

## Urgent: A road map for agro-industrial development in the Philippines

*Roehlano M. Briones  
and Ivory Myka R. Galang*

### Overview

The Philippines is at the cusp of a high and hopefully prolonged growth phase. However, the ability of this growth to deliver sustained creation of jobs and reduction of poverty has been questioned. We argue in this *Policy Notes* that agricultural development is key to inclusive growth. The accelerating pace of economic growth in the Philippines will not translate into inclusive, sustainable growth if agricultural development is neglected.

Agricultural development involves accelerating productivity growth in major commodities. It also requires structural transformation in agriculture itself, from traditional to high-value crops, as well as product upgrading. Such transformation entails increasing linkages between farm

production, agricultural services (extension, logistics, transport), industrial inputs (fertilizers, chemicals, machineries), and agroprocessing. In short, agricultural transformation must encompass the entire agro-industrial complex.

The country has recently launched an industrialization strategy based on technology upgrading and modernization. We point out that these elements are as necessary in agro-industry as in other manufacturing sectors. Coordination and information externalities are also impeding the process of structural transformation and product diversification, providing a rationale for industrial policy (Aldaba 2013). These points are elaborated in this

*PIDS Policy Notes* are observations/analyses written by PIDS researchers on certain policy issues. The treatise is holistic in approach and aims to provide useful inputs for decisionmaking.

The authors are Senior Research Fellow and Research Analyst, respectively, at the Institute. The views expressed are those of the authors and do not necessarily reflect those of PIDS or any of the study's sponsors.

**Table 1. Poverty incidence in agricultural and non-agricultural households**

	2003	2006	2009
Philippines (population)	24.9	26.4	26.5
Agricultural households	54.7	57.1	56.8
Non-agricultural households	14.3	16.0	17.1
Rural population	38.2	39.5	39.4
Urban population	11.2	12.9	13.2

Reyes et al. (2012)

**Table 2. Agricultural growth of Asian countries**

	1960s	1970s	1980s	1990s	2000s	Average (1980-2010)
Sub-Saharan Africa	1.81	2.97	2.44	2.49	2.61	2.51
Developing Asia	3.83	2.84	3.43	2.99	3.59	3.36
Philippines	4.31	4.06	1.18	2.09	2.87	2.05
China	6.59	2.08	6.24	3.81	4.22	4.76
India	2.54	1.83	3.52	2.84	3.19	3.18
Viet Nam	NA	NA	2.70	4.26	3.59	3.52
Indonesia	2.87	4.54	3.69	2.00	3.46	3.05

Source of basic data: World Development Indicators

issue, based on past studies and the set of agricultural sector road maps under review at the Department of Trade and Industry (DTI).

### **Agricultural development: potential for inclusive growth**

Poverty has a sectoral dimension. As shown in Table 1, poverty among agricultural households greatly exceeds that of non-agricultural households, and is typically above the national poverty rate. Similarly, poverty incidence in rural areas greatly exceeds that of urban areas and has worsened over time. In 2010, the share of agriculture in the gross domestic product (GDP) was only 12 percent, but its employment share was 33 percent. This

implies that labor productivity in agriculture is much lower than the average of the non-agricultural sectors.

Moreover, employment in agriculture is more intensive in unskilled labor. Among the country's regions, the share of agricultural workers with maximum of secondary school completion ranges from 57 percent (Ilocos) to 87 percent (Central Visayas). In contrast, for non-agricultural workers, the share ranges from 26 percent (CAR) to 52 percent (Eastern Visayas). Moreover, growth in agriculture exhibits greater bias for unskilled labor (Briones 2013).

Boosting agricultural output is an effective way to increase the productivity of agricultural workers. The Philippines did enjoy a period of rapid agricultural growth in the 1960s and 1970s, but this could not be sustained (Table 2). Growth since the 1980s averaged only 2.05 percent, lower than the average of developing Asia (3.4%) and even lower than the average of countries in Sub-Saharan Africa (2.5%).

Accelerating agricultural growth entails both raising productivity in farming traditional products, as well as shifting resources toward high-value products. High-value crops such as fruits and vegetables are much more profitable than traditional crops such as rice and corn (Table 3). On a per hectare basis, labor cost is also greater, suggesting a greater potential for employment creation for high-value crops.

The shift toward high-value products is also known as agricultural *diversification*, a process typically accompanied by a movement out of subsistence food-crop production to a diversified market-oriented production system. Diversification requires rapid technological change, improved rural infrastructure, and changes in food demand patterns, i.e., increasing demand for more expensive foods such as meat, fish, fruits, and vegetables (Rosegrant and Hazell 2000). Philippine agriculture, however, deviates from this stylized pattern. In developing Asian countries, the share of cereals has decreased from 40 percent to 24 percent, whereas its share for the Philippines has increased from 22 to 23 percent (Figure 1).

Farmers opting to shift to high-value products must be assured of a market. Such markets will materialize upon closer integration of agriculture and related manufacturing and services. Highly perishable products such as fruits and vegetables require well-developed logistics, transport, and marketing. Often,

procurement for the high-end market (whether for the supermarkets or for export) is done via organized value chains or supply chains<sup>1</sup>.

Farmers in these chains must meet stringent standards of quality and delivery. There are many examples of successful supply chains in the Philippines (see Box 1 for a couple of examples). Widespread replication of these chains will transform the Philippine countryside; the problem is that success stories are showcases rather than the norm.

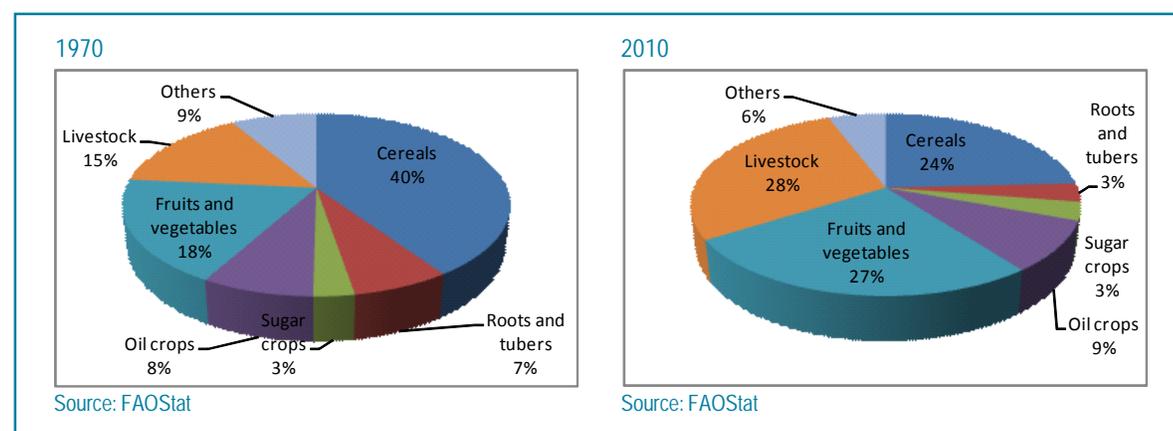
<sup>1</sup> A *value chain* refers to the set of linked economic activities that successively increase value added of the output of the chain. A *supply chain* is an organized value chain where a key player coordinates supply and demand.

**Table 3. Comparison of cost and returns, Philippines, 2011 (pesos per ha)**

Crop	Farmgate Price (P/kg)	Gross Returns	Net Returns	Labor Cost
Palay	14.36	55,795	14,616	10,901
Corn	13.18	34,825	8,886	9,425
Vegetables	29.54	286,055	163,351	36,703
Fruits	15.12	174,004	96,828	27,940
Coffee	65.70	47,025	16,341	15,844

Note: Vegetables and fruits are simple averages of individual vegetable and fruit products. Source of basic data: Bureau of Agricultural Statistics

**Figure 1. Diversification in output of developing Asian countries and the Philippines**



### Box 1. Model supply chains in the Philippines

*Vegetables.* The supply of vegetables to the institutional market (restaurants, hotels, and for export) typically involves an organized chain (for example, that of Normin Veggies). The contracting firm states specific production and postharvest requirements to be fulfilled by the growers such as variety to be grown, size, number of batches/cycle, and schedule of harvest and delivery. This is specified in a farm plan and budget prepared at the beginning of each planting season. Often, the contractor may provide cash advances and production inputs. Meanwhile, land is owned and provided by the farmer, who is required to adhere strictly to cultural and management standards. The farmer is also responsible for hiring labor (or using family workers) to perform production tasks.

*Tobacco.* Among the agro-industries, the tobacco industry in the Philippines appears to exemplify a well-coordinated cluster involving government, processors, traders, and farmers. Significant funding of farm-to-market infrastructure in tobacco-producing provinces has been made available through the mandatory allocation from the tobacco excise tax. The National Tobacco Administration (NTA) maintains a system of tobacco grades and standards, which it enforces by posting inspectors in market inspectors; monitoring of prices and quantities transacted by grade; and implementation of price floors. These minimum prices are approved in consultation with farmers and processors. The NTA also maintains a vigorous R&D program. Its extension system, which has survived devolution, is also active in implementing production support to farmers (such as working capital and capital to acquire modern curing barns); collecting farm information; and communicating appropriate farming practices and technologies.

Sources: dela Cruz (2007); Zaragoza (2013)

To reiterate: agricultural development in the Philippine context involves a transition from *farming to agribusiness*; the latter denotes agriculture-related activities that put farmers, processors, distributors, and consumers within a system that aims to produce, handle, process, transport, market, and distribute agricultural products. Wilkinson and Rocha (2009) show that the ratio value-added of primary agriculture to agribusiness tends to increase with the level of development, and is highest for industrialized countries (e.g., the ratio for United States is about 13). For the Philippines, the ratio is only 1.25 (Briones 2013).

#### Opportunities and constraints

For certain commodities, global competitiveness has been well demonstrated,

e.g., rubber, coconut oil, mango, and banana (Cavendish and plantain chips); for others, there are new crops with expansion prospects even if only to meet local demand, e.g., cacao, palm oil. However, in the Philippines, the transition to a more diversified agriculture confronts several constraints.

#### *Insufficient provision of public goods.*

Agricultural innovation is a public good that requires investments in research and development (R&D) and extension activities, with the public sector playing a key role in provision. However, provision has been insufficient, falling below the rule-of-thumb of 1 percent of agricultural gross value added (GVA). Moreover, in the past, there may have been insufficient allocation to major

commodities such as rice, coconut, sugarcane, swine, and poultry, and excess allocation for dairy, goats and sheep, and carabao/beef (Stads et al. 2007). Similarly, commodities with higher value such as fruits, vegetables, and other commercial crops (e.g., rubber) are given less support. For instance, there is no dedicated rubber research institute in the Philippines; there are not enough scientists specialized in rubber-related agronomy and materials science; and (with the exception of key production areas) the crop is often overlooked in the extension system.

Management of common pool resources, e.g., water for crop irrigation, and aquatic resources for fisheries also require collective action and investment that can also be provided by government. However, there has been enormous irrigation backlog. Another important set of public goods relate to transport infrastructure, i.e., roads and bridges, giving farmers easier access to markets (Tsakok 2011). Unfortunately, in many rural areas of the country, logistics and transport costs erode the competitiveness of agricultural goods, partly due to inadequate transport infrastructure (NEDA 2011).

*Inadequate support for farmers.* The small farm is well known to be an efficient production setup, avoiding the high labor supervision costs of large farms. However, smallholders must contend with numerous constraints and production issues. One is the lack of access to technologies, technical

knowledge, and quality inputs. They also lack access to financing, with many excluded from the formal financial system due to lack of collateral or high transaction costs.

*Coordination failures.* Inaccessibility of markets and inadequate support for farmers may be seen as manifestations of coordination failure. In the case of mango, for instance, farmers are unable to meet the demands of downstream processors (who cater to both domestic and foreign markets); in turn, enabling farmers to meet downstream demand requires strong production support. Despite profit opportunities for service providers, farmers, and buyers, coordination failure prevents the supply chain from assuring timely flow of supply from farmers. It is likely that similar problems afflict the supply chain for other commodities, even those for which the country has a competitive position. Lack of capacity and coordination problems affect not only engagement of small farmers, but also participation of small and medium enterprises (SMEs) in the supply chain, e.g., as processors.

*Weak regulatory system.* Effective regulation is one way to promote coordination in markets, by harmonizing expectations about product characteristics and behavior of agents. In the case of rubber, for instance, lack of standards on rubber grades has broken the link from rubber growers to local rubber manufacturers; there are also reports that traders carry on deceptive practices

such as adulteration, further undermining quality of raw rubber. Even if standards are in place, the regulatory system may still fail owing to poor quality of regulatory services, i.e., faulty detection and/or enforcement. Ill-equipped laboratories and personnel among regulatory agencies (such as Bureau of Plant Industry) have long been lamented, but there seems to be perennial underfunding of capital outlays and staff complement.

Another critical role of regulation is tempering market power. In the countryside, markets are often fragmented and traders may be able to exercise local monopsony power (in the case of buyers) or monopoly power (in the case of sellers, i.e., input providers). However, the Philippines does not have a formal competition policy framework, let alone one that is focused on the specific needs of the agricultural sector.

*Defective property rights regime.* With the imminent end of the Comprehensive Agrarian Reform Program Extension with Reforms (CARPER), an important source of property rights' uncertainty will soon be removed. However, the state of the property rights regime in Philippine agriculture still leaves much to be desired. Prohibition on transfer of awarded lands extinguishes their value as collateral, misallocates resources, and limits access to land for landless farm workers. The security of property rights is dubious, especially in the uplands, where instances of overlapping claims (ancestral domain, tax declaration, patents, etc.)

abound. Securing a clean title and effecting its transfer is, in many cases, a cumbersome, costly, and protracted procedure, especially in rural areas. Obviously, such infirmities deter investments, especially long-term projects such as planting of tree crops and other perennials.

### **Agenda for action**

To realize the full potential of the agribusiness sector in the economy, the abovementioned constraints should be addressed. This paper proposes the following recommendations that are divided into three phases—short term, medium term, and long term: (1) create a coordination mechanism among stakeholders (short term); (2) adopt vertical measures (medium term); and (3) adopt horizontal measures (long term).

*Short term: create a coordination mechanism among stakeholders.* For any system to function properly, it is essential to have constant communication and collaboration among its players. This can be done by developing a participatory competitiveness working group for the agro-industry. At the national and regional levels, this can build on existing initiatives, notably the agriculture and fishery councils (AFCs) organized by the Department of Agriculture, and the cluster strategy pursued by the DTI. There is, however, a need to establish and sustain this mechanism on a sector-specific basis and at a local level. Working groups may be composed of the representatives from local government units, farmer

associations, industry associations, as well as academic and research institutions. The main objective of the group will be to lay the groundwork for a competitiveness strategy as embodied in a road map.

Road map initiatives are underway and should be reinforced and the road maps themselves periodically reviewed/ recalibrated. Such road maps should include a detailed analysis of constraints, and prioritization of these constraints by importance or urgency. Analysis can be done according to a systematic rapid appraisal, such as that described in da Silva and Filho (2007). The rapid appraisal involves close stakeholder consultation, hence reinforcing commitment to identified action points.

*Medium term: adopt vertical measures.* The road maps would likely result in recommendations related to the constraints identified in the paper. There is obviously a need to dramatically raise investments in R&D, extension systems, irrigation facilities, regulatory systems, and transport infrastructure. However, such increases must be informed by performance indicators; for instance, the increased outlays for irrigation in support of the country's Food Self-Sufficiency Program (FSSP) may have been, to some extent, wasted due to technical lapses and even corruption (R1 2013). Other measures may take the form of eco-zones and industrial centers, the strategic application of tax incentives, duty-free importation of equipment, directed credit,

and price stabilization. These measures should be reviewed through the coordinating mechanism described above (i.e., working groups and multistakeholder councils) to maintain transparency and adaptability to new information or changing market conditions.

*Long term: adopt horizontal measures.* Some measures can only be implemented in the long term, primarily as they involve institutional change across the breadth of a sector or across several sectors. A critical reform is in the area of property rights, which can only be resolved by setting up an efficient land administration system, based on a comprehensive legal and regulatory framework. This should settle, once and for all, the perennial problem of property boundaries, effect orderly transfer of title and enforcement of contracts of land sale, address property encumbrances, and so on.

Agro-enterprises would also benefit greatly from a regulatory system (not specific to agriculture) that facilitates business registration and licensing, zoning, contract enforcement, monitoring, and so on. There is furthermore a need to enact a comprehensive competition policy framework that prohibits anticompetitive practices such as price fixing.

### **Conclusion**

Past gains in increasing productivity and modernizing Philippine agriculture should be recognized but there is a need to accept

the fact that rural transformation is far from complete. Such transformation can only happen if Philippine agriculture upgrades and restructures supply chains to attain competitive advantage in high-value agro-industrial products. This cannot be achieved by a top-down planning approach; *laissez faire* policies are also inadequate to do the task. A concerted effort is critical—one that involves traders, processors, and small farmers orchestrated by government—to bring Philippine agriculture into the 21st century. 📄

### References

- Aldaba, R. 2013. Why a new industrial policy for the Philippines is critical. PIDS Policy Notes No. 2013-01. Makati City: Philippine Institute for Development Studies.
- Briones, R., 2013. Agriculture, rural employment, and inclusive growth. PIDS Discussion Paper No. 2013-39. Makati City: Philippine Institute for Development Studies.
- da Silva, C. and H. Filho. 2007. Guidelines for rapid appraisals of agrifood chain performance in developing countries. Food and Agriculture Organization of the United States.
- dela Cruz, A. 2007. Contractual agreements in agriculture (Northern and Central Luzon component). PIDS Discussion Paper No. 2007-

21. Makati City: Philippine Institute for Development Studies.
- National Economic and Development Authority (NEDA). 2011. *Philippine Development Plan 2011–2016*. Pasig City: NEDA.
- Reyes, C., A. Tabuga, R. Asis, and M.B. Datu. 2012. Poverty and agriculture in the Philippines: trends in income poverty and distribution. PIDS Discussion Paper No. 2012-09. Makati City: Philippine Institute for Development Studies.
- Rice Watch and Action Network (R1). 2013. Irrigation development under the Aquino administration 2010–2014. Presented at the National Agricultural and Fishery Council Meeting in July 2013.
- Rosegrant, M. and P. Hazell. 2000. *Transforming the rural Asian economy: the unfinished revolution*. Oxford University Press (China) Ltd., Hong Kong, for the Asian Development Bank, Manila.
- Stads, G., P. Faylon, and L. Buendia. 2007. Agricultural R&D in the Philippines: policy, investments, and institutional profile. Agricultural Science and Technology Indicators Country Report. International Food Policy Research Institute and Philippine Council for Agriculture, Forestry and Natural Resources Research and Development.
- Tsakok, I. 2011. *Success in agricultural transformation: what it means and what makes it happen*. New York: Cambridge University Press.
- Wilkinson, J., and R. Rocha. 2009. Agro-industry trends, patterns, and development impacts. In *AgroIndustries for development*, edited by C. da Silva, D. Baker, A. Shepherd, C. Jenane, and S. Miranda-Cruz. Wallingford: Food and Agriculture Organization, United Nations Industrial Development Organization, and Centre for Agricultural Bioscience International.
- Zaragoza, E. 2013. Status and future of the Philippine tobacco industry. Presented at the Management Association of the Philippines ABCD Breakfast Forum on January 15, 2013.

*For further information, please contact*

The Research Information Staff  
 Philippine Institute for Development Studies  
 NEDA sa Makati Building, 106 Amorsolo Street, Legaspi Village, 1229 Makati City  
 Telephone Nos: (63-2) 894-2584 and 893-5705  
 Fax Nos: (63-2) 893-9589 and 816-1091  
 E-mail: rbriones@mail.pids.gov.ph; igalang@mail.pids.gov.ph; publications@pids.gov.ph

The *Policy Notes* series is available online at <http://www.pids.gov.ph>. Reentered as second class mail at the Business Mail Service Office under Permit No. PS-570-04 NCR. Valid until December 31, 2013.