

Philippine agriculture: Current state, challenges, and ways forward

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Across the globe, agriculture has grown at varying levels. Since 2000, China has recorded 4 percent growth, followed closely behind by India and Indonesia. Meanwhile, developing countries in East Asia and the Pacific have grown an average of 3.6 percent in the 2010s while Sub-Saharan Africa reached an even faster pace than East Asia and the Pacific (Table 1).

In the Philippines, agriculture started growing at an adequate pace in the 1960s and 1970s (Figure 1), thanks to new technologies at the time (e.g., the Green Revolution seeds). Agribusiness also started in key export crops (e.g., bananas and pineapple), with coconut and sugarcane enjoying a worldwide commodity price boom. However, growth retreated in the 1980s and 1990s but recovered in the 2000s due to another price surge in the latter part of the decade. However, in the 2010s, growth receded to just under 2 percent.

From 2010 to 2019, the poultry industry had been the key driver of growth in agriculture, while crops have stagnated (Table 1). A prominent feature of crop farming in the country from the 1960s to 2010s is the dominance of the same five traditional crops: *palay*, corn, coconut, sugarcane, and banana. Meanwhile, fisheries further contracted in 2014–2018, faring even worse than crops.

Salient Points:

- *Weak growth in agriculture is due to slow growth in factors of production and in total factor productivity; of these, only the decline in labor share and fixed endowment of land is consistent with expected development trends.*
- *Raising investment and agricultural productivity entails improving the business climate for the agri-food system.*
- *Government resources should focus on providing public goods (such as research and development) that effectively boost long-term productivity.*

Climate change has been a major factor in these low and erratic trends, while capture fisheries have been mostly affected by overfishing and the destruction of natural habitats. Even livestock has been affected by the African swine fever (ASF) pandemic, a form of environmental risk that has caused shortages in supply and soaring prices of pork since 2019.

Table 1. Growth in agricultural GVA (USD, 2010 prices), 1997–2017, selected countries and regions

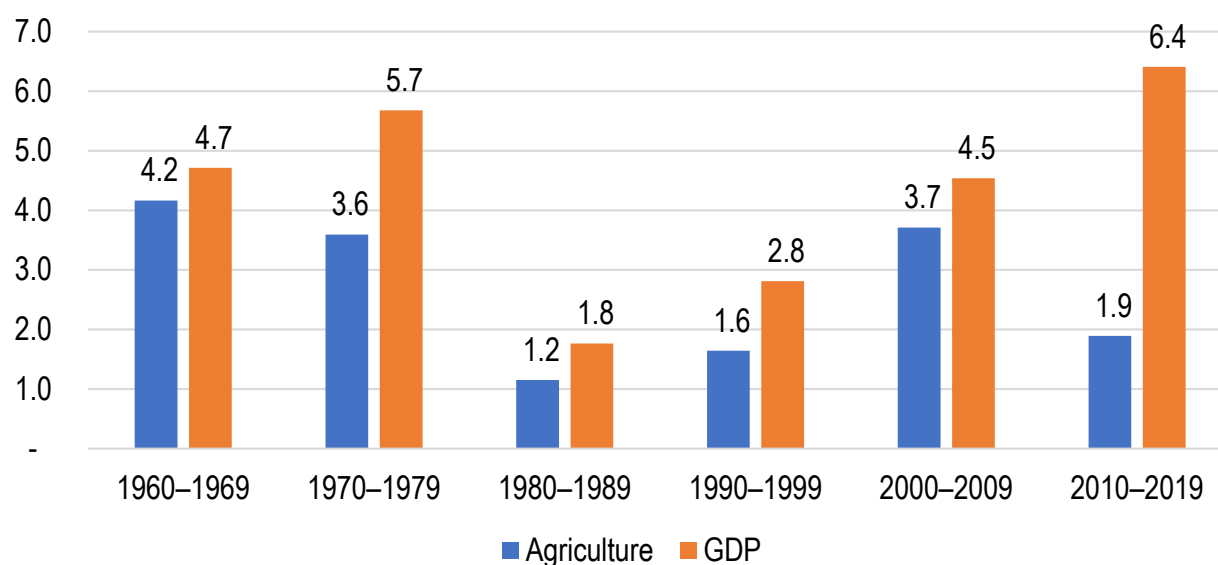
	1960s	1970s	1980s	1990s	2000s	2010s
China	5.6	2.1	6.3	3.7	4.1	4.0
Indonesia	2.7	3.5	3.5	2.1	3.5	3.9
India	2.5	1.8	3.5	2.8	3.0	4.2
East Asia and the Pacific	4.9	2.7	5.2	3.2	3.8	3.6
Latin America and the Caribbean	1.9	3.4	2.2	2.4	3.1	3.3
Sub-Saharan Africa	–	–	2.7	3.1	5.6	4.1

GVA = gross value added; USD = United States dollar

Notes: “–” means data are not available; East Asia and the Pacific excludes high-income countries.

Source: World Bank (2019)

Figure 1. Average decadal growth of agriculture and GDP (%), 2018 prices, 1960–2019



GDP = gross domestic product

Source: World Bank (2021)

Agriculture was the biggest employer of the economy in the mid-1990s but has since given way to services (Table 2). Its share in employment had been consistently declining until 2019, but with the COVID-19 pandemic, there has been a reversal in trend as workers left urban centers and found work in agriculture. As of July 2020, about a quarter of workers in the country were in agriculture. However, the sector as a whole produced only about 9 percent of the country’s gross domestic

product; hence, output per worker remains low compared with industry and services.

One reason behind the relatively weak performance of agriculture is the lack of competitiveness as manifested by the sector’s weak export performance. The Philippine agricultural exports have lagged far behind its Southeast Asian neighbors (Figure 2). In 1997, the only country with a low export base in agriculture as the Philippines

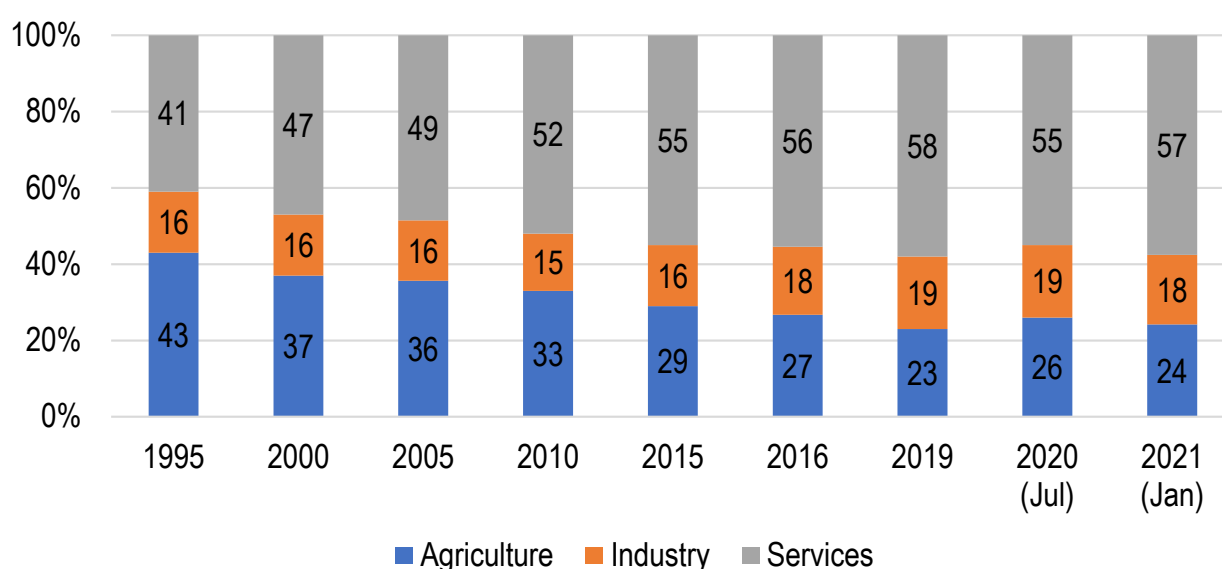
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Table 2. Growth rate of real value of production by subsector (%), 2018 prices

	2011–2013	2014–2016	2017–2019	2020	Average
Crop	2.8	-1.0	1.7	1.5	0.8
Livestock	1.6	3.1	0.7	-7.4	0.9
Poultry	4.3	2.5	5.4	-3.5	3.4
Fisheries	-1.3	-2.2	0.1	-1.2	-0.9
Agriculture	2.0	-0.1	1.7	-1.2	0.8

Source: PSA (2021)

Figure 2. Share of basic sectors in total employment (%), 1995–2021



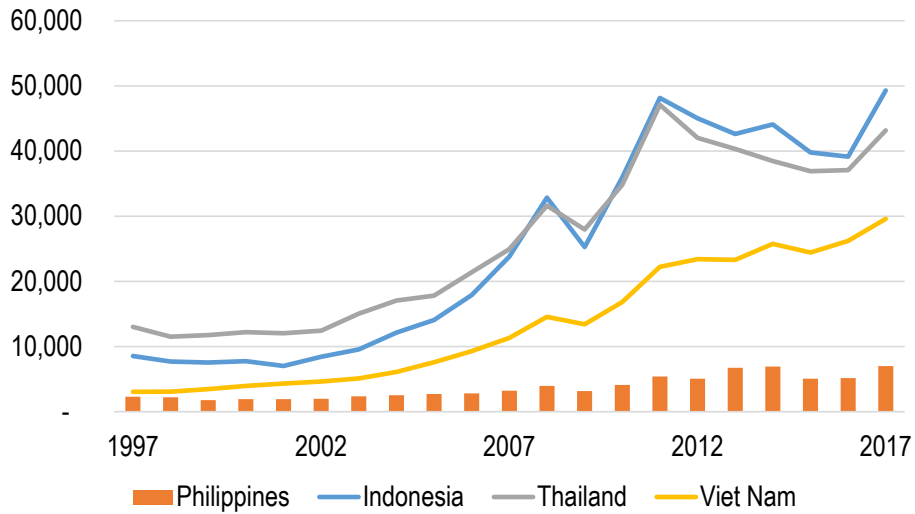
Source: PSA (2021)

was Viet Nam. But, even then, Viet Nam’s agricultural export base was at USD 3 billion while that of the Philippines was at USD 2.3 billion only. Indonesia, on the other hand, had USD 8.5 billion, while Thailand had already USD 13 billion in agricultural exports in 1997. Moreover, despite the high base, Indonesia and Thailand were able to further expand their agricultural exports, with both countries breaching the USD 40–50-billion range by 2017. Viet Nam’s agricultural export performance was also outstanding, approaching USD 30 billion in 2017 while that of the Philippines remained tepid at only USD 7 billion (Figure 3).

Issues and challenges

Low growth in agriculture is ultimately traceable to the slow expansion in the factors of production as well as the weak growth in total factor productivity. Land. The Food and Agriculture Organization (2020) estimates the country’s arable land at 12.44 million hectares (ha). Since the rural population has been growing, farm sizes have also been declining, hence, there is no room for growth in this factor. By 2012, the average farm size was down to 1.29 ha. Likewise, fragmentation has also prevented the realization of

Figure 3. Value of agricultural exports (USD millions), selected countries in Southeast Asia



USD = United States dollar
Source: WTO (2019)

economies of scale, exacerbated by the Comprehensive Agrarian Reform Program (CARP), which has broken up farmlands and suppressed land rental markets toward reconsolidation of operations. Using farm household panel data, Adamopoulos and Restuccia (2020) found that CARP has reduced average farm size by 34 percent, agricultural productivity by 17 percent, and the share of landless individuals by 20 percent. The weak enforcement of the CARP has inadvertently prevented a more severe productivity impact. It is estimated that productivity would have dropped by 26 percent under full enforcement of the program.

Labor. The number of workers in agriculture has been declining both in relative and absolute terms (Briones 2017a) up to 2019 (Table 2). Population growth, diminishing farm size, and declining relative incomes in agriculture have incentivized the shift out of agriculture. However, the pathway to the sustained growth of agriculture is not to restrain this out-migration but to raise the productivity of agricultural workers. The correlation between average daily basic pay and level of education tends to be stronger in industry and services

than agriculture; it may well be the case that the long-term movement of workers out of agriculture represents the better educated trying to realize higher returns on human capital investment.

Capital. A potent source of labor productivity increase is mechanization, which entails capital investments. However, capital formation in agriculture has been limited. Formal finance has disproportionately flowed outside of agriculture, precluding adequate finance of both fixed and working capital requirements. An estimated 62 percent of small farmers and fisherfolk who incur debt are able to borrow from formal sources (Galang 2020). Conversely, 38 percent do not. Moreover, a significant proportion of other small farmers and fisherfolk may have resorted to self-finance given the voluminous requirements of availing a bank loan (whereas the informal lender may charge high interest). Without reversing market-oriented reforms in financial services, the government may do more in strengthening and building capacities of farmer organizations to become viable conduits of financial services and promoting mobile phone-based services in rural finance (Geron et al. 2016).

Risk. One reason why banks shun agriculture is the high risk of recovering loans. Table 1 shows the volatile output trends in the agriculture sector. A spectacular example of this is the steep contraction in hog inventory in 2020–2021 due to ASF, which led to a spike in pork prices in 2021 (PIDS 2021). Agricultural production is risky and unfamiliar to many urban-based loan officers. One instrument to reduce risk and improve agricultural finance is through agricultural insurance, which is deeply intertwined with credit. Many farmers in the Philippines have become aware of the agricultural insurance program owing to its linkage with credit provision (Reyes et al. 2019).

Infrastructure. Aside from private capital, public capital stock, particularly rural infrastructure, is also a key determinant of agricultural growth. However, the country has been underinvesting in infrastructure. According to Llanto (2012), poor rural infrastructure is a contributor to low agricultural productivity.

Resource base. Agriculture faces several threats to its long-term sustainability. Fish stocks and marine ecosystems have been disrupted by overfishing and human activity, resulting in the declining capture fishery output. Meanwhile, the expansion of agricultural lands has contributed to the declining forest cover and biodiversity. Agriculture also faces worsening climate extremes and a declining availability of water owing to increased domestic and industrial use (Sajise et al. 2018; Wilson and Lasco 2018).

Total factor productivity (TFP). TFP performance is the primary determinant of the sector's long-term growth (Briones 2017b). However, recent TFP estimates by the United States Department of Agriculture (2021) found that TFP growth in agriculture was only 0.91 percent per year from 1986 to 2016. It declined to 0.81 percent from 1996 to 2016 and further dipped to 0.31 percent from 2006 to 2016.

Public spending. The budget for agriculture has been high and rising in recent decades. The total budget for agriculture in 2018 was PHP 142.7 billion, which is about 8.9 percent of the sector's gross value added, up from 7.4 percent in 2017. Obligations for the sector rose further to PHP 147.33 billion in 2020 before withdrawing to PHP 142.5 billion in 2021. Perhaps, no other sector can muster this much support from the government budget. The Department of Agriculture (DA) received the largest budget, followed by the National Irrigation Administration.

However, despite years of high and rising budgets for agriculture, government programs have little to show in terms of concrete outcomes. Briones (2021) and his coauthors discussed factors that have been undermining the effectiveness and long-term impact of the government's irrigation expenditures. Instead of focusing on private goods provision, the government must prioritize providing support for public goods. The Organisation for Economic Co-operation and Development (2017) showed that budgetary priorities had been input subsidies for credit, farm machinery, irrigation services, agricultural insurance, and seeds, among others. In contrast, support for public goods was equivalent to only 4 percent of the agricultural output value.

Trade policy. Tariff and nontariff barriers continue to protect large swathes of the country's agricultural sector. Despite fears of economic dislocation, the removal of these barriers will not be detrimental to long-term growth. On the contrary, it will support lower food prices and boost growth elsewhere in the economy (Briones 2020). Moreover, removing protection will force a powerful reckoning and reorientation of public support toward long-term competitiveness and diversification. However, the government's attention (both in the executive and legislative branches) has been perennially distracted by the lobbying of producer interest groups for protection and subsidies, rather than transformation and diversification.

Policy recommendations

Public expenditure programs

Public expenditure programs need to be reoriented to boost the sector's long-term growth, which entails deep governance reforms. As the biggest spender of public funds for agriculture, DA must lead the way in doing these reforms, mainly in the form of performance-based planning, management, monitoring, and accountability of its programs. For instance, Israel (2012) recommends pursuing suggestions of audit agencies on addressing anomalies in financial transactions. Similarly, spending on production inputs, mostly in the form of private goods, has been found ineffective in rural development (Lopez and Galinato 2007; Briones 2012).

Finally, there is a need to improve the coordination among agriculture and food-related agencies, namely, the Department of the Interior and Local Government, Department of Trade and Industry, Department of Environment and Natural Resources, and Department of Health (for food safety regulation), among others. At the national level, convergence can be initiated from the budgeting process to program implementation through the appropriate cabinet clusters. Meanwhile, coordination can be improved at the regional and lower levels through corresponding development councils, starting with the regional development councils (RDCs), which must prioritize discussions on rural and agricultural development programs and projects.

Documentation of the benefits received will entail a reliable database of beneficiaries (i.e., the Registry System for Basic Sectors in Agriculture [RSBA]). An operational definition of farmers, farmworkers, and fisherfolk is needed to ensure that government programs cater to the right beneficiaries. The RSBA must be updated regularly, at least every three years, given the dynamic nature of agriculture (Reyes and Gloria 2017).

Credit and risk

To address the financial needs of small farmers and fisherfolk, the regulatory environment should be open to innovative means of delivering financial services to

the rural areas, including strengthening of links between agro-input suppliers and financial institutions. The government should promote greater reliance on private sector credit by providing an information base (e.g., data on smallholders) and conducting information, education, and communication (IEC) activities among small farmers (Geron et al. 2016). Likewise, an IEC campaign may be launched to inform and educate farmers on the advantages and benefits of agricultural insurance, which could promote a sustained expansion of agricultural credit. Similarly, subsidies should aim at raising insurance penetration rates while targeting smallholders and the poorer agricultural operators. Insurance products may be oriented toward index-based schemes that allow immediate claims payment with lower transaction costs. Congress should also consider amending the Philippine Crop Insurance Corporation's charter and expanding its role as a reinsurer for other companies that are willing to offer agricultural insurance (Reyes et al. 2019). Aside from insurance, other means of alleviating agricultural risks are needed. Thus, the government should implement an effective guarantee program for smallholder financing. Likewise, with the onslaught of ASF, biosecurity has emerged as a high-priority policy (Domingo and Olaguera 2017).

Agribusiness development

A pivotal intervention to boost TFP growth is promoting research and development (R&D), which requires a tremendously ramped-up level of investment. Initially, national agricultural research and extension systems must synchronize their R&D activities with the wide-ranging and fast-changing requirements of enterprises in the agribusiness value chain (Briones 2008). In addition, extension personnel need to undergo reorientation and training programs, while farmers and farm workers themselves must be trained (i.e., through extension services or more systematic technical-vocational programs) toward more sophisticated production systems and value-adding activities.

Furthermore, the government must complete the unfinished trade policy reform agenda to promote food affordability and competitiveness of domestic

products while shifting away from protectionism to shield inefficient producers. Safety net programs should be implemented together with trade reforms that remedy problems encountered with previous rounds of liberalization (e.g., Republic Act [RA] 8178 for World Trade Organization accession, RA 10659 for the sugar industry, and RA 11203 for the rice industry).

Rural infrastructure investments must also be expanded with better prioritization and implementation. In the case of irrigation, Briones (2021) and his coauthors propose an assessment system to diagnose the capacity of physical structures; availability of water for long-term operations; consideration of land-use trends; strict adherence to benefit-cost analysis in project identification; better coordination among DA, other water-related agencies, and local government units; and application of the latest information and communication technologies, data sciences, and modeling techniques.

At the level of farmers and fisherfolk, extensive capacity building for cooperatives and other grassroots enterprises is essential for programs to be effective. Agrarian reform needs to transition from redistribution of landholdings to linking beneficiary organizations to agribusiness arrangements based on active land markets, secure property rights, and an efficient land administration system. Farm-level operations can be consolidated and better coordinated with downstream distribution and processing through programs such as the DA's F2C2 (farmer and fisherfolk clustering and coordination) program.

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