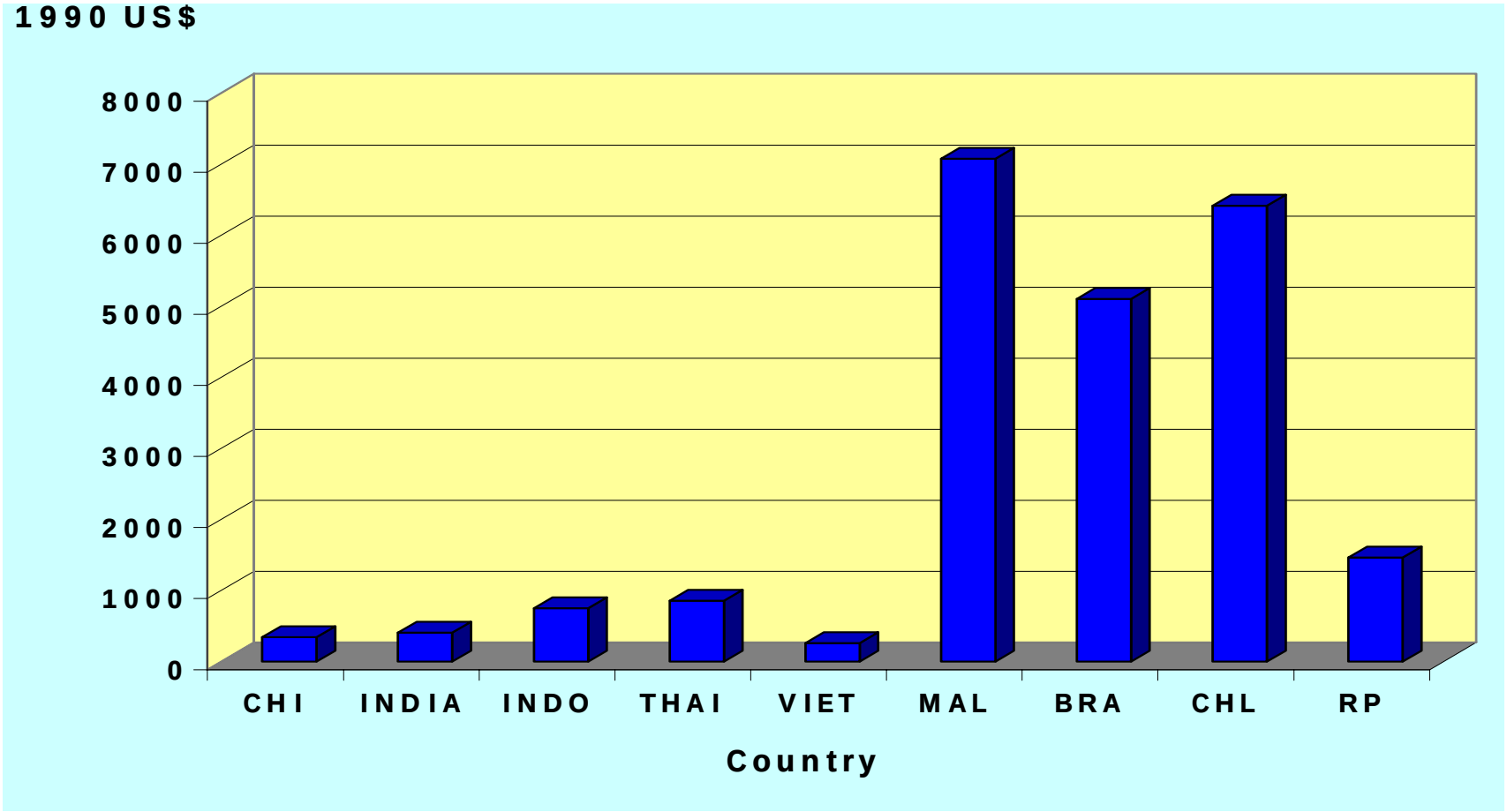


Figure 7. Output Per Agricultural Worker (1990 US Dollars)

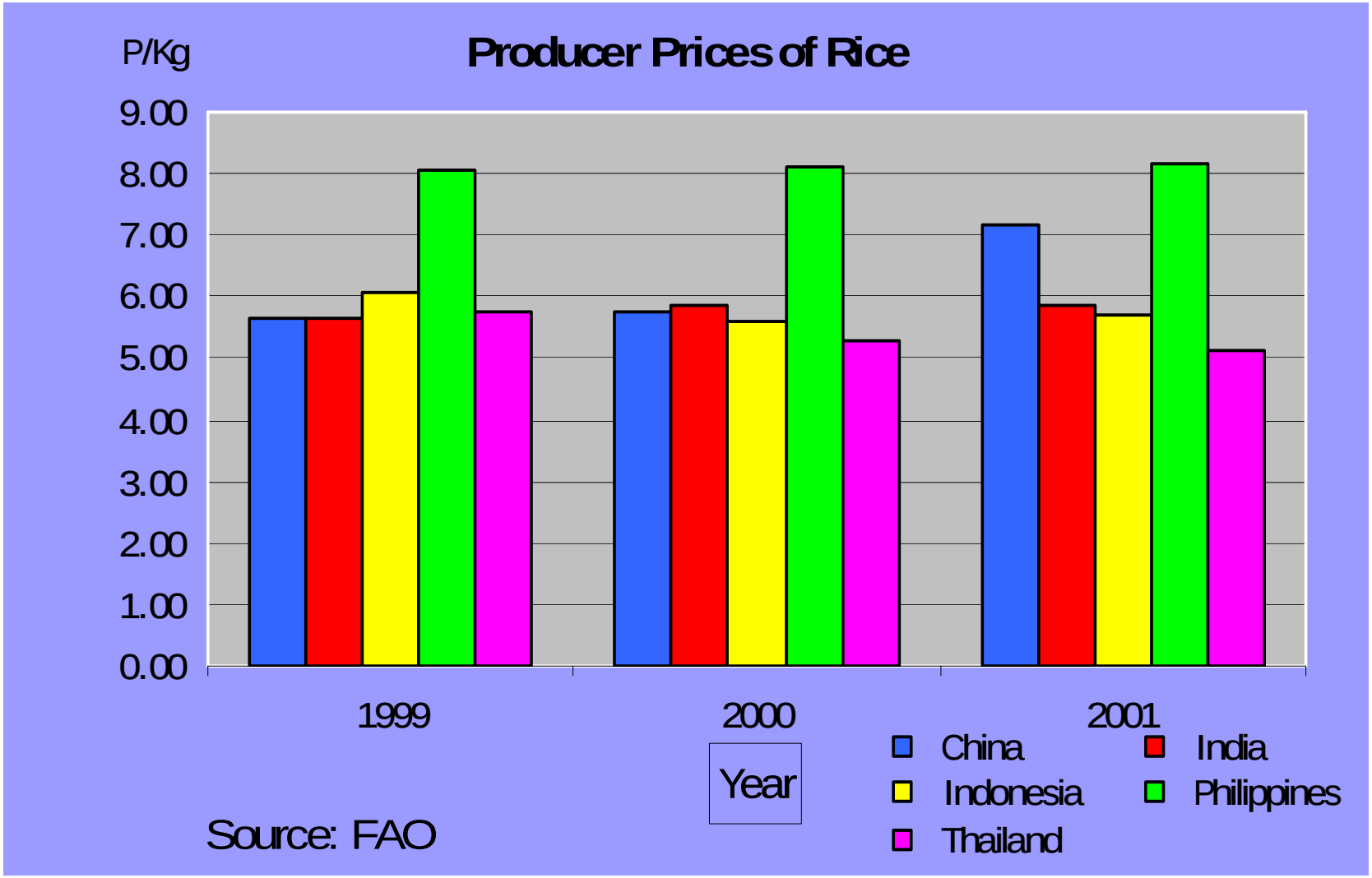


Figure 8. Producer Prices of Rice, 1999-2001

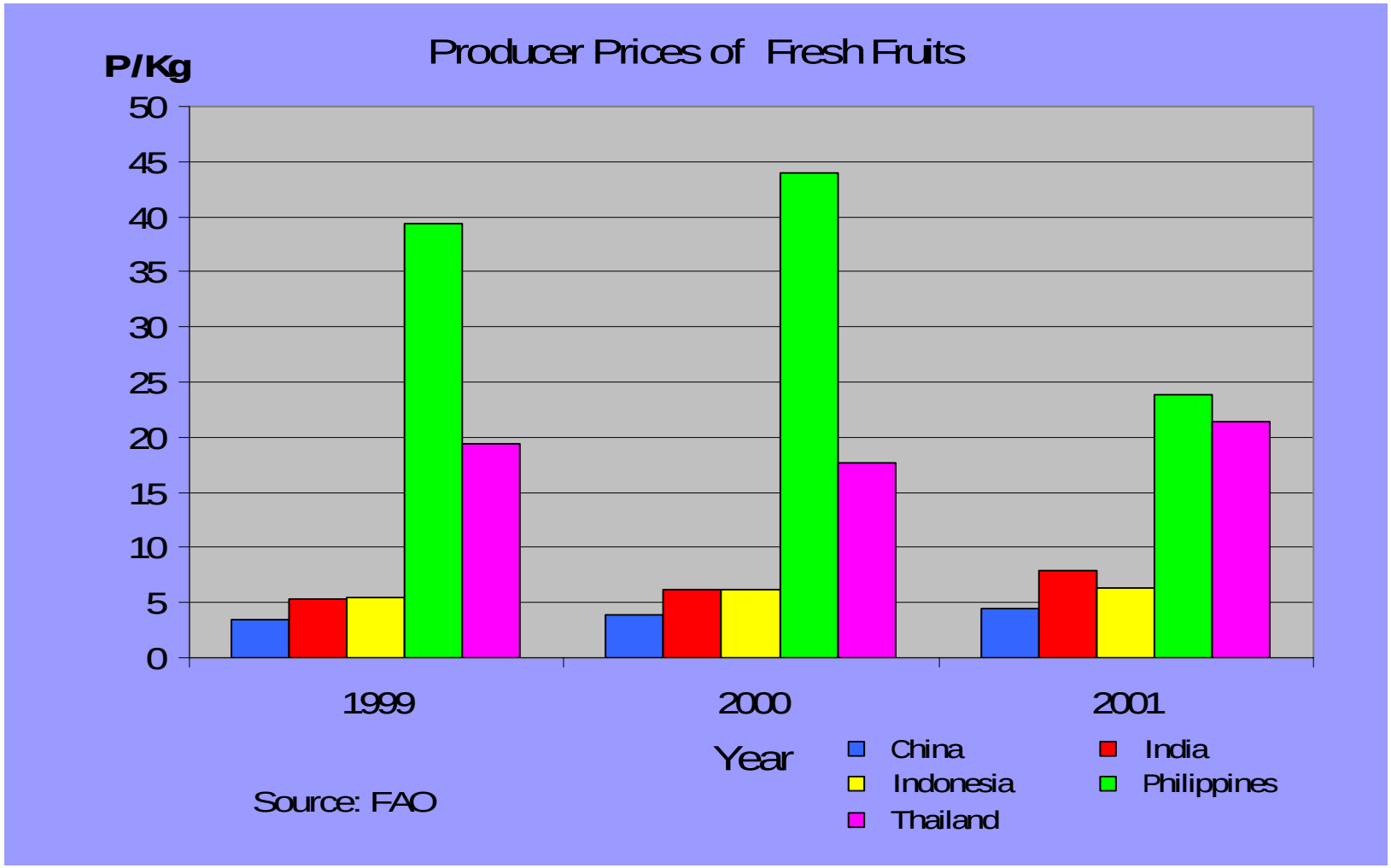


Figure 9. Producer Prices of Fresh Fruits, 1999-2001

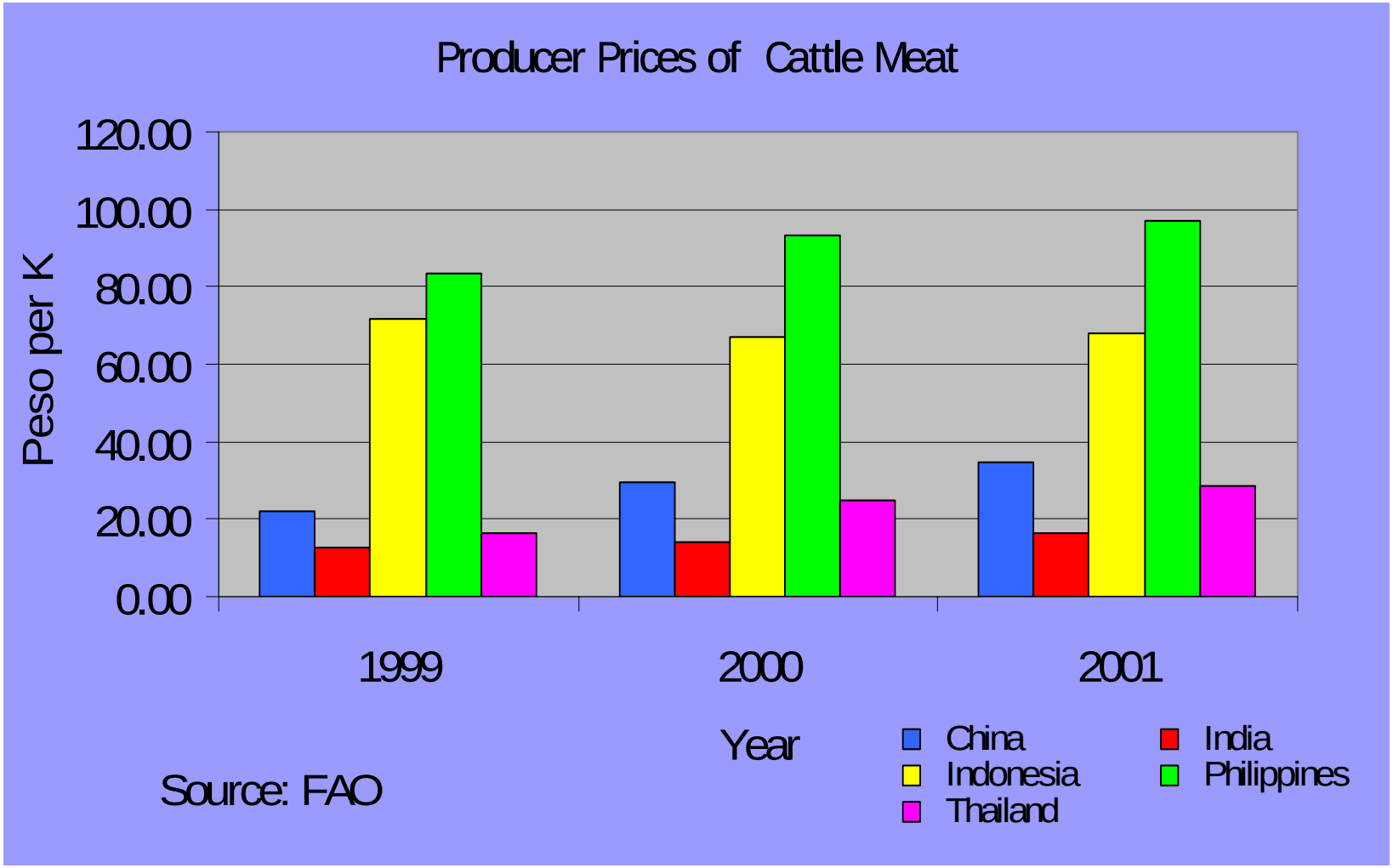


Figure 10. Producer Prices of Cattle Meat, 1999-2001

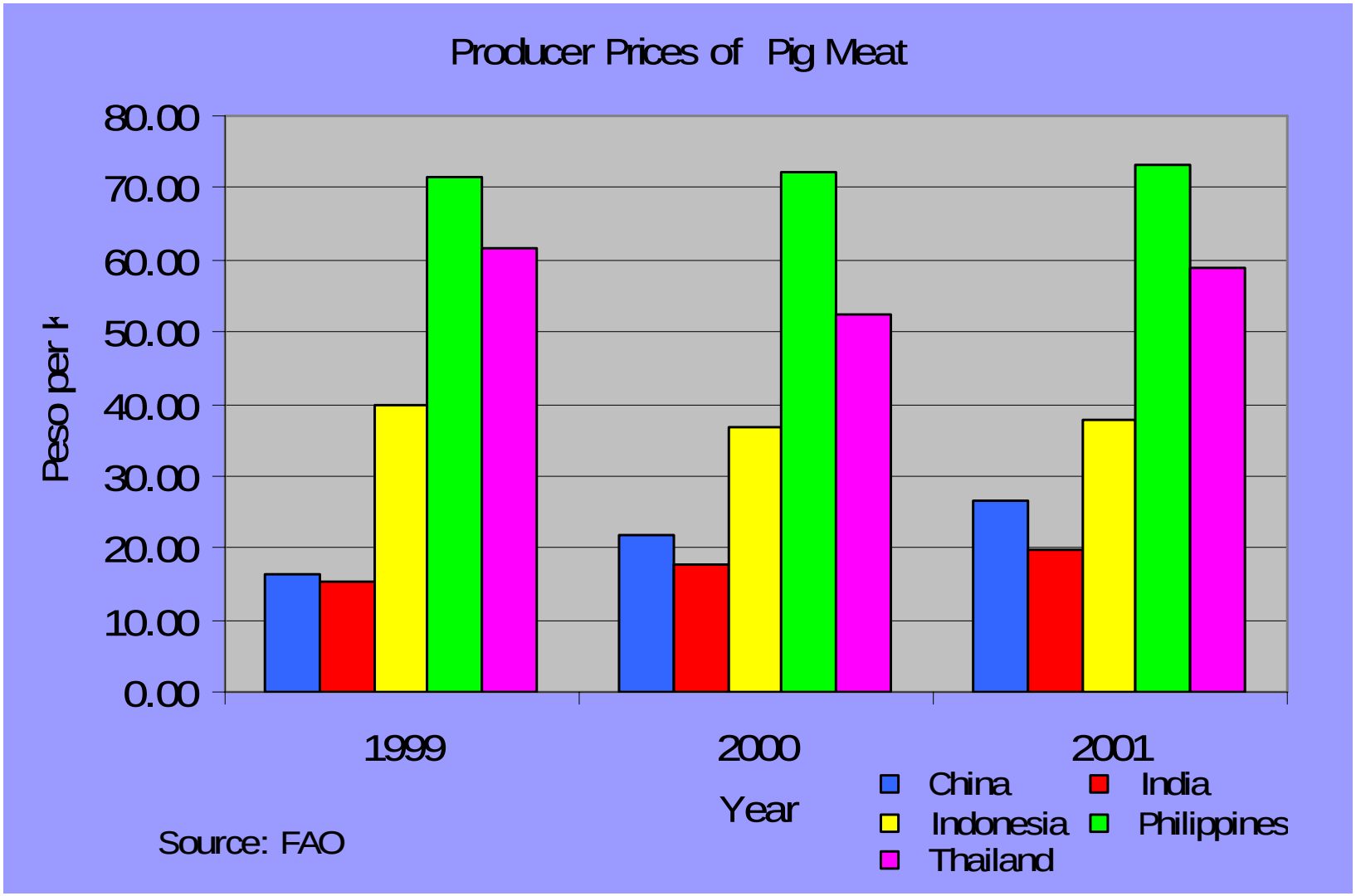


Figure 11. Producer Prices of Pig Meat, 1999-2001

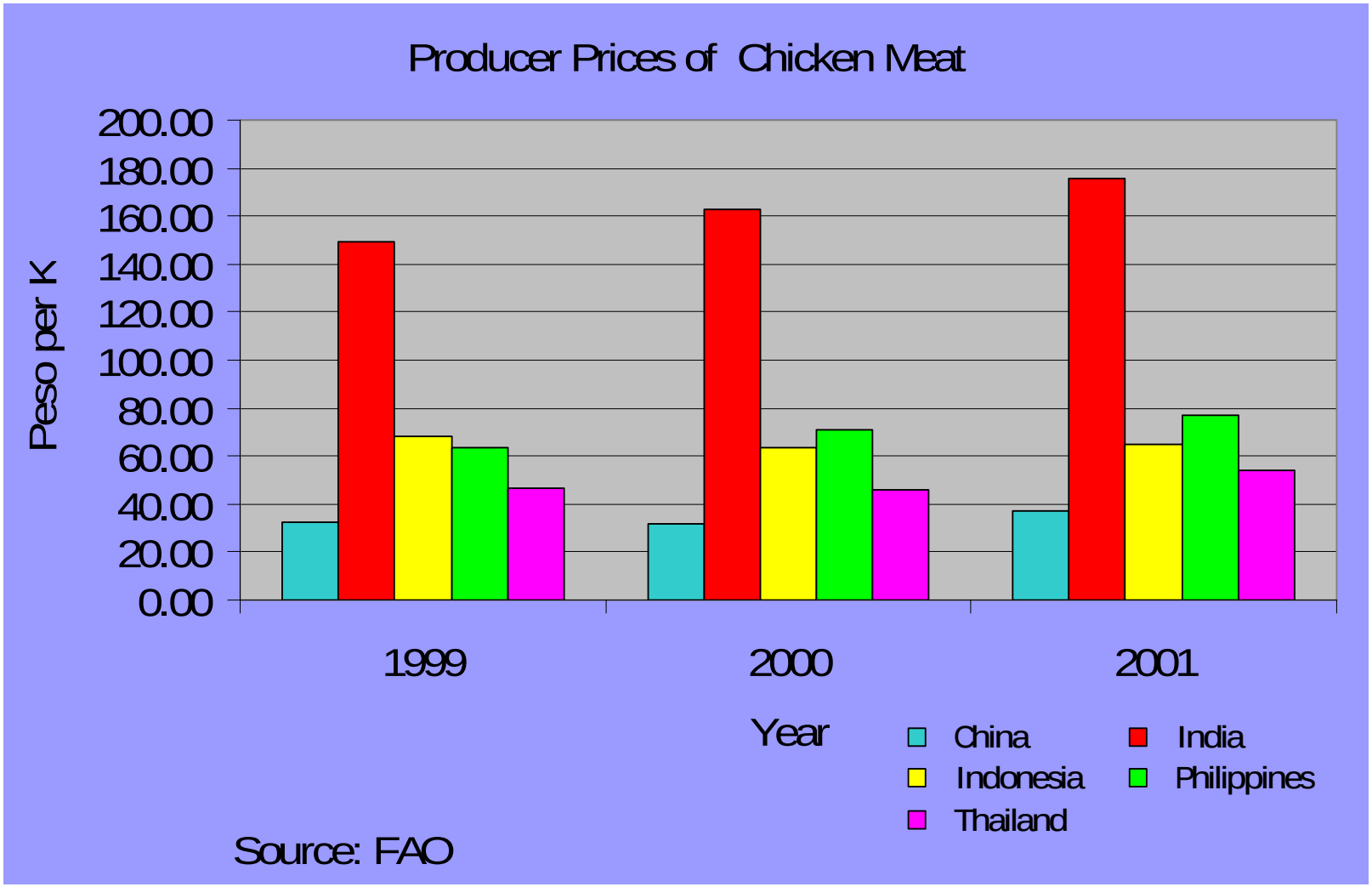


Figure 12. Producer Prices of Chicken Meat, 1999-2001