PART III

INEQUALITY-REDUCING TRANSFORMATION ("PAGBABAGO")

08 Expanding Economic Opportunities in Agriculture, Forestry, and Fisheries

Chapter 8

Expanding Economic Opportunities in Agriculture, Forestry, and Fisheries

The agriculture, forestry, and fisheries (AFF) sector is pivotal in generating employment for about a third of the country's labor force, thereby reducing poverty and inequality for three-fourths of the poor who are in the rural areas. AFF is also key to providing raw materials to the manufacturing and service sectors, resulting in forward linkages in terms of higher-paying and more stable job opportunities. Intensifying efforts to revitalize the AFF and harnessing its growth potentials are needed to promote more inclusive development. Given the sector's links to agribusiness, interventions and investments will be channeled to expand existing opportunities and develop new ones, thus inducing greater participation of small farmers and fisherfolk.

Assessment and Challenges

The performance of AFF in the past three years indicates that revitalization must be strengthened. The contribution of AFF to the country's gross domestic product (GDP) continued to decline. It recorded an annual average GDP share of 10 percent from 2013 to 2015. This declining contribution is a stylized fact as economies progress and undergo a structural transformation. However, such transformation has been slow, and the growth of AFF remained weak. Its annual average gross value added (GVA) grew by only 1.0 percent from 2013 to 2015, and contracted by 1.3 percent in the first three quarters of 2016. Central Luzon, CALABARZON, Northern Mindanao, Central Visayas, and SOCCSKSARGEN have been the regions with better-than-average performance.

The modest output expansion accompanied by a drop in employment in AFF translated to an average annual labor productivity growth of 2.9 percent in the last three years. Compared with the industry and services sectors, AFF labor productivity has been the lowest.

Table 8.1 GVA Growth Targets under the Philippine Development Plan (PDP) 2011-2016 versus Accomplishments, in percent

SUBSECTOR	PDP 2011-2016 TARGET				ACCOMPLISHMENT				
	2013	2014	2015	2016	2013	2014	2015	1Q-3Q 2016	AVERAGE 2013-2015
Crops	4.5-5.5	4.0-5.0	4.0-5.0	4.0-5.0	0.1	2.4	-1.8	-3.5	0.2
Livestock	1.2-2.2	1.2-2.5	1.5-3.0	1.6-3.5	1.8	1.0	3.8	5.0	2.2
Poultry	4.2-5.2	4.2-5.2	4.2-5.2	4.2-5.2	4.2	0.4	5.7	1.4	3.4
Fisheries	1.5-3.0	1.5-2.5	2.3-3.0	2.8-3.5	0.7	-0.2	-1.8	-4.5	-0.4

Source of basic data: Philippine Statistics Authority

Crops subsector – the primary driver of AFF – pulled down the overall growth. On the average, the GVA of crops grew only by 0.2 percent during the period 2013 - 2015 *(see Table 8.1)*. Its poor performance was due to: (a) typhoons and El Niño that adversely affected rice and corn production; (b) coconut scale infestation in CALABARZON; and (c) limited adoption of high-yielding varieties of commodities. On the other hand, production of high-value commodities such as banana, pineapple, and mango increased and gained better prices due to high market demand and improved crop management practices.

Fisheries maintained a weak performance. GVA of fisheries continued to slump, which can be attributed to reduced fishing activities due to typhoons and extreme weather condition and the implementation of the closed season policy in several areas. Closed season is part of the government's effort to allow the recovery of fish population from overexploitation. Further affecting fisheries performance is the degraded fishery resources. To avert this, fishery management has shifted to protection and conservation through an ecosystems approach to fisheries management.

Livestock and poultry buffered the sluggish growth of crops and fisheries. The minimal effect of adverse weather coupled with favorable market conditions translated into the achievement of the PDP GVA targets in 2013 and even exceeding those of 2015.

Forestry sub-sector growth significantly declined. Forestry GVA dipped from 36.7 percent in 2013 to 4.9 percent in 2014 and further slipped to -26.7 percent in 2015. This is attributed to the issuance of Executive Order No. 23, s. 2011, which declared a moratorium on the cutting and harvesting of timber in natural and residual forests. However, EO 23, s. 2011 should be seen as an investment in ensuring the protection of forests and in preserving the various ecological services they provide to the people.

Despite the seemingly greater attention afforded to the agriculture sector in the past years, sustaining growth has continued to be elusive. This is due to the continued failure to address the challenges that have lingered over time and weakness to overcome the emerging ones.

Limited diversification prevented AFF from harnessing the potentials of the growing local and international markets. Over the years, area harvested for crops in the country has been highly concentrated to three dominant crops: rice, corn, and coconut. In contrast, the combined area harvested for high-value crops with greater prospects for market expansion (e.g., banana, sugarcane, and rubber) is much smaller than the combined area harvested of

the three dominant crops. This limited crop production diversification suggests a failure in taking advantage of the growing export market.

Long-standing challenges in AFF continue to hamper productivity. This includes limited access to credit and agricultural insurance, and poor provision by the government of productivity-enhancing support services, infrastructure and facilities:

- *Limited access to credit and insurance.* Insufficient working capital inhibits farmers and fisherfolk from using the appropriate type of inputs, farm equipment, and facilities that will expand production and spur entrepreneurial activities in the rural economy. In 2015, about 39 percent of small farmers and fisherfolk borrowers did not access formal credit[1] due to: (a) lack of technical capacity to develop viable project proposals; (b) lack of or poor credit track record; (c) lack of acceptable collateral; and (d) limited information about available loan products. On the supply side, banks have low compliance to the loan quotas (15% agricultural, 10% agrarian) of the Agri-Agra Law or RA 10000. In 2015, agricultural loans comprised 14 percent and agrarian loans only represented 1.1 percent of the banks' total loanable funds.

  Climate and disaster-related risks also amplify the need to address design and implementation issues in the country's agricultural insurance programs. An initial assessment of the agricultural insurance programs of the Philippine Crop Insurance Corporation (PCIC) recognized that the features of PCIC's agricultural insurance products have been mainly intended to safeguard lenders from loan default. Notwithstanding, it is equally important to protect farmers and fisherfolk from production shocks brought about by calamities.[2] Legal constraints that limit capitalization and human resources hinder PCIC's capability to insure more farmers and fisherfolk.

- *Low farm mechanization and inadequate postharvest facilities.* Despite the displacement of labor with greater mechanization, farm machinery and postharvest equipment and facilities are important to increase quantity and quality of produce, reduce losses, and lower labor costs.

  Farm mechanization in the country improved considerably from 0.52 horsepower per hectare (hp/ha) in the 1990s to 1.23 hp/ha for all crops and 2.31 hp/ha for rice and corn in 2011.[3] However, this improvement continues to lag behind the mechanization level in other Asian countries such as Japan, South Korea, Thailand, and People's Republic of China; but somehow at par with Vietnam, Pakistan, and India.[4]

  Studies of the Philippine Center for Postharvest Development and Mechanization and the University of the Philippines Los Baños show that inadequate postharvest facilities result in relatively high losses, reaching up to 16.5 percent of production in rice, 7.8

[1] Based on the 2014 Small Farmers and Fisherfolk Indebtedness Survey conducted by the Agricultural Credit Policy Center. Among small farmers and fisherfolk respondents, about 61 percent availed of loans from formal sources.
[2] Reyes, C. M., Mina, C. D., Gloria, A. B., & Mercado, S. J. P. 2015. *Review of Design and Implementation of the Agricultural Insurance Programs of the Philippine Crop Insurance Corporation* (2015-07). Makati: Philippine Institute for Development Studies.
[3] Dela Cruz, R. S. M. and S. Bobier. 2013. *Determination of the Available Power for Utilization in Agricultural Mechanization*. Nueva Ecija: Philippine Center for Postharvest Development and Mechanization
[4] Department of Agriculture. May 21, 2013. PHL Farm Mechanization is 1.23 hp/ha. *Official Gazette of the Republic of the Philippines.* Press release

percent in corn, 15.5 percent in banana, 30.4 percent in mango and 45.1 percent in onion. For the fisheries sector, post-harvest losses range from 20 to 40 percent of the total outputs based on the Bureau of Fisheries and Aquatic Resources data.

- *Inadequate irrigation.* As of 2015, only 1.7 million hectares (ha) or 57 percent of the 3.0 million ha potential irrigable area has been irrigated. Irrigation development has been slow due to the long and tedious process of designing and constructing large-scale irrigation systems. On the other hand, the construction of small-scale irrigation systems has been limited and many of the existing irrigation systems need rehabilitation or restoration to improve their efficiency.

- *Scant support for research and development (R&D).* Despite the significance of R&D in developing technologies and identifying good farm and fishery management practices, the share of R&D programs remains low in the total budget of the Department of Agriculture (DA) and Department of Science and Technology-Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development. In 2015, the aggregate budget was at ₱3.8 billion or only 0.28 percent of the AFF GVA (in current prices), which is lower compared to the one percent level recommended for developing countries.[5] The capacity for R&D is also adversely affected by the limited number of permanent positions for scientists and researchers in agriculture, thus leading to the contractualization of research jobs.

- *Weak extension service.* Weak extension service slows down the diffusion and adoption of farm practices and technologies that are applicable to a specific area and responsive to the needs of farmers and fisherfolk. Inefficiencies in the delivery of extension services can be attributed to inadequate operational funds and lack of human resources of local government units (LGUs). Almost half of the agricultural extension workers are also ageing, ranging from 43 to 64 years old, based on the survey conducted by the Agricultural Training Institute.

- *The agrarian reform program remains incomplete.* After decades of implementing the Comprehensive Agrarian Reform Program (CARP), land acquisition and distribution (LAD) remains incomplete. The slow pace of LAD has been due to: (a) landowner's resistance, particularly in the compulsory acquisition of private agriculture lands; (b) tedious processes and delays; (c) variability in the LAD targets; and (d) pending harmonization of rules to conform to Supreme Court decisions regarding the acquisition of lands under Operation Land Transfer. Moreover, the subdivision of the collective Certificate of Land Ownership Award (CLOA) was hampered by problems in identifying agrarian reform beneficiaries (ARB) and locating the landholdings, procedural delays in updating the names listed in the collective CLOAs, and tedious validation process to determine whether collective CLOAs are within the alienable portion of the public domain.

[5] Balisacan, A. M., & Sebastian, L. S. (2006). *Securing Rice, Reducing Poverty: Challenges and Policy Directions* (1st ed.). SEARCA, PhilRice, and DA-BAR.

Despite the enduring efforts to redistribute lands, there is insufficient data on the conditions of ARBs, and if lands remain in their hands. From the business standpoint, the unfinished land reform program has created uncertainties and discouraged investments in agricultural production and agribusiness.[6] In addition, the limits imposed to ownership of agricultural land under CARP have been recognized to affect the land market.

- *Ageing farmers and fisherfolk.* The average age of farm operators of palay, corn, bangus and tilapia ranges from 48 to 55 years old.[7] While the sector's workforce gets older, the younger population finds more attractive employment opportunities outside the sector.

Limited connectivity between production areas and markets, and poor compliance with product standards resulted in low competitiveness of AFF products. An inefficient transport and logistics system makes AFF products less competitive in the market due to: (a) increase of travel time from the production area to markets; (b) reduction of quality during transport; and (c) increase of transport and handling costs. In 2015, only 6,549 kilometers (km) of farm-to-market roads (FMR) were constructed out of the 13,999 km target of DA from 2011 to 2017. Meanwhile, owing to poor compliance with quality standards along the supply chain, the Philippines experienced agri-food rejections at the border of the importing countries (e.g., European Union, United States, Japan and Australia). This was due to the presence of mycotoxins, additives, bacteria and other contaminants; labelling; and adulteration of or missing documentary requirements.

Weak institutions also fail to stimulate sector growth. Overlapping functions across several government agencies led to the inefficient delivery of support services and hampered agrarian reform implementation. Without close coordination of efforts, limited public investments will not be strategically directed to areas with greater needs and potentials for development, thus resulting in duplication of activities. Premature and illegal conversion of prime agricultural lands, irrigated and irrigable lands also continue, despite safeguards against land conversion (e.g., Agricultural and Fisheries Modernization Act, CARP, and Local Government Code). If existing laws are not strictly implemented, premature and illegal conversion may persist, and this will compromise food security and agrarian reform objectives.

Lifting of the quantitative restrictions (QR) on rice poses risks to AFF stakeholders who remain uncompetitive. The expiration of the QR on rice on June 30, 2017 will pose disadvantages to less competitive producers, particularly small farmers. However, it can help lower the price of rice, and this will benefit the general public including farmers who are net consumers of rice. The share of rice in the total food expenditure of the lowest quintile (poorest 20%) of Filipino households is quite substantial at 30.6 percent based on the 2012 Family Income and Expenditure Survey.

Growing population threatens existing agricultural land use. Growth in population will continue to pose pressure on the use of natural resources to respond to increases in the demand for AFF products. The increasing demand for housing, likewise, has already entailed huge conversion of existing agricultural lands to settlement lands. Competing use of these resources,

[6] Based on the agribusiness policy note of the Joint Foreign Chambers of Commerce of the Philippines entitled "Bold Inclusive Reforms for Agribusiness for the Next Decade." Retrieved from http://www.investphilippines.info/arangkada/wp-content/uploads/2015/09/Policy-Note-Agribusiness-FINAL.pdf (accessed January 23, 2017)

[7] Based on the cost and returns surveys of the Philippine Statistics Authority for palay and corn production in 2013, tilapia production in June 2010-May 2011, and milkfish production in 2006

land and water in particular, suggests the need to strike a balance in development objectives such as addressing housing needs, agro-industrialization and food security objectives, among others.

Compounding these issues is the sector's vulnerability to climate and disaster risks. The impact of climate change and disasters has overturned gains in the sector to the detriment of small farmers and fisherfolk. From 2011 to 2015, production losses and damage to infrastructure amounted to ₱163.6 billion in agriculture based on the assessment of DA.

Strategic Framework

In the medium-term, AFF will seek to: (a) expand economic opportunities for those who are currently engaged in producing AFF products; and (b) increase access to economic opportunities for small farmers and fisherfolk who are typically subsistence producers and have limited market participation. These will be beneficial to existing producers and marginalized farmers and fisherfolk, including women, elderly and indigenous peoples.

Targets

Over the plan period, the main target is to substantially increase the growth of GVA in AFF from the baseline value of 0.1 percent to within 2.5 to 3.5 percent in 2017, and maintain that growth rate over the next five years. A reversal of the negative growth of the value of fisheries production and exports is likewise aimed for. *Table 8.2* presents the key indicators.

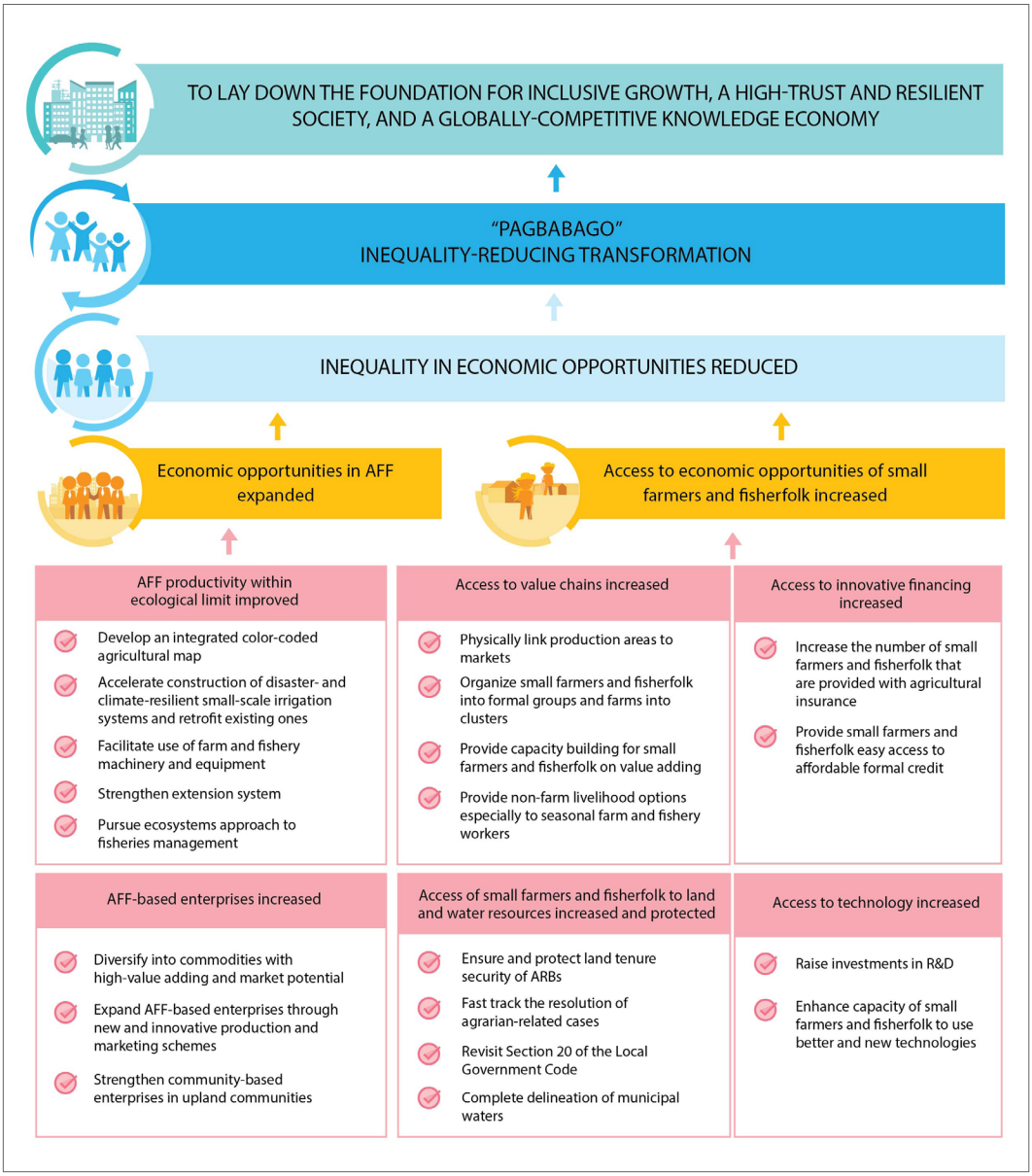
Table 8.2 Plan Targets to Expand Economic Opportunities in Agriculture, Forestry, and Fisheries, 2017-2022

INDICATORS	BASELINE		END OF PLAN TARGET
	YEAR	VALUE	2022
Sector Outcome A: Economic Opportunities in Agriculture, Forestry, and Fisheries Expanded			
Growth of GVA in Agriculture, Forestry, and Fisheries Increased (year-on-year at constant 2000 prices, in percent)	2015	0.1%	2.5%-3.5%
a. Crops	2015	-1.8%	2.0%-3.0%
b. Livestock	2015	3.8%	3.0%-4.0%
c. Poultry	2015	5.7%	3.0%-4.0%
d. Forestry	2015	-26.7%	2.0%-3.0%
Growth in Value of Production of Fisheries Increased (year-on-year at constant 2000 prices, in percent)			
a. Commercial	2015	-3.3%	2.5%
b. Municipal	2015	-2.2%	1.0%
c. Aquaculture	2015	0.8%	5.0%
Growth in the Value of Agriculture and Fishery Exports Increased (year-on-year, FOB value, in percent)	2015	-21.6%	9.0%
Sector Outcome B: Access to Economic Opportunities by Small Farmers and Fisherfolk Increased			
Growth in Labor Productivity of Farmers and Fisherfolk Increased (year-on-year at constant 2000 prices, in percent)	2015	4.6%	5.0-6.0%

Strategies

Strategies to expand economic opportunities in AFF fall under *Pagbabago* or reducing inequality. The goal is to improve productivity and increase access.

Figure 8.1 Strategic Framework to Expand Economic Opportunities in Agriculture, Forestry, and Fisheries, 2017-2022



To achieve the sector and subsector outcomes and the targets, the following strategies will be implemented:

Sector Outcome A: Economic opportunities in AFF expanded

To expand economic opportunities for existing AFF producers: (a) productivity must be improved sustainably; and (b) the number and capacity of AFF-based enterprises must increase. Productivity enhancements will be attained within the ecological limit by striking a balance between utilization and regeneration of land and water resources to ensure sustained benefits. New AFF-based enterprises will be developed, while existing ones will be encouraged to increase production and to go beyond producing merely raw materials through increased value-adding of products with higher market value. The resulting rise in potential incomes will attract more people, including the youth, to venture into the sector.

With the lifting of QRs on rice, the government will pay close attention to rice farmers and help them be more competitive and provide them with more and diversified livelihood and income opportunities.

Subsector Outcome 1: AFF productivity within ecological limit improved

Develop an integrated color-coded agricultural map to identify the comparative advantage of specific areas. It will contain updated sub-national information on soil characteristics, water availability, climatic types, topography, and socioeconomic conditions. The map will inform production decisions about suitable crops and agricultural activities. It will also guide the identification and prioritization of programs, projects, and activities in the sector.

Accelerate construction of disaster- and climate-resilient small-scale irrigation systems and retrofit existing ones. Irrigation systems must be disaster- and climate-resilient and compliant with construction standards. Priority will be given to small and communal irrigation systems, especially water harvesting technologies. Large-scale irrigation systems will be constructed if deemed hydrologically appropriate (i.e., water source is available and stable) and economically feasible.

The construction of these irrigation systems will be accelerated in areas with high irrigation development potential such as Central Luzon, Cagayan Valley, SOCCSKSARGEN, Autonomous Region in Muslim Mindanao (ARMM), and Bicol Region. Periodic rehabilitation of damaged systems and restoration of non-functional ones may involve retrofitting to ensure disaster and climate resiliency.

Effective and efficient water saving and management technologies will be promoted to cushion the impact of El Niño. Moreover, an integrated watershed management approach will be implemented to sustain soil productivity and water efficiency, particularly in the 143 critical watersheds in the country.

Facilitate the use of appropriate farm and fishery machinery and equipment. Funding will be provided for the full implementation of the Agricultural and Fisheries Mechanization Law or RA 10601 to encourage local manufacturing and assembly of machinery and equipment for production, post-harvest, and processing activities. Government will intensify information, education and communication (IEC) activities on available local machinery (e.g., tractors, tillers, and harvesters), equipment, (e.g., mechanical dryers, threshers, and milling equipment) and fishing technologies (e.g., fiberglass hull and small engines in fishing boats).

For rice production to become more competitive, especially when the quantitative restrictions on the commodity are lifted, the government will encourage the adoption of farm machinery and equipment to reduce production costs. This will be undertaken especially in selected provinces of the Ilocos Region, Central Luzon, and MIMAROPA—regions whose yields are above the national average (4 metric tons/hectare) but have relatively higher production costs.

The displaced labor from the promotion of mechanization will be linked to commodity diversification, value-adding, and AFF entrepreneurial activities. Proper training and certification for machine operation will also be provided, especially to low-skilled farm laborers and fishery workers. Custom hiring (e.g., renting of machinery and servicing of farm implements) and machine pooling will be encouraged to promote efficiency and provide alternative livelihood.

Strengthen the AFF extension system. The existing extension system will be strengthened through the engagement of a pool of professional extension workers that will provide technical and business advisory services. This should shorten the lag from R&D to adoption. Priority extension activities will include encouraging farmers and fisherfolk to use: (a) certified seeds and quality planting materials, especially high-yielding and stress-tolerant varieties (e.g., drought and flood); (b) quality semen of animals and eggs for poultry; and (c) quality fish fry and fingerlings. The government will recognize and advocate for the adoption of good practices (e.g., integrated pest management, integrated nutrient management, and sustainable fishing practices), and food safety and product standards (e.g., good agricultural practices, good aquaculture practices, good handling practices, code of practices for fresh fruits and vegetables, food hygiene practices, and packaging and transport practices). In addition, the government will continue to promote climate change adaptation measures, organic agriculture, urban agriculture, and halal food production. Timely and site-specific weather and climate advisories will be provided. Advanced information and communication technology (ICT) will be utilized to reach and serve a greater number of stakeholders.

The DA will continue to guide and coordinate extension units, and will also strengthen their links to R&D institutions and think tanks. The coordination and complementation between DA and LGUs will be strengthened for a more efficient delivery of extension services and feedback on farm-related problems. State universities and colleges (SUCs) will also be tapped to hasten the diffusion of good farm and fishery practices, indigenous and local knowledge, and appropriate technologies. To complement these, market-driven extension models such as nucleus estate model and multi-stakeholder partnerships led by the private sector will be supported.

Pursue an ecosystems approach to fisheries management. The government will undertake the following:

- conduct regular nationwide fish stock inventory and assessment
- implement appropriate fisheries management strategies such as scaling up of the Community-Based Coastal Resources Management, territorial use rights in fisheries, and closed season for selected species in some fishing areas
- strengthen measures against illegal, unreported and unregulated fishing
- regulate fishery structures such as fish pens and cages in inland bodies of water

- implement boat, vessel and gear registration and licensing, and monitoring of compliance with catch documentation requirements among municipal and commercial fishing boats
- conduct aggressive IEC activities to increase awareness and appreciation of resource conservation measures, and to intensify compliance with fishery laws.

Subsector Outcome 2: AFF-based enterprises increased

Diversify into commodities with high value-adding and market potential. Commodities that can be developed based on vulnerability, suitability, and value-chain analyses of DA include mango for Ilocos, coffee for the Cordillera Administrative Region (CAR), dairy cattle for CALABARZON, calamansi for MIMAROPA, abaca for the Bicol Region and Eastern Visayas, rubber for the Zamboanga Peninsula, banana for Northern Mindanao, and cacao for the Davao Region. The adoption of integrated farming systems such as intercropping, livestock-crops, crops-livestock-fish, and agro-forestry will be promoted to maximize the use of land. The integrated color-coded agricultural map can be utilized for this purpose.

Expand AFF-based enterprises through new and innovative production and marketing schemes. New forms of linkages such as contract farming and corporate farming that will connect AFF enterprises to markets and other upstream services will be established. The government will lead in market facilitation through the conduct of domestic and international trade fairs and market-matching activities. It will also intensify enterprise-based capacity building and business advisory services for farmers and fisherfolk organizations, including ARB organizations. The capacity building and advisory will help the organizations manage profitable AFF-enterprises and effectively participate in the development of vibrant rural communities.

Strengthen community-based enterprises in upland areas. The government will continue to implement and monitor programs and projects that foster community-based enterprises in upland areas. At the same time, efforts will be undertaken to address issues of accessibility and connectivity, as well as vulnerability to climate and disaster risks.

Sector Outcome B: Access to economic opportunities by small farmers and fisherfolk increased

To increase the access of small farmers and fisherfolk to economic opportunities, the government will facilitate their access to value-chains, technology, and financing. At the same time, it will ensure that their rights and welfare are defended and asserted.

Subsector Outcome 1: Access to value-chains increased

Physically link production areas to markets through road and rail-based transport, inter-island water transport and logistics system. FMRs, bridges, tramlines, and railways will be constructed to connect small farmers and fisherfolk to the agricultural value chain. Inter-island water transport (e.g., roll-on roll-off nautical highway) and port facilities such as fish ports, will be improved to foster greater inter-regional trade of agriculture and fishery produce. Climate and disaster risks will also be taken into account in the design of transport networks. *See Chapter 19.*

Organize small farmers and fisherfolk into formal groups and farms into clusters to create economies of scale. Social preparation such as organization building and management will be conducted among

smallholder farmers and fisherfolk who are not yet organized into associations and cooperatives. Efforts to integrate them into larger agribusiness enterprises and institutional buyers will also be pursued.

Provide capacity building for small farmers and fisherfolk on value-adding activities. Professional agricultural extension workers will be tapped to provide trainings to small farmers and fisherfolk in the farmer field schools and demonstration farms that will be established. The trainings will include processing, packaging, marketing, and compliance with product standards and certification.

Provide non-farm livelihood options to seasonal farm and fishery workers whose incomes are irregular and who are vulnerable to shocks. The government will continue to implement community-based employment programs as alternative income sources during the off-season. Seasonal workers will also be trained on off-farm and non-farm activities to enable them to take advantage of alternative employment opportunities, including their involvement in the development of agri-tourism.

Subsector Outcome 2: Access to innovative financing increased

Increase the number of small farmers and fisherfolk that are provided with agricultural insurance. This will be done by improving the awareness and appreciation of small farmers and fisherfolk of risk insurance. Innovative agricultural insurance schemes such as weather index-based and area-based yield index insurance will be promoted.

Provide small farmers and fisherfolk easy access to affordable formal credit. The government will develop and implement innovative loan products with responsive credit delivery mechanisms, and it will provide adequate information and assistance to borrowers on the available loans. It will also assess the credit demand of the agriculture sector. The Agri-Agra Law will be revisited to identify factors that limit its effectiveness and determine appropriate measures. The coverage of the Agricultural Guarantee Fund Pool Program will be expanded to include long-gestating crops.

Subsector Outcome 3: Access to technology increased

Raise investments in R&D for production and post-harvest technologies. This aims to reduce losses, maintain quality and food safety, and increase the value of agricultural and fishery commodities (e.g., ice-making and storage technologies). Investments will be increased to cover the direct cost of R&D, build a critical mass of human resources, and improve infrastructure in support of the Harmonized National R&D Agenda for Agriculture, Aquatic and Natural Resources 2017-2022. This agenda espouses the use of advanced and emerging technologies such as biotechnology, genomics, bioinformatics, nanotechnology, and ICT as tools to find science and technology solutions to AFF problems and to develop new products with significant impact to the sector. *See Chapter 14*.

The following will continue to be priorities for the sector: (a) development of climate and disaster-responsive technologies and innovations; (b) development of fishery culture system for species with high market potential; and (c) improvement of fishery culture for traditional species.

Enhance capacity of small farmers and fisherfolk to adopt better and new technologies. This entails information dissemination and capacity building on the use of certified seeds as well as post-harvest, processing and packaging technologies.

Subsector Outcome 4: Access of small farmers and fisherfolk to land and water resources increased and protected

Ensure and protect the land tenure security of ARBs by completing the LAD and immediately install ARBs in awarded lands upon the issuance of emancipation patent or CLOAs. An inventory of lands and profiling of ARBs will be conducted to ensure an updated status of land distribution in the country and guide the delivery of support services in agrarian reform communities and clusters.

Fast track the resolution of agrarian-related cases involving large numbers of affected farmers. Timely and free legal assistance will be provided to ARBs, including counselling and representation in judicial and quasi-judicial bodies.

Revisit Section 20 of the Local Government Code (RA 7160), which authorizes LGUs to reclassify agricultural lands for other uses. This law does not include any provision for sanctions or penalties to LGUs that reclassify agricultural lands more than the allowable limit (i.e., 15% for highly urbanized cities, 10% for component cities, and 5% for 4th-6th class municipalities). Hence, it is critical that LGUs provide baseline information about the LGU's land types, and this information will be the basis for implanting land classification.

Complete the delineation of municipal waters. Local ordinances must be issued to effect this. The Fisheries Code provision on fisherfolk settlement must also be implemented. Under the code, certain areas of the public domain, specifically near fishing grounds, will be reserved for the settlements of municipal fisherfolk.

Complement strategic efforts with environmental and governance strategies. To strengthen the efficiency and effectiveness of the strategies, the government will: (a) expand the existing human resource base by increasing scholarship opportunities in AFF-related courses *(see Chapter 10)*; (b) continue to pursue the national convergence initiative using the ridge-to-reef approach; (c) strengthen resilience to climate and disaster risks; (d) regularly update the Registry System for Basic Sectors in Agriculture and Fisheries Registration, especially the information used in targeting for credit and agricultural insurance; (e) conduct a comprehensive market scoping to analyze competition issues in priority sectors, which may include land market *(see Chapter 16)*; (f) ensure the meaningful participation of all stakeholders (i.e., through organized groups) in planning, monitoring and implementation; (g) strengthen coordination and convergence of the efforts of national government agencies, LGUs, civil society organizations, and SUCs on AFF concerns and cross-cutting issues such as food security and nutrition; and (h) intensify public-private partnership especially in rural infrastructure and logistics facilities to support value-chain development.

Legislative Agenda

To strengthen the effectiveness of identified strategies, legislative action is needed in the following:

Table 8.3 Legislative Agenda to Expand Economic Opportunities in Agriculture, Forestry, and Fisheries, 2017-2022

LEGISLATIVE AGENDA	RATIONALE
Sector Outcome A: Economic opportunities in AFF expanded	
Subsector Outcome: AFF productivity improved within ecological limit	
Abolish the irrigation service fees for small farmers	Waive the irrigation service fees to small farmers as many of them cannot afford to pay the fee imposed by the National Irrigation Administration on its national irrigation system. A minimal fee may be imposed on pump-driven irrigation systems as they have higher operating expenses. Wholesale condonation of past-due irrigation service fees of farmers and corporations with large landholdings (e.g., those owning 5 ha) may have to be restructured under mutually agreed terms and conditions so as not to additionally burden them, but at the same time to be fair to those who religiously paid the required fees.
Comprehensive Forestry Law, and Delineation of the Specific Forest Limits	See Chapter 20
Sector Outcome B: Access to economic opportunities by small farmers and fisherfolk increased	
Subsector Outcome: Access to innovative financing Increased	
Amend the Revised Charter of the PCIC Act of 1995 or RA 8175 as well as other relevant laws	Reorganize the Philippine Crop Insurance Corporation (PCIC) and increase its authorized ₱2 billion capital stock to cater more effectively to the demands of small farmers and fisherfolk.
Cross-cutting	
Amend or Repeal Presidential Decree No. 4 of 1972 as well as other relevant laws	Decouple the regulatory and proprietary function of the National Food Authority (NFA). The NFA will continue to exist but its role will focus on rice buffer stocking for food security
Amend the Agricultural Tariffication Act of 1996 or RA 8178	Replace QRs on rice with tariffs. The tariff proceeds from rice imports will be ploughed back to the rice sector.
Provide guidelines for the utilization of the Coco Levy Fund.	Consolidate all assets and benefits emanating from the coconut levy. Create a Coconut Farmers and Industry Trust Fund to exclusively benefit coconut farmers and farm workers.
Pass the National Land Use Act (NALUA)	Protect prime agricultural lands thereby ensuring the viability and sustainability of on-farm employment and overall rural development. The definition of prime agricultural lands in the NALUA should represent a socially acceptable minimum agricultural land requirement that would maintain a certain level of agricultural industry in a given economic or spatial context at a given point in time. See Chapter 20.
Land Administration Reform Act	See Chapter 20
Genuine and Comprehensive Agrarian Reform Program.	Distribute for free or without amortization agricultural lands to landless farmers and agricultural workers. Its coverage will include: all public and private agricultural lands exceeding five ha; lands that have been declared and/or reserved for non-agricultural uses but remain unutilized and undeveloped; and lands that have been reclassified or converted for commercial, industrial or residential uses but have remained undeveloped and being used for agricultural purposes.