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Productive Agribusiness: Reaping Its Unrealized Potential

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Productive Agribusiness: Reaping Its Unrealized Potential

I. EXECUTIVE SUMMARY

While the Philippines can no longer claim to be a very agrarian society, the agriculture sector still plays an important part of the economy, particularly for rural households who depend largely on exploiting the land for their livelihood. By many accounts, the country has not fully exploited its comparative advantage in agriculture, especially in the breadbasket of Mindanao. The agriculture sector has been described as backward and unproductive, and with it much of the rural poor that depend on it. If the Philippines is to achieve broad-based and inclusive growth, a sense of urgency is needed to unleash, modernize, and diversify the business of agricultural and food production.

The *Arangkada* Philippines Project (TAPP) organized a roundtable of industry participants to identify broad classes of agricultural products ripe for high growth, increased trade, and employment generation. In addition, TAPP meets regularly with officials from the Government of the Philippines (GPH) and the Department of Agriculture (DA). Together, these discussions underscored priorities of the business community; reviewed government efforts to modernize agricultural production; discussed mutual areas of public-private collaboration; and identified key impediments constraining growth prospects in the agribusiness sector. Informed by these discussions, the Policy Brief on Agribusiness highlights the most pressing reform measures, that – if expeditiously implemented in the near term – will position the sector to flourish and regain its rightful place as a productive contributor to the country's lasting economic transformation. The brief reflects inputs of that roundtable, along with continued efforts by the Joint Foreign Chambers of Commerce of the Philippines (JFC) to promote a level playing field across the country's priority economic sectors. A comprehensive advocacy program of the JFC, the *Arangkada* initiative seeks to share recommendations leading to the creation of $75 billion in new foreign investment, 10 million jobs, and over one trillion Philippine Pesos (PHP) in public sector revenue within the decade. Vital to achieving these lofty goals, the agribusiness sector makes up one of seven priority industries that demand strategic consideration by policymakers and the private sector alike.

The policy brief begins with an overview of the agricultural sector and points out salient areas of growth potential. Assuming a general knowledge of the sector, the paper then analyzes agriculture's checkered history, specifically its declining productivity, deteriorating competiveness, and anemic contribution to employment growth. The third section delves deeper into specific challenges facing the sector and opportunities to improve the agribusiness investment climate. Inter-related agribusiness priorities include: market access, logistics and supply chain, policies and regulations, investments and access to finance, support services, and human capital. The final section offers key recommendations that speak to JFC priorities in agribusiness. Working with policy makers, the JFC remains committed to sustaining the momentum for economic reforms now and into the next administration. On March 1 an Agribusiness Policy Note was published by the JFC with five key recommendations and found herein at pp 20-23.

II. AGRICULTURAL BACKGROUND AND GROWTH POTENTIAL

At the end of 2014, the gross value added (GVA) from the broader agriculture sector (which includes hunting, forestry, and fishing) reached 1.4 trillion PHP, a growth of 1.1% from the previous year.[1] The agricultural subsector accounted for 85.9% of this total, dominated by palay (i.e., unmilled rice at 25.6%), livestock (12.3%), poultry (8.9%), banana (7.5%), coconut (6.9%), agricultural activities/services (6.8%), and corn (6.2%). The fishing subsector made up another 13.8%. In terms of annual growth, the promising subsectors included: coconut (28.2% increase over 2013 production, at current prices), palay (21.2%), coffee (19.5%), agricultural activities/services (13.1%), corn (12.6%), banana (11.6%), and poultry (at 8.3%). The largest declines occurred in rubber (-34.9%) and cassava (-18.8%) production. Major agricultural producing regions embrace most of Mindanao, Western Visayas, and parts of Luzon.

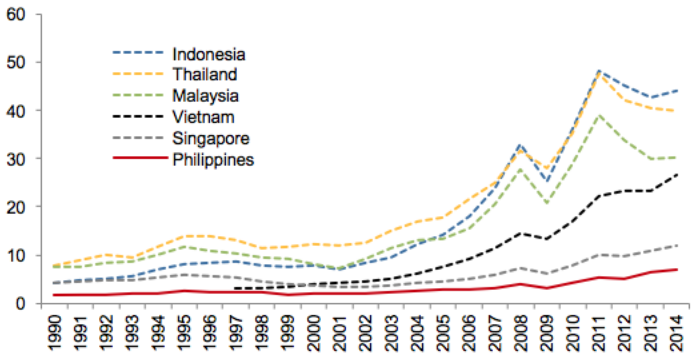
[1] At constant 2000 prices. National Statistical Coordination Board, Philippines Statistics Authority - NSCB, 2015, http://www.nscb.gov.ph/.

In trade, agricultural exports totaled $6.4 billion and accounted for 12% of all exports in 2013. Importing more, the country carried an agricultural trade deficit of US$1.5 billion. Compared to its Southeast Asian peers, the Philippines possesses by far the smallest and most anemic agricultural export base.[2] See Figure 1.

The broad agriculture sector accounted for 11.3% of Gross Domestic Product (GDP) in 2014. Dominated by services (57.5% of GDP), the Philippines has, over the decades, gradually moved away from an agrarian-based economy. In fact, not since 1969 has the broader agricultural sector accounted for more than one-fifth of economic output. GDP growth figures reflect the declining significance of the agricultural sector. Propelled by the services (3.4% growth) and industrial (2.5%) sectors, the Philippine economy expanded by an impressive 6.1% in 2014. Agriculture grew by only 0.2% and accounted for a paltry 3.3% of the economy's otherwise robust growth. Even with high growth, inequality and poverty persist largely unchanged in recent years. Economic prosperity has not broadly trickled down to the masses.[3] As some suggest, the Philippines suffers from a dualistic economic structure marked by a small industrial base, at one end, and the relatively unproductive agricultural and services sector, at the other.[4]

As in most developing countries, however, the agriculture sector still plays an important part of the Philippine economy. Upwards of 73% of the country's poor resides in rural areas,[5] where agriculture provides an economic lifeline and remains crucial to inclusive growth overall. Farmers and fisherman rank among the poorest in the country, where poverty remains stubbornly high (at close to one-quarter of the population). While the agriculture sector accounted for a small portion of GDP, its significance derives from employment, characterized as mostly informal, low-wage, and low-skilled. Close to one-third of the workforce (11.8 million out of 38.1 million in 2013) relies on agriculture for its livelihood. Yet disturbingly, the sector's contribution to employment has declined in recent years.[6]

Figure 1: Agricultural products exports, Bn USD, ASEAN-6, 1990-2014



Source: WTO; No data for Vietnam before 1997

With around 1.2 million people entering the workforce every year, the Philippines must create stronger conditions to sustain high and inclusive growth that create quality jobs capable of absorbing this large influx to the labor market.[7] In the view of some, the country's unemployment resembles an economic 'time bomb.'[8] Even with access to overseas job market, the Philippines will need to attract major investments to create employment domestically. As emphasized by the *Arangkada* agenda, local business leaders continue to stress that creating new jobs and training workers with skills needed in existing and emerging industries constitute two of the most serious challenges facing the Philippine economy in the coming decades.[9] A more modern, diversified, and competitive agribusiness industry has a crucial role to play in this regard.

[2] Top agricultural exports include coconut oil (15%), fresh bananas (14%), tuna (11%), and pineapple products (7%). See Philippine Statistics Authority, Country STAT Philippines.
[3] As measured by the Gini coefficient, income distribution in the Philippines is highly uneven. The country's Gini coefficient of 43.0 is among the highest in Asia. World Bank, World Bank Database, data.worldbank.org/country/philippines. A Gini index of 0 denotes perfect equality, while an index of 100 implies perfect inequality. Incidence of poverty in the Philippines reaches an estimated 25%.
[4] See Paul Krugman, J. Alms and E. Remolona, Transforming the Philippine Economy (Quezon City: APO Production Unit, 1992); and John V.C. Nye, Taking Institutions Seriously: Rethinking the Political Economy of Development in the Philippines, Vol. 28, 1 vols. (Asian Development Review, 2011).
[5] Poverty incidence in rural areas (at 37.8%) more than doubles that of urban centers (14.2%). Asian Development Bank, Poverty in the Philippines: Causes, Constraints, and Opportunities, (Mandaluyong City, Philippines: Asian Development Bank, 2009).
[6] According to government statistics, 11.8 million (or 31.0%) of the 38.1 million people were employed in the agricultural sector in 2013, down from 33.0% in 2011. See http://countrystat.bas.gov.ph/ .
[7] Of this yearly workforce entrance, 500,000 possess university degrees, and half enter the formal employment sectors such as Business Process Outsourcing, manufacturing, finance, or real estate. Within a few years, the other half finds work abroad. Lacking college degrees, the remaining 650,000 workforce entrants rely on the vagaries of the informal sector. See World Bank, Philippine Development Report 2013: Creating More and Better Jobs, Philippine Office, East Asia and Pacific Region (Makati, Philippines: World Bank, 2013).
[8] Jesus Jesus Felipe, Growth, Full Employment, and Structural Change: Implications and Policies for Developing Asia, (Mandaluyang City, Philippines: Asian Development Bank, 2010).
[9] *Arangkada* 2010

With over one million Filipinos entering the labor force each year, the service sector alone cannot absorb them all... No surprise then, that poverty has barely declined in recent years or that the country's per capita GDP is the lowest among ASEAN's core five. To reverse these trends, the country has to create jobs for semi- and unskilled workers in manufacturing and ***agriculture****. But doing that, in turn, will require attracting* ***more foreign investment,*** *which for the Philippines is currently among the lowest in Asia..."*

- Karen Brooks, former Asian Affairs Director, US National Security Council, Foreign Affairs, January-February 2014

In promoting growth strategies, the JFC's TAPP has identified agribusiness as one of the seven growth industries that can achieve higher investments, increase exports, and create lasting employment. Taking advantage of competitive advantages in agriculture will require a concerted effort to implement reforms that improve the agribusiness environment, level the playing field, attract investments, and expand trade. If the country can significantly increase its exports and imports of agricultural goods, agricultural regions would generate much greater revenue, provide more employment opportunities, and lessen poverty in rural areas. This urgency resonates sharply for Mindanao, the country's breadbasket, where underdeveloped potential of its natural resources reflect unrealized comparative advantages in agricultural exports.

The sector holds promising opportunities. Research on revealed comparative advantage points to potential Philippine gains from trade in agricultural commodities such as banana, coconut, tropical fruits (dried), mango, abaca, and pineapples, among others.[10] Through its High Value Crop Development Program, the GPH's DA promotes similar crops from production, processing, marketing and distribution.[11] Unscathed by avian influenza and foot-and-mouth disease that affected many countries in Asia, the local livestock and poultry industries is poised to capitalize on this disease-free status by expanding into new markets abroad. These export growth areas have yet to reach their potential, however. The country maintains a trade deficit in agriculture, whose exports perennially lags behinds its Southeast Asian peers.

Superior Philippine Pineapple

Sorting bananas for export

[10] Philippine Development Plan, Chapter 4.
[11] These priority commodities include: mango, vegetables, pineapple, banana, coffee, rubber, cacao, and rootcrops. For details, see http://hvcdp.da.gov.ph/HVCDP%20website_rev2.htm .

III. ISSUES AND ANALYSIS

As with much of its economy, the agriculture sector in the Philippines has experienced a checkered history, where gains have proven relatively modest, short-lived, unevenly distributed, and precarious. In terms of agricultural GVA and exports, the Philippines compared favorably to Southeast Asian peers up through the 1970s. Yet, over the past few decades, agricultural output and employment have stagnated, failing to keep pace with population growth. By the 1990s, the Philippines lagged socio-economically behind most of its East Asian peers. A variety of factors accounts for this phenomenon, which is beyond the scope of this policy brief. More extensive research elsewhere has shed light on agriculture's declining productivity, deteriorating competiveness, and anemic contribution to employment growth.[12]

As countries develop and modernize, the decline of the agricultural sector and the thinning of its labor force would not otherwise seem as troubling – if structural transformations can unlock competitive advantages for agribusinesses. Urbanization and the rural exodus have generally gone in parallel with a country's socio-economic development. This transformation typically coincides with the modernization of agricultural production, characterized by growing productivity, mechanization, and the release of surplus labor propelled (on pain of starvation) to urban cores. To the extent other sectors of the economy – particularly manufacturing[13] – can accommodate the rural exodus, increasing productivity and efficiency of the agricultural sector reflects a more competitive agribusiness environment that strengthens food security, improves purchasing power of consumers, and contributes appreciably towards broad-based, inclusive growth. In the Philippines, modernization of agricultural production has not progressed as rapidly as desired. Nor has the capacity of the broader economy been able to absorb a sufficient amount of the expanding labor market. Industrialization has failed to take a strong hold, with the Philippine economy seemingly disregarding a crucial step in structural transformation predicated on export-led manufacturing growth successfully modeled elsewhere in East Asia.[14] As evidenced by sluggish growth and stagnant production, the Philippine agricultural sector has witnessed a slower structural transformation than its Southeast Asian peers.

As the GPH itself recognizes, the country has not fully exploited its comparative advantage in agriculture.[15] Formidable challenges and constraints along the supply chain continue to hamper the sector's full potential, including: the high and variable cost of production inputs; lack of mechanization to improve productivity[16] ; limited access to finance to scale operations; inadequate provision of infrastructure, particularly in irrigation; and inefficient logistics and limited connectivity exacerbating postharvest losses. Compounding these issues, natural disasters continue to wreck havoc on this tenuous and vulnerable farm-to-market supply chain; flawed policies reinforce disincentives to invest in the sector; and weak/fragmented institutions limit the effectiveness of local extension services and agricultural support offices. As a result, agriculture exports (with few exceptions) remain broadly uncompetitive in the world market. Issues related to productivity, efficiency, quality, and price all compound the investment climate. Many observers in the development field have longed recognized these challenges.[17] Yet, structural reform of agricultural production has been slow to materialize, and the agribusiness sector is less competitive than it could otherwise be.

[12] See, for example, Cielito F. Habito and Roehlano M. Briones, "Philippine Agriculture over the Years: Performance, Policies and Pitfalls," World Bank, June 27, 2005, http://siteresources.worldbank.org/INTPHILIPPINES/Resources/Habito-word.pdf; Cristina C. David, Ponciano Intal and Arsenio M. Balisacan, Distortions to Agricultural Incentives in the Philippines, (Philippine Institute for Development Studies, 2007); Raul V. Fabella, Comprehensive Agrarian Reform Program (CARP): Time to Let Go, UP School of Economics (Quezon City, Philippines: University of the Philippines, 2014); and Roehlano M. Briones and Ivory Myka R. Galang, Urgent: A road map for agro-industrial development in the Philippines, 2013-6, Philippine Institute for Development Studies (Policy Notes, August 2013).

[13] For the JFC's perspectives on the manufacturing sector, see The *Arangkada* Philippines Project, "Manufacturing Policy Brief," *Arangkada* Philippines, December 5, 2013, http://www.investphilippines.info/arangkada/manufacturing-policy-brief/.

[14] See World Bank (2013), pp. 88-94.

[15] See Chapter 4 of Government of the Philippines, "Philippine Development Plan 2011-2016," National Economic and Development Authority, 2011, http://devplan.neda.gov.ph/.

[16] Growth in agricultural productivity lags behind that of regional peers, as well as other parts of the economy (industry and services). Research points to anemic productivity growth, as measured by TFP (total factor productivity), linked to under investments in rural infrastructure, including roads, electrification, and irrigation. See World Bank (2013), p. 94, footnote 104.

[17] See, for example, Asian Development Bank, Sector Assessment (Summary): Agriculture and Natural Resources, Country Operation Business Plan: Philippines, 2014-2016, (Mandaluyang City, Philippines: Asian Development Bank, 2013); and World Bank, Philippine Development Report 2013: Creating More and Better Jobs, Philippine Office, East Asia and Pacific Region (Makati, Philippines: World Bank, 2013).

To its credit, the GPH has made notable strides in strengthening the agricultural sector. These measures include: concerted moves to take advantage of new market opportunities and free trade agreements (FTAs); measures to promote productivity; development of appropriate infrastructure, and focus on strengthening resiliency to climatic impacts. In the recent past, public expenditures have focused on irrigation (36.3% of the DA's 2013 appropriations of 72.4 billion PHP), rice (10.3%), and farm-to-market roads (8.8%).[18] Aside from the continuing priority of rice, the government has moved resources away from large-scale input subsidies (e.g., crop subsidies, mechanization, and postharvest equipment) in favor of broader measures to enhance productivity (e.g, irrigation, farm-to-market roads, bridges, electrification, market access and information, extension services, and research and development). With these efforts, the GPH takes credit for expanding agricultural food exports by 32% in 2011-2013. While the sector maintains a trade deficit, this trade gap has narrowed from US$3.3 billion (in 2010) to US$1.5 billion (in 2013). Yet, as noted earlier, these achievements dwarf in comparison to agricultural export growth experienced by regional peers elsewhere in Southeast Asia. For good measure, the GPH continues to place a high priority on the agriculture sector, with substantial budgetary outlays for irrigation, farm-to-market roads, access to credit, research and development, among others. While welcomed, these efforts may prove sufficient for neither food security nor poverty alleviation in rural areas.[19]

With less than one and half years left in the Aquino administration, DA remains confident of the country's ability to meet production targets under its key programs for food staples (e.g., rice and corn), animal industry, and high value crops.[20] Others are less sanguine. Economic data points to the need to moderate this forecast. The performance of agriculture remains underwhelming, particularly in relation to other sectors of the economy or regional peers.

IV. AGRIBUSINESS PRIORITIES IN FOCUS

The sector's structure remains broadly unchanged in decades, with rice the dominant crop. In the recent past, rice has accounted for around 45% of crop arable area and a quarter of total agriculture GVA. This bias towards rice comes at the cost of unrealized potential elsewhere. If the country is to achieve lasting economic transformation, a sense of urgency is needed to unleash, modernize, and diversify the business of agricultural and food production. The *Arangkada* Philippines Report highlighted 18 recommendations to unleash the growth potential of the agribusiness sector. Of these recommendations, the JFC considers 17 to be "active," with all 17 having been started. One remaining yet important recommendation lies dormant (in the development of an Agribusiness Investment Fund). The yearly *Arangkada* assessments draw attention to progress on these reform measures, as well as the broader 472 recommendations to accelerate growth in the Philippines across all seven priority sectors. Complementing these yearly updates, the Agribusiness Policy Brief dives deeper into specific issues and challenges affecting the business of agricultural production. These inter-related agribusiness priorities include: market access, logistics and supply chain, policies and regulations, investments and access to finance, support services, and human capital. Taken together, these issues highlight opportunities to improve the agribusiness investment climate.

Market Access. Looming over the entire sector, regional integration and trade liberalization provide avenues for increased agricultural exports, if the sector is competitively positioned to take advantage of increased market access. As noted in the *Arangkada* report, a variety of FTAs are taking effect in ASEAN, including those with China, Japan, Korea, Indian, Australia, and New Zealand. The ASEAN Economic Community (AEC) itself is slated to come into effect in 2015; and the JFC has raised concerns about the preparedness of the Philippines for the AEC, in light of challenges for certain crops, particularly those currently

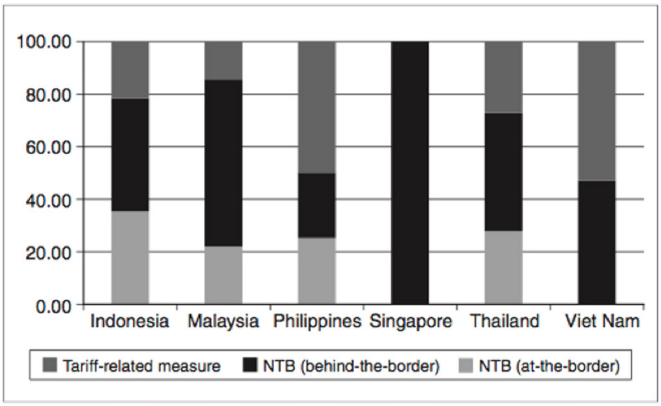
[18] Department of Agriculture , 2014, http://www.da.gov.ph/index.php/2012-03-27-12-04-16/financial-performance-report/fy-2013.
[19] See for example, Pia Ranada, "Aquino's 2015 Agri Budget: What's in it, What's Missing," Rappler, August 5, 2014, http://www.rappler.com/move-ph/issues/budget-watch/65227-aquino-2015-agriculture-budget.
[20] Czeriza Valencia, "The Philippine Start," YEARENDER: Targets remain attainable – DA, December 30, 2014, http://www.philstar.com/business/2014/12/30/1407605/yearender-targets-remain-attainable-da.

insulated by protectionist measures such as rice and corn. At the end of 2014, the European Parliament granted the Philippines privileges under an enhanced Generalized Scheme of Preferences (known as GSP+), which allow duty free entry to the EU for some of the country's most promising export commodities not yet available under the standard GSP, including agricultural commodities such as pineapple, preserved fruits, tuna, fruit jams and jellies.[21] With current Philippine utilization of GSP hovering around 64%, the EU's enhanced trade concessions are expected to give a significant boost to exports, especially with China and all other ASEAN members excluded from GSP+.[22]

These FTAs, as well as preferential trade privileges like GSP+, provide Philippine exports unprecedented access to billions of consumers. Yet, market access flows both ways, with both winners and losers. The Philippines enjoys comparative advantages in some specialized products, as noted earlier. More efforts are needed to explore the multitude of new market opportunities presented by these openings, in such areas as market information, technology transfer, marketing, and general export promotion. At the same time, inexpensive imports produced more economically elsewhere may jeopardize the survival of less competitive domestic producers (e.g., poultry and pork from Thailand). While domestic consumers may benefit, the impact on local producers is complex, requiring more analysis on winners, losers, and related adjustment support.

Even with increased market access, competitiveness is far from guaranteed, requiring active monitoring and timely enforcement. More attention must be paid to ensuring a level playing field for Philippine exporters. The ASEAN region lacks appropriate policies and rules to mitigate market distortions and discriminatory regulations imposed by member countries, particularly in the trade regime. For all the political fuss over the AEC's grand vision of establishing ASEAN as a single market and production base (with free flow of goods), 2015 marks a milestone – if nothing more than a symbolic one. As a result of substantial progress in tariff liberalization, ASEAN nominally enjoys zero tariffs on upwards of 70% of intra-regional trade, with average tariff rates already below 5%. Yet, the ambitions of ASEAN integration appear as distant as ever, particularly with non-tariff barriers (NTBs) and other distorting measures undermining the entire process.

Figure 2: State Measures Considered Discriminatory ASEAN-6, as of 2012



Source: Austria, Non-Tariff Barriers (2013)

Given this soggy playing field, recent research suggests the need to temper any overt enthusiasm over AEC. NTBs take the form of government measures that discriminate against foreign commercial interests in the region, while non-tariff measures (NTMs) refer to unfair practices that distort trade.[23] Unfortunately, agricultural commodities seem to bear the brunt of these trade distortions in ASEAN. As for state measures of NTBs, Indonesia (48 measures affecting 388 tariff lines) and Vietnam (15 measures affecting 927 tariff lines) stand out at the biggest culprits,[24] but all ASEAN-6 countries deploy discriminatory practices, particularly at or within national borders. See Figure 2. At the borders, these NTBs may include import subsidies or outright bans, non-automatic import licensing, new import

[21] GSP+ preferences cover over 6,200 tariff lines including fruit and foodstuffs, coconut oil, footwear, fish and textiles. See Philippine Star, December 18, 2014, http://www.philstar.com/business/2014/12/18/1404147/eu-grants-philippines-zero-tariffs-strategic-exports.

[22] Based on factors relating to human/labor rights and environment/good governance, GSP+ privileges are not automatic and subject to periodic review. Moving forward, the GPH hopes to transform GSP+ concessions into a full-blown and more permanent FTA. The JFC welcomes the GPH request for inputs on this process. Exclusive GSP+ privileges may not last long, however, with Thailand pushing aggressively for an FTA with the EU.

[23] NTMs refer to protectionist measures – other than tariffs – that distort trade. NTMs become NTBs when they discriminate against imports or foreign firms. For a recent analysis of the effects of NTBs, see Myrna S. Austria, "Non-Tariff Barriers: A Challenge to Achieving the ASEAN Economic Community," in The ASEAN Economic Community: A Work in Progress, ed. Sanchita Basu Das, Jayant Menon, Rodolfo Severino and Omkar Lal Shrestha (Singapore: Asian Development Bank and Institute for Southeast Asian Studies, 2013); and Gloria O. O. Pasadilla, "Non-Tariff Measures Faced by Philippine Agricultural Exports in East Asia," Policy Notes (Philippine Institute of Development Studies), no. 2007-10 (December 2007).

[24] Austria (2013) documents 48 discriminatory measures in Indonesia affecting 388 tariff lines and 15 for Vietnam measures affecting 927 tariff lines.

procedures, quotas, sanitary and phytosanitary (SPS) measures, and technical barriers to trade, among others. Within borders, NTBs may include: state aid measures, public procurement requirements, trade finance, export taxes, and restrictions and investment measures. Within ASEAN, Indonesia and Thailand enforce the most regulations affecting agro-based sectors. Indonesia and Malaysia subject the agriculture sector to the highest NTMs (93.8% and 89.3%, respectively, of all agro-based imports). The shear diversity of discriminatory tools at the disposal of ASEAN members, as well as their continued willingness to exercise them, reinforces the perception that the regional body lacks meaningful momentum to become a single market within a decade. As some suggest, ASEAN members appear uninterested in relinquishing more than the bare minimum of national sovereignty for the sake of regional integration.[25] As such, aggressive steps by both the public and private sectors are needed to protect the interest of Philippine exports against market distortions and discriminatory practices by ASEAN members or other trading partners.

In the absence of a single market under AEC, bilateral FTAs become an important venue to address NTBs and NTMs, particularly in efforts to standardize protocols and procedures (e.g., SPS measures). The Philippines, for example, lacks quarantine protocols/treaties to allow for exports of rambutan to Japan, which already permits such imports from both Thailand and Vietnam. DA leadership has pointed to the challenges of NTMs and general agricultural practices in need of fine-tuning, such as laboratory tests to conform to international standards. The DA continues to evaluate crops with comparative advantages to trade. With the Philippines free of avian flu, the export potential of poultry and meat looks promising and has led to increased exports of corn silage to South Korea over the last three years. Meanwhile, more work is required to improve Philippine exports to Japan, given its more stringent quality checks.

Logistics and Supply Chain. Beginning with high input costs during production, agribusinesses in the Philippines must also contend with a supply chain that progressively erodes the sector's competitiveness en route to consumer markets. Along this supply chain, a staggering 20-50% of fresh produce is estimated to be lost in transit from the farm to consumers.[26] By comparison, post-harvest losses in Thailand reach an estimated 6%. The lack of post-harvest facilities cries out for more private sector investment, as part of efforts to manage their overall supply chain. Farm-to-market roads provide much needed linkages. Yet, only 3.5% of barangay roads are paved. By the time agricultural products reach markets, transaction costs have escalated, rendering many agribusinesses susceptible to external shocks, at best, and uncompetitive at worst. As evidenced by growing markups from farmgate to retail prices for key crops (such as rice, corn, bananas, and mangos), constraints with logistics and supply chain compound already challenging production issues of quality and efficiency. Eventually, consumers pay the price. In comparison to regional peers, the Philippines spends the highest share of total consumption on food.[27] To address some of these costs, DA plans to open 70 agro-trading facilities, which can expect to dampen exploitation by middlemen.[28] This initiative can also reduce post-harvest losses along the supply chain, and the JFC sees opportunities for foreign investment in these facilities.

Due to limited infrastructure investments, inefficient roadways and ports further erode agriculture's otherwise competitive advantages and increase logistics costs throughout the Philippine archipelago, which relies heavily on inter-island transport to move goods.[29] As widely recognized, domestic shipping costs run high, a perverse consequence of the cabotage provisions of the Philippine maritime law that prohibit international competition in inter-island shipping and underdeveloped small ports serviced by small ships. Highlighted by the *Arangkada* Report 2010, the cost of sending containerized goods from Luzon (Manila)

[25] See Institute of Southeast Asian Studies, The ASEAN Economic Community: a Work in Progress, ed. Sanchita Basu Das, Jayant Menon, Rodolfo Severino and Omkar Lal Shrestha (Singapore: Asian Development Bank, ISEAS Publishing, 2013); and Simon Long, "Saftey in Numbers: ASEAN Invites Comparison with the EU," The World in 2015, November 2014.
[26] Gilberto M Lanto, "How Critical is Transport and Logistics Infrastructure to Interregional Trade? The case of high-value fruits and vegetables in Mindanao," Policy Notes, Philippine Institute of Development Studies, December 2012: 1-8.
[27] See World Bank (2013), pp. 104-5.
[28] In 2014, four were opened, including one in La Trinidad, Benguet that already serves 73 percent of highland vegetables. The trading centres are part of the overall framework to fix the supply/distribution chain of agricultural commodities. If successful, these trading centers will eventually be expanded to have both training centers that house built-in laboratory testing facilities and agro-processing/packaging facilities that can also be used by the DSWD as packaging areas for relief goods in times of calamities. For example, the La Trinidad trading center is designed to include processing facility to process highland vegetables into packaged chopsuey.
[29] For detailed discussions on trade facilitation and logistics on agribusiness competitiveness in the Philippines, see Center for the Advancement of Trade Integration and Facilitation, "Philippines Agribusiness Competitiveness and Benchmarking Study: Component on Trade Facilitation and Logistics" (International Finance Corporation, 2012).

to Mindanao (Cagayan de Oro) has proven more economical when plying through international waters (to Hong Kong or Kaohsiung before returning to the Philippines) than using more direct, domestic routes.[30] Hence, port operations remain inefficient, lacking strong competition and economies of scale. Research points to a domestic shipping industry practically cartelized, with five shipping companies controlling an estimated 90% of the passenger and cargo market.[31] A misalignment – bordering on a conflict of interest also distorts the industry, where the Philippine Ports Authority (PPA) not only functions as the regulator but also acts as a major operator. Helping to address this cost of doing business, the JFC is working on providing inputs to help institutionalize agricultural exchange systems that can help lower shipping charges, such as one implemented by DA to allow for "forward sales." However, more structural reforms will be needed in the shipping industry.

Elsewhere, other infrastructure constraints impact the agribusiness sector. The cost of electricity poses a major threat to the country's economic competitiveness, in agriculture as more broady across all sectors of the economy. Unreliable and expensive electric power exacerbates the high cost of doing business and hampers economic growth in the Philippines. In Mindanao, home to the country's most promising agribusiness potential, frequent power outages have created disruptions along the supply chain, increased spoilage, and raised the cost of doing business.[32] With fertile soil and favorable climate, Mindanao has the potential to feed Luzon and expand agricultural exports. Yet, the cost of moving produce to markets around the country has limited the agribusiness potential. Cold storage facilities are absent. The region has not taken full advantage of the new international container port at the Phividec Industrial Estate in Northern Mindanao. Extending the agriculture supply chain further, a clustering approach could also connect agribusinesses to consumer markets, support services, and outward linkages with broader manufacturing sector.[33] Already, an increasing number of commercial hog and poultry farms are pursuing integrated strategies. The convergence model deployed for tourism could ideally be applied to link major agricultural corridors and align public infrastructure priorities.

Policies and Regulations. Market distortions in the form of protectionist policies, large subsidies for inputs and staple foods, and insecure property rights have conspired to limit agriculture's growth potential. Under the Food Staples Sufficiency Program (FSSP) 2011-2016, the GPH targeted zero imports of major food staples such as white corn, root crops, plantain, and, most prominently, rice. Corn has since achieved this goal, although enforced through outright export bans. Meanwhile, FSSP efforts to dictate domestic rice production in excess of consumption have so far proven unsuccessful, swimming constantly against the current of market forces.[34] Perverse incentives have caused the price of domestic rice to remain artificially high. Philippine consumers have been worse off, with higher food prices than elsewhere in the region.[35]

Set for 2013, the target for achieving rice self-sufficiency has since been pushed back by three years, to 2016. Supply constraints, compounded by natural disasters in recent history and El Nino, have stymied domestic rice production, even while protected by high tariffs on imports. In efforts to stabilize domestic rice prices, the GPH has eased quantitative restrictions on imports and resorted to state subsidies, which support upwards of one-quarter of all rice in the local market.[36] Research points to the challenges of this political goal, given the country's geography limiting rice's comparative advantage, market realities driving more economic means towards food security, and historical patterns of rice importation dating back over

[30] *Arangkada* 2010.
[31] Gilberto M. Llanto and Adoracion M. Navarro, "Relaxing the Cabotage Restrictions in Maritime Transport," Submitted to the Senate Committee on Trade, Commerce and Entrepreneurship (January 9, 2014).
[32] Back in April 2013, two power shortages in Sarangani lasting four hours every day adversely impacted the fishery businesses, which are dependent on a steady supply of power to operate their in-house ice plant for refrigerated transport of seafood products.
[33] As suggested by the World Bank (2013), "Shifting the developmental approach from production to a cluster and value-chain approach can therefore promote a more diversified agriculture, improve farm income, and create more rural jobs."
[34] Roehlano M. Briones, "Rice Self-Sufficiency: Is It Feasible?," Policy Notes (Philippine Institute for Development Studies) 2012, no. 12 (September 2012). In this analytically sound and revealing assessment, Briones suggests that self-sufficiency in rice production would unlikely be achieved, (as accurately predicated) for 2013 or (even more distressingly) over the course of the coming years (to 2020). The calculus of supply-demand points to variability in rice consumption, depending on market prices. As such, efforts to improve productivity in rice are unlikely to eliminate the need for its imports.
[35] In the most recent past, Philippine rice has been twice as expensive in comparison to Thailand. Import restrictions and other non-tariff barriers on a variety of agricultural products (such cereals, sugar, poultry, and livestock) have also contributed to higher food prices. World Bank (2013)
[36] In 2014, the Philippines more than doubled its minimum rice import volume, from 350,000 MT (in 2013) to 805,000 MT. See Xinhua, "Rice Self-Sufficiency Program Fails," The Philippine Star, June 27, 2014, www.philstar.com/headlines/2014/06/27/1340016/rice-self-sufficiency-program-fails; and Agence France-Presse, "Philippines Rice Self-Sufficiency Target Pushed Back," ABS-CBN News, October 7, 2014, www.abs-cbnnews.com/business/10/07/14/philippines-rice-self-sufficiency-target-pushed-back.

Ancient rice terraces of the Cordillera in Northern Luzon

100 years.[37] Aside from a brief anomaly in the early 1980s, the Philippines perennially imports rice to satisfy domestic consumption.[38]

Many have questioned the GPH's push for rice self-sufficiency, which continues to consume a large amount of government resources that could otherwise be redirected to diversify towards more promising agricultural crops and support a more dynamic agribusiness sector elsewhere.[39] Some suggest that the only feasible way to attain rice self-sufficiency would entail raising prohibitive barriers to rice imports. Such extreme measures should be discouraged at all costs and, anyhow, would adversely impact domestic consumers with politically unpalatable higher prices requiring even more subsidies for such an essential staple crop, deemed crucial to food security.

In another significant area of market distortion, the property rights regime contains major deficiencies and greatly undermines the investment climate. The business of agricultural production relies heavily on exploiting and developing land for human needs. A broader discussion of property rights, land redistribution, and agrarian reform in the Philippines is beyond the scope of this policy brief.[40] After six decades, the country's land reform remains incomplete,[41] creating uncertainties for agribusinesses, limiting collateralized lending in finance and discouraging investments in agricultural production. The controversial Comprehensive Agrarian Reform Program Extension with Reforms (CARPER) law mercifully expired on June 30, 2014. For a variety of complex issues related to land disputes, agrarian reforms remains incomplete. In its wake, significant uncertainties around property rights linger – much to the dismay of smallholder beneficiaries in waiting and distress of large landholders, whose property remains open to seizure for redistribution. For those so fortunate, land redistribution has created a new class of landed poor, who lack the resources, access to finance, post-harvest facilities, market information, and associated support services to cultivate the productive benefits of newly acquired land. Moreover, limits on landholding (five-hectares per beneficiary) and restrictions on selling or mortgaging newly redistributed property (for up to ten years) circumscribe market options for a newly-minted, landed class saddled with uncollateralizable property. For those less fortunate, landlessness and land inequality languish as physical manifestations of the broader socio-economic inequities pervading the country. Indicative of inefficiencies in the land market, a staggering 11 million parcels of untitled properties litter a country of 24 million parcels. Land use planning, zoning, and overall management are weak, undermining property development and associated tax collection vital to public investments.

To improve productivity and create economies of scale, efforts should be made to integrate small farmers into larger enterprises. Here, case studies by the JFC point to successful examples of integrating small farms into larger agribusiness enterprises. SMC's Cassava Assembler Program; Thailand's Charoen Pokphand Foods in the Visayas; Nestlé's relationship with small

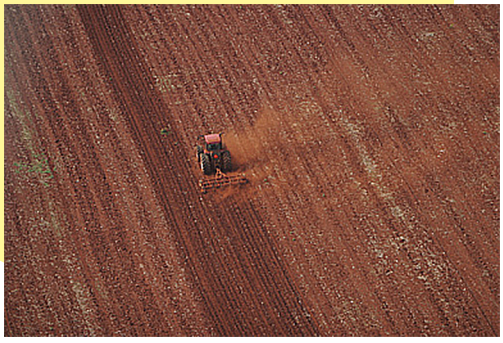
[37] In terms of achieving rice self-sufficiency, island countries like the Philippines have a natural disadvantage. See David Dawe, "Rice Self-Sufficiency: A Question of Geography?," Rice Today (International Rice Research Institute) 13, no. 1 (January-March 2014).
[38] In the early 1980s, both the Philippines and Indonesia were self-sufficient in rice production, as a result of adopting measures from the Green Revolution (i.e., high-yielding varieties, irrigation, and fertilizer) earlier than other Southeast Asian countries. In time, current rice exporting countries (e.g., Thailand, Vietnam, Myanmar, Cambodia, and Lao PDR) played to their comparative and geographic advantages to make Southeast Asia the hub of the world's rice economy. Dawe, 2014.
[39] The World Bank (2013, p. 103) notes, "The overriding concern with rice self-sufficiency has meant that public policies are directed away from developing a potentially vibrant agribusiness sector and from developing other crops with higher values." See also Briones (2012).
[40] For a detailed discussion of the agriculture sector, see the World Bank (2013), pp. 94-107.
[41] Of the 7.87 million hectares covered by CARP (from 1970 to June 2014), only 5.00 million hectares (or 63.5%) have so far been distributed, according to the GPH.

coffee growers; and Unifrutti and La Frutera's model of development in the conflict areas of Mindanao all suggest the possibility of large agribusiness ventures harnessing many small farmers successfully.[42] More such efforts need to be encouraged and appropriately incentivized. Established agribusinesses (e.g., Dole in South Cotabato, Del Monte in Bukidnon, Nestlé throughout the country, Agumil's palm oil operations in Palawan) have the capital and technological knowledge to benefit smaller farmers, if proper linkages and partnerships could be encouraged. To the extent peace and order concerns are sufficiently addressed in Mindanao, more companies have expressed a willingness to invest in the region, to the benefit of all market players along the agribusiness supply chain.

Investments and Access to Finance. As the JFC emphasizes in the *Arangkada* report, long-standing farm infrastructure require on-going investment to allow more local value-added for agribusinesses. These priorities areas include: farm-to-market roads, post-harvest processing facilities, irrigation, phytosanitary inspection facilities, food terminals, cold storage, and food processing factories. With a growing economy, investment opportunities abound.

Capital investments are urgently needed to upgrade and modernize obsolete equipment in such areas as sugarcane mills. In the Bangsamoro region of Mindanao, the World Bank has developed proposals for abaca (i.e., local banana variety) as an area for new investment. In parallel, the DA actively promotes the expansion of abaca production in Bicol, the Visayas, and Mindanao. The World Bank's new six-year Philippine Rural Development Program (PRDP) with DA seeks to develop areas of the country with high agriculture potential. DA is currently engaging several provinces (e.g., Albay and in Mindanao), where the PDRP team is in talks with Unifrutti to expand the banana plantation in Cagayan and in conflict-ridden areas. Working in partnership with Unifrutti, DA has started building farm-to-market roads (21.6 kms) to facilitate entry of investment into two more municipalities in Cagayan and later in Parang, Maguindanao. For Luzon and Visayas, pilot areas have been launched for calamansi in Oriental Mindoro, coffee in Kalinga, and coconut in Albay.

Packaging pineapples in Mindanao



Modern high productivity farming

By providing information on (i) where best to invest and (ii) current technology to monitor investment, the DA encourages Overseas Filipino Workers from farming communities to re-invest in Philippine agriculture through its "re-integration" programs. Partnering with South Korean investors, the DA is working to make available 5,000 hectares of contiguous land for exports of Philippine crops to South Korea. These investors assist the DA in estimating production costs and identifying facility requirements. The GPH has also included research and development (R&D) testing laboratories in the Investment Priority Plan's list of activities to incentivize. Elsewhere, the JFC sees potential in the high value-added conversion of coconut trees, increased coffee plantation, and cacao production. Other JFC priorities for investments include such high value export crops as banana, mango, pineapple, avocado, squash, red chili, peanuts, and mongo beans. As noted earlier, the JFC sees opportunities for foreign investments in agro-trading facilities. The JFC has also encouraged the establishment of new domestic/export industrial zones to be managed by the Philippine Economic Zone Authority (PEZA). Moving on this front, DA implements an on-going Clark Green City project

[42] On a good case study of six firms that chose to operate in the conflict areas of Mindanao and reaped the benefits, see Cielito F. Habito, Braving It and Making It: Insights From Successful Investors in Muslim Mindanao (Australian Aid, 2012).

with the Philippines Bases Conversion Authority and plans to meet with PEZA to pilot test a small zone for agricultural production.

Hampering investments, access to credit poses a daunting challenge for the sector. Many agribusinesses are small and financially weak, requiring business development support to improve their credit worthiness. Moreover, the inability of agrarian reform beneficiaries to sell or mortgage their new properties renders their lands uncollaterizable for many types of bank financing. Government financial institutions, such as Land Bank of the Philippines (LBP) and Development Bank of the Philippines, offer agriculture financing programs – some in collaboration with DA, such as the Sikat Saka Program. For a variety of reasons (e.g., loan processing and administrative paperwork), however, these government schemes remain under-utilized. Naturally risk averse, private financial institutions fare no better. The agribusiness sector, while promising, boasts a small pool of bankable projects, mostly concentrated with the larger more commercial farmowners in possession of traditional collateral, secure property rights, and financial track record.

To expand agricultural credit, the GPH has resorted to a mandated lending policy with the Agri-Agra law, which requires banks to set aside 25% of their loan portfolio to the farm sector (Agri: 15% to agribusinesses and Agra: 10% to agrarian reform beneficiaries). To date, the law has produced mixed results in expanding agricultural lending, depending on the Agri-Agra threshold and type of financial institution. Figures as of September 2014 from the central bank point to overall banking compliance with agribusiness lending requirements (at 15.4%) across the sum of all types of financial institutions (universal, thrift, and rural/cooperative). Unsurprisingly, rural and cooperative banks set aside the largest portion of their loanable funds for agribusinesses (40.2%), with commercial banks doing the bear minimum (15.2%) and thrift banks falling below the threshold (9.1%). For lending to agrarian reform beneficiaries, however, the entire banking sector set aside a paltry 1.6% of loanable funds. Within this result, only rural and cooperative banks (which are more amenable to collateral substitutes) enjoyed any success, allocating 18.4% to the newly landed class. Commercial banks faired the poorest (at 1.1%), with thrift banks not far behind (1.8%).[43] To protect their balance sheets, many banks wisely opt to pay penalties for failing to comply with the Agra-threshold rather than arbitrarily loosening their credit policies to potentially unsound lending practices. While admirable in its goal, the mandate fails to address core issues and risk premium that render much of the sector unattractive from a lending standpoint, particularly for beneficiaries of agrarian reform.[44]

Support Services. With low productivity, the business of agricultural production would benefit from adopting new and innovative technologies. The JFC commends the GPH for making substantial progress to increase funding for R&D, particularly in its support for safe and responsible biotechnology. Promising research breakthroughs in agriculture are on the horizon. The DA has established R&D testing laboratories for abaca and corn. Public expenditures for 2014 and 2015 also include provisions to upgrade and expand these laboratories. Green Super Rice, a multi-stress resistant variety, has been tested at ten DA research stations and has seen early adoption by local farmers. Its R&D programs also train farmers in hilly areas (above 18° inclination) to make use of better cultivation techniques that reduce the risk of soil erosion. Research at the International Rice Research Institute and DA's Philippine Rice Research Institute (PhilRice) has led to advances in key food staples such as rice and corn. These organizations have developed climate change resistant varieties of rice, which have reached farmers through community seed banks and other associations. PhilRice also boasts the development of Palayamanan, a rice-based farming system and diversification scheme that successfully operates in all regions of the country.[45]

[43] See Bangko Sentral ng Pilipinas, BSP Supervised Banks/Statistics, September 2014, www.bsp.gov.ph/banking/bspsup.asp.

[44] Furthermore, the policy failed to appreciate the reach and power of landed elites, who continue to frustrate agrarian reform. Some attribute counry's under-performance to long-standing deficiencies in the Philippine political sphere. The close overlap between politics and big business has resulted in an oligarchic and self-perpetuating elite, creating roadblocks for outsiders and new-comers in their efforts to gain access and influence. Referred to as "Booty Capitalism," this political economy describes the relationship between a patrimonial state and a predatory oligarchy that presents political obstacles to Philippine development. See Paul D. Hutchcroft, Booty Capitalism: The Politics of Banking in the Philippines (Ithaca, NY: Cornell UP, 1998). Through an examination of interactions between the state and the major families of the oligarchy in the banking sector since 1960, the book highlights the Philippines as an archetypal relationship between political and economic development in the modern Third World.

[45] For details on this diversified, rice-based farming system, see R. G. Corales, et al., "Palayaman: a Rice-based Farming Systems Model for Small-scale Farmers," Philippine Journal of Crop Science (Crop Science Society of the Philippines) 29, no. 1 (2004): 21-27.

In fact, research institutions have contributed to a large number of "mature" technologies.[46] Ongoing research projects in cotton, sweet potato, and eggplant also hold promise for eventual commercialization. The DA has implemented JFC recommendations for inter-cropping of coconut and cacao. Meanwhile, Nestlé has developed technology to reduce coffee production from 27 to 18 months. Public agriculture R&D (as a percentage of GDP) compares favorably to other countries in the region. Yet, given the sector's lower productivity in comparison to Southeast Asian peers, R&D expenditures should ideally be even higher. And more could be done. JFC members observe, for example, about the lack of proper technology for product testing and point to the case of Malachite green as indicative of broader limitations in testing facilities in the country.[48]

Notwithstanding progress in R&D, the latest research and information on improved agricultural practices have not reached farmers sufficiently. The Philippine Council for Agriculture, Aquatic, and Natural Research and Development publishes and disseminates information on best practices. Yet, these campaigns have produced mixed results in efforts to instill more innovative and modern farming practices. Consequently, farmers have moved slowly and reluctantly in adopting new technologies. As such, agricultural extension services provide a vital link in the mass diffusion of agricultural research, transfer of appropriate knowledge, and sharing of best practices.

Agricultural extension refers to the application of scientific research and new knowledge to agricultural practices through farmer education. Devolved to municipal governments (through the Local Government Code, LGC), agriculture extension services in the Philippines appear weak, limited, and fragmented – reflecting technical and financial constraints at the local level. With a narrow mandate, DA's Agriculture Training Institute (ATI) plays a major role in channeling information, knowledge, training, research, best practices, and other extension activities to local governments. However, the actual delivery of extension services to farmers rests principally with municipal governments and their agriculture extension workers. No doubt, the quality, frequency, and reach of this work vary widely across the Philippines. With devolution of extension services, the supply-driven and top-down, hierarchical approach of DA was meant to give way to a more demand-oriented and participatory process of local accountability. Instead, overall quality of agriculture extension services, as many now concede, has gradually eroded since the LGC came into effect in 1991. To mixed results, vertical line agencies such as DA typically coordinate their field programs with local governments, in order to reach intended farmer beneficiaries. The success of this cooperation frequently rests on an alignment of interests between the national and local governments. In many instances, local governments lack the means to carry out the function of agriculture knowledge transfer and associated extension activities. In some cases, diverging priorities create inevitable tensions in central-local relations, with coordination failures exacting a damaging toll on extension services.

Highland vegetable production

In the face of agrarian reform, a responsive system of extension services has become even more vital to ensuring that new small farmholders are not left to fend for themselves. The success of agrarian reforms and the strength of agricultural extension services are linked. Sadly, weaknesses in one reflect poorly on the other. Shortcomings in the decentralization of agricultural extension services have led to calls

[46] Senate Economic Planning Office, Financing Agriculture Modernization: Risks & Opportunities, Senate of the Philippines (SEPO Policy Brief, February 2009). See World Bank (2013), p. 106.
[47] Malachite green refers to an aquarium chemical whose traces can be found in fish products. Philippines agribusinesses exporting fish must test for this chemical. Given the lack of testing facilities, fish sample have had to be sent to Taiwan.
[48] Malachite green refers to an aquarium chemical whose traces can be found in fish products. Philippines agribusinesses exporting fish must test for this chemical. Given the lack of testing facilities, fish sample have had to be sent to Taiwan.

to recentralize this function back to DA and expand the mandate of ATI.[49] Barring this recentralization, DA has a larger and more strategic role to play, especially in communicating a clearer roadmap for agriculture. The Philippines claims an astounding 1,891 publicly funded agencies and municipalities with recognized extension or advisory function and resources. In this fragmented environment, the DA should ideally reassert its leadership and bring order to this chaos by guiding and coordinating extension units, while also strengthening their links to R&D institutions and think tanks.[50]

Into this vacuum, the challenges facing the Philippine extension system create opportunities for the private sector to play a larger role in the delivery of agricultural support services. With appropriate incentives, these openings for the private sector may include: market information analysis and dissemination; innovative farming practices; incorporation of telecommunication and information technology; certified seed production and distribution; laboratory analysis and certification; and supply chain enhancements.[51] In a promising trend, the private sector has already taken the initiative to develop, promote, and support the latest farming best practices (e.g., Copra Quality Improvement Program). In La Trinidad (province of Benguet), local community members have developed partnerships across the public (municipal and national), academic, and private sectors to promote the agribusiness investment climate (with consistent standards and regulation). More such efforts need to be encouraged, documented, and expanded.

Human Capacity. The agriculture field has become progressively less attractive to young Filipinos and entrepreneurs. The average age of Filipino farmers has been estimated at 57, raising concerns over that a new generation has entirely foregone the industry.[52] Less alarming, more recent data by DA points to the average age of Filipino farmers at 43, pointing to a promising trend in the agribusiness industry. Irrespective of estimates, the age profile of farmers is a cause for concern. Some would go so far as implying that the older age profile of farmers explains, at least in part, the slow rate of technological adoption and aversion to newer, more innovative farming techniques (in such areas as fertilization and farming management systems, for example).

As noted earlier, employment in agriculture attracts mostly informal, low-wage, and low-skilled workers. Farmers posses, on average, about five years of elementary education. Undoubtedly, a skills gap exists. The sector faces a shortage of experienced farm managers with adequate entrepreneurial skills to help modernize, scale, and commercialize the business of agricultural production.

Agricultural education has seen better days. Sadly, few college students major in agribusiness. Currently, only about 88 students enroll in agronomy – and most at the undergraduate level. Some estimate that enrollment in agribusiness degrees has plummeted by 90% in the recent years. Promising developments have started, however. A collaboration between the Food and Agriculture Organization and DA's ATI, the Farm Business School (FBS) offers a curriculum consisting of 25 sessions tackling on different farm business and management principles. The pilot areas targeted by FBS encompass 12 municipalities from Nueva Vizcaya and ten municipalities from Nueva Ecija. To date, the FBS has trained over 1,610 farmers.

V. BUSINESS RECOMMENDATIONS

A multitude of complex challenges confront the agribusiness sector in the Philippines, with no easy solutions. Costs and benefits, as well as the political economy of reforms, weigh heavily into public policy considerations. And reform measures are being adopted, if not as consistently or rapidly as the JFC would deem meaningful to have impact. As part of the broader *Arangkada* advocacy agenda, the JFC seeks to contribute to this reform dialogue by highlighting measures the could, all else being equal, contribute

[49] See Rodelio B. Carating, Mercedes Fernando and Silvino Q. Tejada, "The Philippine Agriculture Extension System: a Look at the Bureau of Soils and Water Management's Organic Fertilizer Production Project as a Sample Extension Delivery under the National Rice Program.," in Philippine Country Paper for the Workshop on Rural Development For High Level Officers of the AFACI Member Countries (Rural Development Administration, Suwon, Republic of Korea, August 7-14, 2010).
[50] Senate Economic Policy Office (2009).
[51] ADB Sector Assessment (2013)
[52] Angela Causauay, PH Farmers Endangered Species, May 22, 2014, http://www.rappler.com/business/special-report/world-economic-forum/2014/58607-ph-farmers-endangered-species-pangilinan. The mandatory retirement age in the Philippines is not far off, at 60-65 years.

appreciably to accelerating growth in agribusiness and other priority sectors first outlined in 2010. Committed to ensuring that momentum for economic reforms carry into the next administration, the JFC welcomes continued engagement with policy makers to ensure that the voice of the private sector is not only solicited but also seriously heeded and acted upon. Based upon earlier discussions from this policy brief, the following recommendations, while not exhaustive, point to sensible ideas that merit immediate actions and public policy considerations.

Market Access. New FTAs and other preferential trade privileges provide unprecedented market access, if Filipino agribusinesses can successfully compete in a more liberalized environment. Promising opportunities for agricultural exports are on the horizon, but Philippine food exports remain at modest levels. Their share in ASEAN has even declined, thus raising the need for clearer government policy/strategy to maximize FTA utilization. Moves to harmonize SPS standards and reduce pervasive NTBs/NTMs have started, but more work is needed. To take advantage of new market opportunities, measures are needed to improve market information, technology transfer, marketing, export promotion, and broader trade facilitation measures. Priority should be given to high value export winner crops, such as banana, mango, pineapple, coffee, avocado, squash, red hot chili, peanuts, and mongo beans. Current and further expansion of high-value added crops like coconut and palm oil must be encouraged by government to maximize the potential of non-traditional exports. Efforts are need to accelerate the identification of emerging comparative advantages as well.

With more liberalized trade, the impact on local producers requires more analysis on those best positioned to take advantage of market access and others displaced by economic disruptions. In addition, efforts to promote a level playing field need to look beyond tariff barriers and focus on discriminatory ways in which trading partners may distort market access for Filipino exports. As such, the GPH should do more to encourage ASEAN and other trading partners to develop common rules for their agricultural markets and reduce the various incarnations of NTBs/NTMs.

Logistics and Supply Chain. Efforts to reduce costs of farm inputs through use of FTA instruments and available technology (e.g. genetically modified organisms, tube wells, among others) have started but more work is needed to expand access to such technology and further reduce costs of farm inputs through road and port infrastructure development. To increase efficiencies, backwards and forwards linkages throughout an agribusiness supply chain should be greatly enhanced, particularly in priority subsectors as grains/feeds and livestock/poultry growing. Increased efforts must be made to reduce the cost of farm inputs, such as labor, machinery, insecticides, fertilizer, and transport, to support the survival of current producers and increase exports. Reducing the cost of farm inputs becomes even more important under a more competitive free trade regime. There must be less government red tape and lower prices for fertilizer and insecticides.

Studies mapping out the agricultural supply chain and identifying logistical costs for reduction have also become helpful. The National Competitiveness Council has set up committees for this purpose. Yet, actual policy reforms (such as limited amendment to cabotage, removal of fees and taxes, and classification of ChaRO as part of regular RORO service) have been slow to materialize. Road and port infrastructure must be improved in order to reduce ground and sea transport costs, irrigation must be expanded and better maintained. Domestic shipping needs to be deregulated and infused with more competition. The dual role of the PPA deserves stronger scrutiny to examine inherent conflicts of interests and biases in its port operations. Joint ventures between Filipino and foreign shippers should be duplicated, along with the completion and expansion of the Roll-on/Roll-off system in order to increase competition and reduce domestic shipping costs. The government needs to prioritize efforts to reduce port handling costs, which remain disproportionately higher than other countries in the region. Limited reform of cabotage restrictions were legislated in 2015.

To improve economies of scale, small crop farmers need to be increasingly linked in consolidated or cooperative arrangements with larger companies. These linkages

will enhance their capacity to scale operations and take advantage of evolving market opportunities. Integration as a strategy to enhance competitiveness of agricultural producers is recognized, but needs more investment and initiatives from both large integrators and government.

Policies and Regulations. Protectionist policies, large subsidies for inputs and staple foods, and insecure property rights all need to be redressed expeditiously. Import licensing eventually need to be abolished, with quotas on rice import transitioning to tariff structure that ideally diminishes over time. With CARPER's end, limits on landholding should be lifted. And zoning regulations could benefit from stronger private sector inputs into the planning process. Currently under legislative review, CARPER law amendments and the Farm Land as Collateral bill provide opportunities to correct some of the market distortions created by agrarian reforms. Limits on landholding and its consolidation should be lifted, along with restrictions on selling or mortgaging newly redistributed land. Also yet to materialize, the Land Use Policy and the Land Administration and Reform Act could help address core issues in agribusiness.

In other areas of government regulations, JFC members have complained about the backlog in granting VAT exemptions and the slow process of approving fiscal incentives. Administrative red tape continues to send the wrong message to potential agribusiness investors, who could otherwise be playing a stronger roll.

Investments and Access to Finance. After decades of under-investment, the agribusiness sector requires massive investment, both public and private alike. While investment trends look promising, more capital infusion is needed. The Agribusiness Investment Fund concept is being implemented on an individual basis in the private sector, but interest remains very modest. The prospects of the Bangsamoro entity as an investment destination provide opportunities to replicate the successful Unifrutti-La Frutera business model.

Access to finance has long presented challenges to expanding the sector. Fresh proposals by both public and private sectors are needed to unleash capital. Although the LBP charter was renewed in 2013, amendments do not include strengthening its mandate to provide financing to the agricultural sector and support to related activities. Re-focusing of LBP's scope of business from universal banking activities to supporting the agricultural sector should be done. By interfering with bank efforts to allocate capital efficiently, Agri-Agra and other mandated lending policies risk weakening the broader financial sector. Rather than mandating loan quotas, government efforts could instead focus more on ways to reduce risks inherent to the agricultural sector (e.g., provision of basic infrastructure, appropriate technology, and improved market information). In this vein, market participants continue to explore financial instruments to make farmers more bankable and competitive. For example, DA's Agrarian Productivity Credit Program extends various forms of credit assistance to farmers, including crop insurance. Encouragingly, the program has witnessed an 800% increase in crops insurance, which is tailored to fit different crop types. In addition, credit enhancement and guarantee schemes could also be expanded expeditiously (in ways that limit moral hazard) to increase the pool of bankable projects. For their part, financial institutions could embrace more creative forms of collateral substitutes (e.g., movable assets), especially for agrarian reform beneficiaries already constrained by limited credit histories.

Support Services. R&D investments and activities on high-yielding, climate-change resistant varieties have substantially increased, thanks to government programs/support. However, their commercial application remains years away, while some (i.e. GMO) are being threatened by legal setbacks (e.g., Bt Eggplant in the Court of Appeals). Testing laboratories have begun to spring up, however sporadically, highlighting the need to consolidate efforts, if small and mid-sized farmers are to remain competitive with the rising standards of increasingly integrated regional markets. Development of drought-resistant food and fodder crops, "floating rice" varieties, and seed improvement should be prioritized. More companies should also engage in these types of research and development activities. Continued research and development to

Low-value rice farming prevails

make seeds not only disease-resistant, but also expire at much lengthier dates, will help Philippine agricultural products, especially mango, to remain competitive. Information on Philippine agribusiness best practices are disseminated, but campaigns are not sustained to the point of changing farmer behaviors.

In the Philippines, links between R&D and extension systems need to be strengthened and expanded, with the private sector poised to contribute appreciably where public institutions falter in the provision of otherwise public goods. Models of diverse arrangements to fund and delivery agricultural extension (with private sector involvement) exist in other countries, such as the U.S with its cooperative extension services and system of land grant universities. The Philippines should more actively seek out new and creative approaches to reinvigorating agricultural support services through strategic partnerships with the private sector and other hybrid approaches that incorporate cost recovery through fee for services. With stronger institutional backing, financial support, and management capabilities, agricultural cooperatives could also play a larger role in providing support services to their farming members. As with the broader sector in the Philippines, agricultural cooperatives have underperformed yet hold unrealized potential, particularly for those able to mobilize savings and expand access to credit. The DA encourages partnerships between cooperatives in farming communities and potential investors, and such efforts could be greatly expanded.

Human Capacity. To address the sector's skills mismatch, efforts are needed to ramp up agricultural education and vocational training programs that focus on entrepreneurial skills for both high school and college students. Successful practices from other countries provide guides to this process. Training models from France (family farm schools); Germany (dual training centers); and Switzerland (agricultural entrepreneurship training) can be applied to the Philippines. Large agribusiness companies should be encouraged to act as technical solution providers (e.g., set up of demonstration farms that introduce new technologies and hands-on management skills). Parallel efforts are also needed to help farmer groups establish strong cooperatives through development of competent managers/financers.

Indicative of the sector's under-investment, the government no longer provides scholarships for agricultural study. Reintroducing them would greatly incentivize students to follow a career path into the agribusiness industry. Priority for these programs should be given to schools in Mindanao, where tremendous agriculture potential lies. Further, agricultural education programs in Mindanao should be improved to meet the urgent need of developing future agribusiness managers. Entrepreneurship should be a core subject in training programs. As part of these reforms, a stronger and revamped agribusiness development curriculum should take into account the evolving trends in the sector and best practices. Encouraging, some of these reforms have begun, but more work and urgency are needed.

VI. CONCLUSION

The need for extensive reform in agriculture in the Philippines is urgent if inclusive growth is to take place. It should become a top priority of both public and private sectors who can work more closely together to assure that farmers earn more from their toil as they seek to better feed a growing population and export higher-value products.

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Bold Inclusive Reforms for Agribusiness for the Next Decade

In early 2016, the American Chamber of Commerce with the Joint Foreign Chambers of Commerce of the Philippines (JFC) organized a roundtable of industry participants to review the state of the agriculture sector and offer bold solutions to guide its resurgence over the next decade. In addition, JFC members meet regularly with officials from the Government of the Philippines and the Department of Agriculture (DA) to discuss mutual areas of interest and public-private collaboration. Informed by these discussions, this agriculture brief reviews past performance of the sector since *Arangkada* launched in 2010; identifies remaining challenges; and outlines specific proposals to boost its economic prospects as a meaningful contributor of inclusive growth.

Sectoral Overview

Dominated by services (almost 60% of GDP in 2014), the Philippines has, over the decades, gradually moved away from an agrarian-based economy. The broad agriculture sector currently accounts for a little over 10% of GDP. Recent data reveals that agricultural output remained flat in 2015, nudging 0.11% (from PHP 788 billion in 2014 to PHP 789 billion last year). Over the past six years (2010-2015), the agriculture sector grew by an average of 1.3%, well below the average 6.2% growth rate of the broader economy. While the Philippines can no longer claim to be an agrarian society, the agriculture sector still plays an important part in the economy, particularly for rural households who depend largely on exploiting the land for their livelihood. Upwards of 73% of the country's poor resides in rural areas, where agriculture provides an economic lifeline and remains crucial to achieving inclusive growth. Among the poorest in the country, farmers and fisherfolk face the highest incidence of poverty (an estimated 38%), which has shown no significant change in over a decade. While the agriculture sector accounted for a small portion of GDP, its significance derives from employment, characterized as mostly informal, low-wage, and low-skilled. Close to one-third of the workforce (12 million out of 38 million in 2013) relies on agriculture for its livelihood. Yet, the sector's contribution to employment has declined in recent years. If the Philippines is to achieve broad-based and inclusive growth, a sense of urgency is needed to unleash, modernize, and diversify the business of agricultural and food production.

Issues and Analysis

By many accounts, the country has not fully exploited its comparative advantage in agriculture, especially in the breadbasket of Mindanao. Beginning with high input costs during production, agribusinesses in the Philippines must also contend with a supply chain that progressively erodes the sector's competitiveness en route to consumer markets. Along this supply chain, a staggering 20-50% of fresh produce is estimated to be lost in transit from the farm to consumers. By comparison, post-harvest losses amount to an estimated 6% in Thailand. By the time agricultural products reach markets, transaction costs have escalated, rendering many agribusinesses susceptible to external shocks, at best, and uncompetitive at worst. As evidenced by growing markups from farmgate to retail prices for key crops (such as rice, corn, bananas, and mangos), constraints with logistics and supply chain compound already challenging production issues of quality and efficiency. Eventually, consumers pay the price. In comparison to regional peers, the Philippines spends the highest share of total consumption on food.

Formidable challenges and constraints along the supply chain continue to hamper the sector's full potential, including: the high and variable cost of production inputs; lack of mechanization to improve productivity; limited access to finance to scale up operations; inadequate provision of infrastructure, particularly in irrigation; and inefficient logistics and limited connectivity exacerbating post harvest losses. Compounding these issues, natural disasters continue to wreck havoc on this tenuous and vulnerable farm-to-market supply chain; flawed policies reinforce disincentives to invest

in the sector; and weak/fragmented institutions limit the effectiveness of local extension services and agricultural support offices. As a result, agriculture exports (with few exceptions) remain broadly uncompetitive in the world market. Issues related to productivity, efficiency, quality, and price all compound the agribusiness investment climate.

Business Recommendations

A multitude of complex challenges confront the agribusiness sector in the Philippines, with no easy solutions. Costs and benefits, as well as the political economy of reforms, weigh heavily into public policy considerations. And reform measures are being adopted, if not as consistently or rapidly as the JFC would deem meaningful to have impact on an anemic agricultural sector. As part of the broader *Arangkada* advocacy agenda, the JFC seeks to contribute to this reform dialogue by highlighting measures the could contribute appreciably to accelerating growth in agribusiness and other priority sectors first outlined in 2010. The following recommendations, while not exhaustive, point to sensible ideas that merit public policy considerations in the coming decade.

Market Access. New free trade agreements (FTAs), including the ASEAN Economic Community, and other preferential trade privileges provide unprecedented market access, if Filipino agribusinesses can successfully compete in a more liberalized environment. Promising opportunities for agricultural exports are on the horizon, but Philippine food exports remain at modest levels. Their share in ASEAN has even declined, thus raising the need for clearer government policy/strategy to maximize FTA utilization. Moves to harmonize sanitary and phytosanitary (SPS) standards and reduce pervasive non-tariff barriers (NTBs) and non-tariff measures (NTMs) have started, but more work is required. To take advantage of new market opportunities, measures are needed to improve market information, technology transfer, marketing, export promotion, and broader trade facilitation measures. In light of the Supreme Court's misapplication of the Writ of Kalikasan, the country must double down and boost agriculture research and development, which accounts for a paltry 0.1% of GDP. In other countries, this figure exceeds 1%. Priority should be given to high value export winner crops, such as avocado, banana, cacao, coffee, mango, marine products, mongo beans, peanuts, pineapple, red hot chili, squash, and tobacco. Current and further expansion of high-value added crops like coconut and palm oil must be encouraged by the GPH to maximize the potential of non-traditional exports. Moreover, efforts are need to accelerate the identification of emerging comparative advantages as well. With more liberalized trade, the impact on local producers requires more analysis on those best positioned to take advantage of market access and others displaced by economic disruption. In addition, efforts to promote a level playing field need to look beyond tariff barriers and focus on discriminatory ways in which trading partners may distort market access for Filipino exports. As such, the GPH should do more to encourage ASEAN and other trading partners to develop common rules for their agricultural markets and reduce the various incarnations of NTBs/NTMs.

Access to Finance. The agribusiness sector boasts a small pool of bankable projects, mostly concentrated with the larger commercial farm owners in possession of traditional collateral, secure property rights, and financial track records. Hampering investments, access to credit poses a daunting challenge for the sector. Many agribusinesses are small and financially weak, requiring business development support, collateral substitutes, and other credit enhancements to improve their risk profile. Given these longstanding challenges and ingrained market failures, fresh proposals by both public and private sectors are needed to unleash capital for agricultural development.

To expand agricultural credit, the GPH has resorted to a mandated lending policy with the Agri-Agra law, which requires banks to set aside 25% of their loan portfolio to the farm sector (Agri: 15% to agribusinesses and Agra: 10% to agrarian reform beneficiaries). To date, the law has produced mixed results in expanding agricultural lending, depending on the Agri-Agra threshold and type of financial institution. While admirable in its goal, the mandate fails to address core issues and risk premium that render much of the sector unattractive from a lending standpoint, particularly for beneficiaries of agrarian reform. By interfering with bank efforts to allocate capital efficiently, Agri-Agra and other mandated lending policies risk weakening the broader financial sector. Rather than mandating loan quotas, government effort should focus more on ways to reduce risks inherent to the agricultural sector (e.g., provision of basic infrastructure, appropriate technology, and improved market information). Government financial institutions can also play a much larger role. In 2013, the charter for the LandBank of the Philippines (LBP) was

renewed. However, its amendments lacked provisions to strengthen the bank's mandate of providing financing for the agricultural sector and related support activities. Re-focusing of LBP's scope of business from universal banking activities to supporting the agricultural sector should be considered. In this vein, market participants continue to explore financial instruments to make farmers more bankable and competitive. Of particular resonance, the JFC recommends a more comprehensive approach to crop insurance, which can help mitigate the numerous environmental risks (e.g., typhoons, droughts) that many smallholder farmers face on a perennial basis. Crop insurance continues piecemeal (e.g. Philippine Crop Insurance Corporation, microinsurance schemes, reinsurance). Yet, to de-risk the agricultural sector, the Philippines requires a bold initiative for crop insurance (on par with the success of the Conditional Cash Transfer program) that reaches a large swath of an under-served market segment. Resources are needed to develop a comprehensive approach and capitalize such an initiative, as well as agricultural data to assess and apportion risk adequately (i.e., land, soil, weather patterns).

Freeing up the Land Market. In another significant area of market distortions, the property rights regime contains major deficiencies and greatly undermines the investment climate. The business of agricultural production relies heavily on exploiting and developing land for human needs. Indicative of inefficiencies in the land market, a staggering 11 million parcels of untitled properties litter a country of 24 million parcels. Land use planning, zoning, and overall management are weak, undermining property development and associated tax collection vital to public investments. After six decades, the country's land reform remains incomplete, creating uncertainties for agribusinesses, limiting collateralized lending in finance, and discouraging investments in agricultural production. The controversial Comprehensive Agrarian Reform Program Extension with Reforms (CARPER) law expired on June 30, 2014. In its wake, significant uncertainties around property rights linger – much to the dismay of smallholder beneficiaries in waiting and distress of large landholders subject to land redistribution. Land redistribution has created a new class of landed poor, who lack the resources, access to finance, post-harvest facilities, market information, and associated support services to cultivate the productive benefits of newly acquired land.

Strong measures are needed to unshackle the land market in the Philippines. Currently under legislative review, CARPER law amendments and the Farm Land as Collateral bill provide opportunities to correct some of the market distortions created by agrarian reforms. Limits on landholding and its consolidation should be lifted, along with restrictions on selling or mortgaging newly redistributed land. Also yet to materialize, the Land Use Policy and the Land Administration and Reform Act could help address core issues in agribusiness. To improve productivity and create economies of scale, efforts should be made to integrate small farmers into larger enterprises. Here, case studies by the JFC point to successful examples of integrating small farms into larger agribusiness enterprises. SMC's Cassava Assembler Program; Thailand's Charoen Pokphand Foods in the Visayas; Universal Leaf in Northern Luzon; Nestlé's relationship with small coffee growers; and Unifrutti and La Frutera's model of development in the conflict areas of Mindanao all suggest the possibility of large agribusiness ventures harnessing many small farmers successfully. More such efforts need to be encouraged and appropriately incentivized.

Infrastructure Investments. As the JFC emphasizes in the *Arangkada* report, long-standing farm infrastructure requires on-going investment to allow more local value-added for agribusinesses. These priorities areas include: farm-to-market roads, post-harvest processing facilities, irrigation, SPS inspection facilities, food terminals, cold storage, and food processing factories. The lack of post-harvest facilities cries out for more private sector investment, as part of efforts to manage overall supply chains. Farm-to-market roads provide much needed linkages. Yet, only 3.5% of barangay roads are paved. Of particular concern, the Philippines faces a large gap in irrigation infrastructure. Only 1.7 million hectares (some 57% of the 3.0 million hectares of total irrigable area) of the country's agriculture lands receive irrigation. Coupled with this year's El Niño effects, the deteriorating public irrigation system has compounded land degradation resulting in less productive agricultural lands. Large scale investments are needed to rehabilitate, modernize, and restructure the country's large surface irrigation schemes, so as to improve their productivity and efficiency in water usages.

Rationalization of Extension Services. With low productivity, the business of agricultural production would benefit from adopting new and innovative technologies. Even with advances in R&D, the latest research and information on improved agricultural practices (including intercropping) have not reached farmers sufficiently. As

such, agricultural extension services provide a vital link in the mass diffusion of agricultural research, transfer of appropriate knowledge, and sharing of best practices. However, the structure of extension services requires rationalization in the Philippines. Initiatives to publish and disseminate information on best practices have produced mixed results in efforts to instill more innovative and modern farming practices. Consequently, farmers have moved slowly and reluctantly to adopt new technologies. Devolved to municipal governments (through the Local Government Code (LGC), agriculture extension services in the Philippines appear weak, limited, and fragmented – reflecting technical and financial constraints at the local level. Overall quality of agriculture extension services, as many now concede, has gradually eroded since the LGC came into effect in 1991. In the face of agrarian reform, a responsive system of extension services has become even more vital to ensuring that new smallholder farmers are not left to fend for themselves. Barring a complete recentralization of extension services, the DA has a larger and more strategic role to play, especially in communicating a clearer roadmap for agriculture. The Philippines claims an astounding 1,891 publicly funded agencies and municipalities with recognized extension or advisory function and resources. Into this fragmented environment, the DA should ideally reassert its leadership and bring order to this chaos by guiding and coordinating extension units, while also strengthening their links to R&D institutions and think tanks. At the minimum, a broader streamlining of extension services is essential, providing stronger links between R&D and productive changes in farming behavior. The private sector is poised to contribute appreciably where public institutions falter in the provision of otherwise public goods; and innovative extension practices should be appropriately encouraged.

Conclusion:

In Search of Food Security

Smallholder farmers form the bulk of the poor and food insecure in the Philippines. At the mercy of changing weather patterns and commodity prices, they typically lack access to technology, information, capital, and markets to deliver food security and lasting agricultural transformation. Bold measures are needed to open up markets, unleash capital, address land reforms, improve infrastructure, and rationalize extension services. In terms of public resources towards these goals, the deployment of even a portion of the coco levy funds to aid coconut farmers would go a long way towards enhancing (credible) extension services, access to credit, investments in much needed farm rehabilitation, and other poverty alleviation measures. Working with policy makers, the JFC remains committed to sustaining the momentum for economic and agricultural reforms now and over the next decade.

Endnotes

1. Poverty incidence in rural areas (at 37.8%) more than doubles that of urban centers (14.2%). Asian Development Bank, Poverty in the Philippines: Causes, C onstraints, and Opportunities, (Mandaluyong City, Philippines: Asian Development Bank, 2009).
2. According to government statistics, 11.8 million (or 31.0%) of the 38.1 million people were employed in the agricultural sector in 2013, down from 33.0% in 2011. See http://countrystat.bas.gov.ph/ .
3. Gilberto M Lanto, “How Critical is Transport and Logistics Infrastructure to Interregional Trade? The case of high-value fruits and vegetables in Mindanao,” Policy Notes, Philippine Institute of Development Studies, December 2012: 1-8.
4. See World Bank. Philippine Development Report 2013: Creating More and Better Jobs. Philippine Office, East Asia and Pacific Region (Makati, Philippines: World Bank, 2013.pp. 104-5).
5. Growth in agricultural productivity lags behind that of regional peers, as well as other parts of the economy (industry and services). Research points to anemic productivity growth, as measured by TFP (total factor productivity), linked to underinvestment in rural infrastructure, including roads, electrification, and irrigation. See World Bank (2013), p. 94, footnote 104.
6. Many observers in the development field have longed recognized these challenges. Yet, structural reform of agricultural production has been slow to materialize, and the agribusiness sector is less competitive than it could otherwise be. See, for example, Asian Development Bank, Sector Assessment (Summary): Agriculture and Natural Resources, Country Operation Business Plan: Philippines, 2014-2016, (Mandaluyang City, Philippines: Asian Development Bank, 2013); and World Bank (2013).
7. Of the 7.87 million hectares covered by CARP (from 1970 to June 2014), only 5.00 million hectares (or 63.5%) have so far been distributed, according to the GPH.
8. On a good case study of six firms that chose to operate in the conflict areas of Mindanao and reaped the benefits, see Cielito F. Habito, Braving It and Making It: Insights From Successful Investors in Muslim Mindanao (Australian Aid, 2012).
9. Recent data from the Philippines Statistics Authority (http://countrystat.psa.gov.ph/) and Business World, available at http://www.bworldonline.com/content.php?section=Agribusiness&title=adb-investments-in-irrigation-needed-for-asia&8217s-food-security&id=121802. Elsewhere, the World Bank cites a figure of 9.3% (2011) for agricultural irrigated land in the Philippines (data.worldbank.org).

LIST OF PARTICIPANTS AT ROUNDTABLE DISCUSSION ON AGRIBUSINESS

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DISCLAIMER

The research included participation of over 40 experts in the telecomm sectors and representatives of companies in the sector, whom however neither sought advance or necessarily the views expressed in the document

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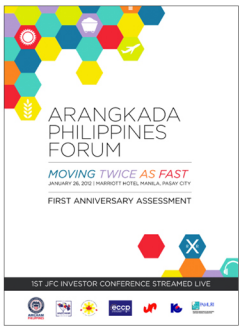
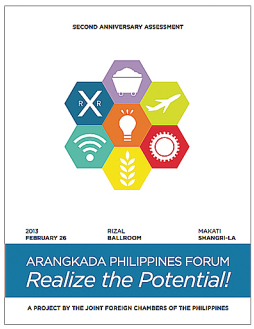
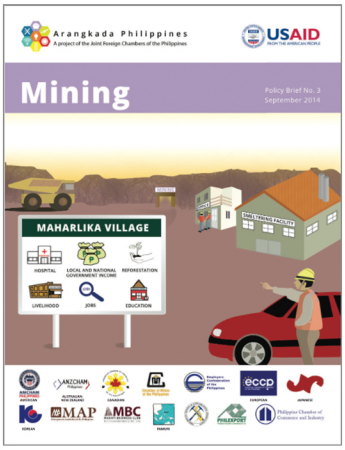
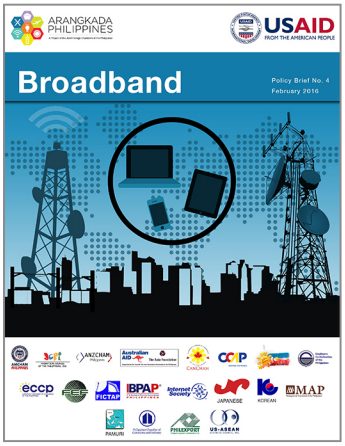
ANNIVERSARY ASSESSMENTS



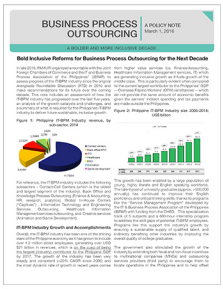


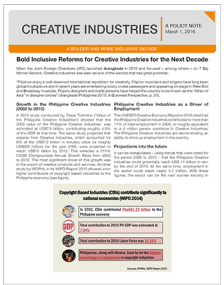
POLICY BRIEFS

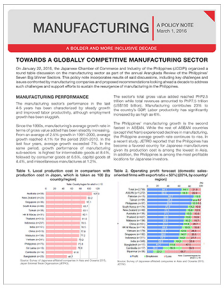


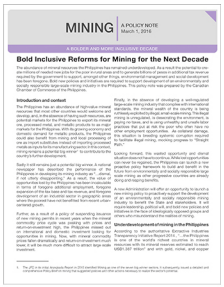


POLICY NOTES









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