

PART III

**TRANSFORMING
TOWARDS EQUITY
AND RESILIENCY
(“*PAGBABAGO*”)**

08

Expanding Economic Opportunities in Agriculture, Forestry, and Fisheries and Ensuring Food Security



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While the agricultural sector's growth has remained weak over the last three years, major policy reforms have created opportunities to pursue diversification and overall rural development. There has also been an improvement in the delivery of support services focusing on small farmers and fisherfolk (SFF). In particular, the Rice Tariffication Law (RTL) (Republic Act [RA] 11203), which amended the two-decade-old Agricultural Tariffication Act of 1996 (RA 8178) and replaces the quantitative restriction on rice imports with tariff, is considered the most important reform in the agriculture sector. The Law will benefit the entire economy, particularly the Filipino consumers, farmers, taxpayers and workers, and, most importantly, the poor. Rice farmers also benefit from the Law, given the PHP60 billion guaranteed Rice Competitiveness Enhancement Fund (RCEF), which aims to increase productivity of the rice sector. RTL will also benefit: (a) taxpayers, as there is no need to subsidize the operations of the National Food Authority (NFA), which has long been burdened with debt; (b) workers as it keeps inflationary pressures low and therefore limits the erosion of real wage; (c) children, as more affordable rice keeps them healthy and not hungry; and (d) the poor, with the availability of cheaper rice given their limited budget. The low rice prices and lower inflation help the country achieve its poverty reduction goals.

The country's experience with the COVID-19 pandemic and community quarantines (CQs) has put greater emphasis on food security in the new normal. Thus, to contribute to the goal of achieving a healthy and resilient Philippines, the Agriculture, Forestry and Fisheries (AFF) sector shall focus on ensuring availability, accessibility, and affordability of nutritious food while continuously addressing persistent challenges faced by the sector, particularly the constraints to access to land and water resources, vulnerability to climate change and disaster risks, limited strategic infrastructure, and long-standing institutional problems related to weak extension services, over-centralization, and lack of coordination and overlapping functions within and among agencies.

Assessment and Challenges

Assessment: The improvement in the delivery of support services prioritizing small farmers and fisherfolk, complemented by major policy reforms (e.g., RTL, *Sagip Saka* Act, and Personal Property Security Act) created opportunities to pursue diversification and overall rural development in the long run. However, the performance of the AFF sector, in the last three years, has been weak due to climate/weather disturbances (e.g., El Niño, typhoons), pest and animal diseases, weak global demand and increased competition resulting in the decrease in value of top exports (e.g., coconut), and weak coordination and convergence efforts among government agencies and stakeholders. The emergence of the COVID-19 pandemic and subsequent implementation of community quarantines also affected the sector with the disruption of agricultural activities owing to stringent measures implemented by the local government units (LGUs) on the movement of agri-food products. As a result, agri-food supply chains were affected and many farmers were unable to sell their produce. The movement of people involved in the transportation of inputs and products, technicians, extension workers, and even agricultural workers was also affected. Despite the disruptions in various agricultural activities and losses encountered during CQ, the AFF sector remains upbeat as farmers and fisherfolk still intend to continue their respective agricultural activities. Consumers, on the other hand, had difficulty accessing healthy and nutritious food during the CQs. In particular, vulnerable groups who rely on relief packs during the ECQ are limited to rice, canned goods, instant noodles, powdered milk,

and instant coffee. Nutritionally vulnerable groups such as severely wasted and stunted schoolchildren who rely on school- and community-based feeding programs for healthy and nutritious food were also affected due to the discontinuance of these programs with the closure of schools and daycare centers during the quarantine period.

Challenges: The pandemic has caused a shift in consumers' preference towards safe and nutritious food. As the sector moves to the new normal, the following are still expected to persist: (a) sporadic disruption in the agri-food supply chain, particularly in the transport and logistics of inputs, machinery and equipment, and farm produce; (b) limited movement of people involved in the transport of inputs and products, technicians, and extension workers; (c) strict regulation of the operations of wet markets, supermarkets, and retail food establishments; (d) increased demand for innovative technologies for processing and packaging to keep up with the demand for processed food products with longer shelf-life; and (e) reduced demand from institutional buyers for agricultural food items due to the decline in tourism and dine-in services. These emerging challenges, on top of existing issues such as constraints to access to land and water resources, vulnerability to climate change and disaster risks, limited strategic infrastructure, and long-standing institutional problems related to weak extension services, over-centralization, and lack of coordination and overlapping functions within and among agencies will put further pressure on the AFF sector.

Targets

The updated Plan aims to increase and maintain the AFF gross value added (GVA) within 2.5 percent to 3.5 percent from the baseline of -1.2 percent in 2016. Likewise, a reversal of the negative growth for the value of production in fisheries, A&F exports, and

labor productivity is targeted for the remaining plan period. Table 8.1 presents the targets corresponding to the sector outcome indicators under this chapter. Targets for outcome indicators on food security may be found in Chapter 11.

Table 8.1 Updated Plan Targets to Expand Economic Opportunities in Agriculture, Forestry, and Fisheries and Ensure Food Security

OUTCOME/INDICATOR	BASELINE VALUE (2016)	TARGETS			
		2020 ^{a/}	2021	2022	END OF PLAN
Sector Outcome 1: Sustainable and Resilient Production and Food Availability Ensured					
Growth of GVA in AFF increased (year-on-year at constant prices, in percent)	(1.2)	2.5-3.5	2.5-3.5	2.5-3.5	2.5-3.5
a. Crops	(3.2)	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
b. Livestock	4.6	3.0-4.0	2.0-3.0	3.0-4.0	3.0-4.0
c. Poultry	1.3	3.0-4.0	2.0-3.0	3.0-4.0	3.0-4.0
d. Forestry	(7.6)	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
Growth in value of production of fisheries increased (year-on-year at constant prices, in percent)					
a. Commercial	(7.8)	2.5	1.0	1.0	1.0
b. Municipal	(4.9)	1.0	3.0	3.0	3.0
c. Aquaculture	0.5	5.0	5.0	5.0	5.0
Growth in labor productivity of farmers and fisherfolk increased (year-on-year at constant prices, in percent)	(2.2)	4.7-6.2	5.2-6.4	5.4-6.6	4.9-6.0
Sector Outcome 2: Access to Markets of Small Farmers and Fisherfolk Increased					
Growth in the value of A&F exports Increased (year-on-year, FOB value, in percent)	(0.1)	9.0	9.0	9.0	9.0
Sector Outcome 3: Access of Consumers to Nutritious, Affordable, and Safe Food Improved					
Prevalence of moderate or severe food insecurity in the population based on the food insecurity experience scale (<i>see Chapter 11 RM</i>)					
a. Severely Food Insecure	5.1 (2019)	N/A	N/A	0.0	0.0
b. Moderately Food Insecure	39.1 (2019)	N/A	N/A	25.8	25.8

Source of baseline data: Philippine Statistics Authority (PSA)

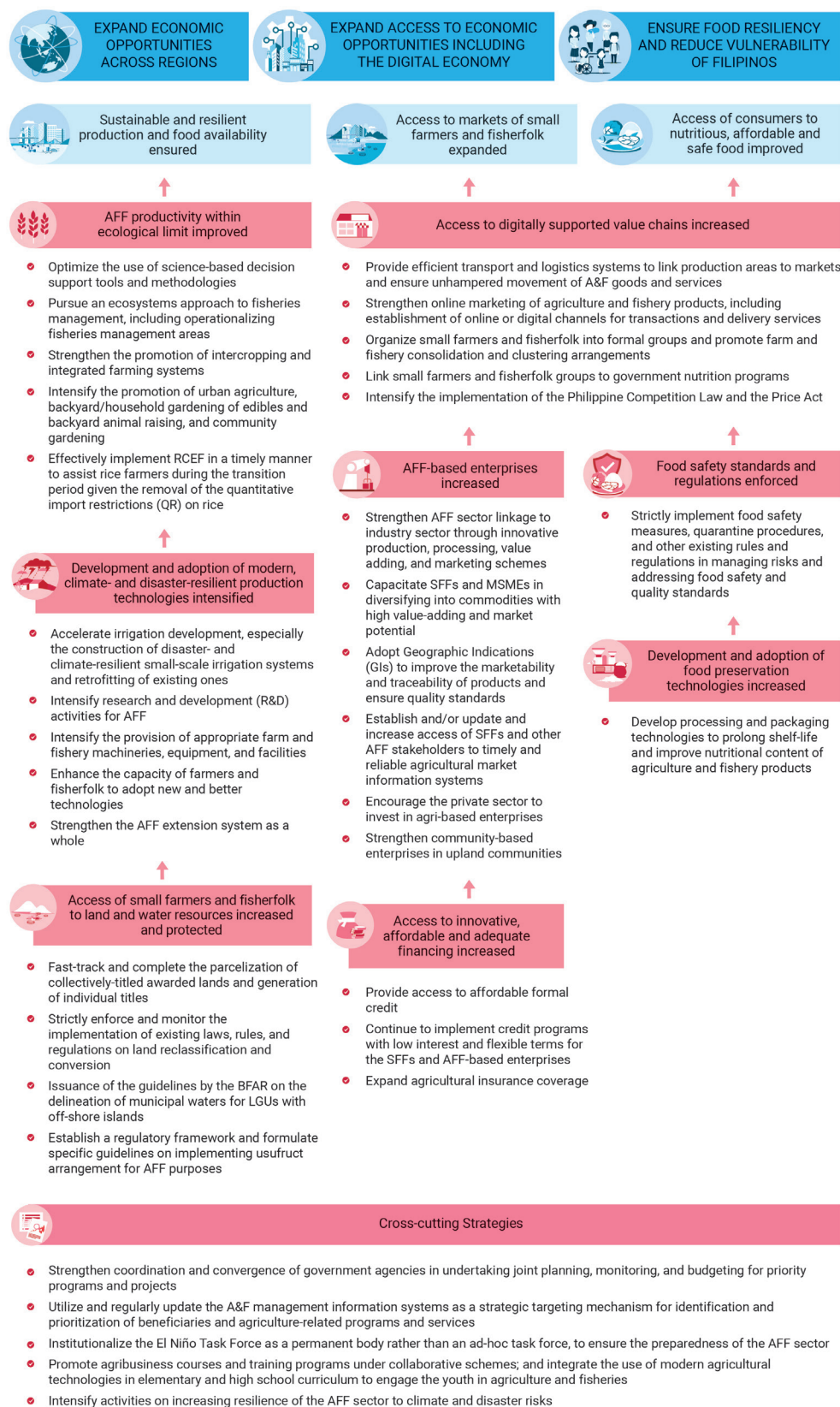
^{a/} The original 2020 targets, approved in 2016 prior to the pandemic, were retained.

Strategic Framework

In the remaining Plan implementation period, the AFF sector will adopt a holistic value chain approach, guided by science-based decision support tools, towards ensuring sustainable and resilient

production and food availability, expanding access to markets by SFFs, and improving access of consumers to nutritious, affordable, and safe food.

Figure 8.1 Updated Strategic Framework to Expand Economic Opportunities in Agriculture, Forestry, and Fisheries and Ensure Food Security



Strategies

To achieve the Plan's targets, the following outcome-specific and crosscutting strategies will be implemented (see Figure 8.1). Some of the strategies in this chapter are cross-referred to other chapters.

Ensuring sustainable and resilient production and food availability

Improving AFF productivity within ecological limit

Optimize the use of science-based decision support tools and methodologies to improve resilience and productivity within ecological limit, and increase the income of farmers and fisherfolk. The existing National Color-Coded Agricultural Guide (NCCAG)¹ Map will be cascaded to the LGUs to assist farmers and other stakeholders in identifying areas where crops could ideally be grown based on soil type, climatic conditions, and bio-physical requirements. Promotion of existing crop management decision support tools, such as the Rice Crop Manager (RCM)² and other farm management tools (e.g. AgriDoc App, MOET App, etc.),³ will also be intensified to provide timely, location-specific crop and nutrient management recommendations to more farmers to improve their yield and increase farm income. To increase the

adoption of these science-based decision support tools, different extension delivery modalities will be used depending on AFF stakeholders' capacity and access to information and communication technology (ICT). These will include the use of blended learning platforms, such as web-based courses and applications, provision of offline versions of these applications, particularly for those with limited access to the internet, face-to-face training in areas where it is applicable, and the use of traditional media (e.g., radio, TV, print, etc.).

Pursue an ecosystems approach to fisheries management, including operationalizing fisheries management areas (FMAs)⁴ to provide for a science-based, participatory and transparent governance framework, and mechanism to sustainably manage fisheries. With the issuance of Fisheries Administrative Order (FAO) 263, policies in managing fisheries will be based on the status and capacity of the stocks within the FMAs, taking into consideration its impact on the economic well-being of fisherfolks. To support this, the Bureau of Fisheries and Aquatic Resources (BFAR) will intensify its efforts in establishing and convening the multisectoral Management Bodies (MB)⁵ in the FMAs, and develop the Ecosystem-Approach to Fisheries Management Plan (EAMP) guided by the result of the National Stock Assessment Program of the National Fisheries Research and Development Institute (NFRDI). A Scientific Advisory Group (SAG) composed of scientists, researchers, and technical representatives will also be established to

¹ Launched in March 2017. Thematic maps used were obtained from BSWM for the soils map, WorldClim and DOST-PAGASA for climate data, DENR-MGB for geo-hazard maps, and PSA and NAMRIA for political boundaries. The NCCAG includes data on crop suitability, agro-ecological zone, ground water availability, rainfall, temperature, poverty incidence, and farmers' demographics, among others.

² Based on research trials, RCM can increase yields and added net benefit when farm lots normally yield below 7 tons/ha at 14% moisture. For farm lots with normal yield of 7 tons/ha and above at 14% moisture, benefit from RCM could be very small or negligible.

³ The AgriDoc App developed by PhilRice is a farm management tool which can keep records on expenses and farm activities. It also allows farmers to view their farm area through Google Maps. The Minus-One Element Technique application (MOET App) is an Android-based app developed to complement the soil diagnostic tool MOET kit. It computes for fertilizer recommendations and yield estimates based on the pot-based fertilizer trial to identify significant nutrient elements lacking in the soil.

⁴ Based on FAO 263, FMA is a bay, gulf, lake, or any other fishery area which may be delineated for fishery resource management purposes. It provides that for purposes of sustainable fisheries management, 12 FMAs in Philippine waters are established, based on considerations of stocks boundary/range/ distribution, structure of fisheries, as well as administrative divisions, and undertaken through consultation based on stocks and fisheries distribution. (BFAR, FAO 263, s. 2019, *Establishment of Fisheries Management Areas for the Conservation and Management of Fisheries in Philippines Waters*)

⁵ MB in FMAs is composed of representatives from multi-sectors of fisheries such as LGUs, municipal and commercial fisheries, aquaculture, processors and traders, academe, NGOs, indigenous peoples, and other relevant NGAs.

provide policy support and technical advice to the MBs (see Chapter 20).

Strengthen the promotion of intercropping and integrated farming systems. Promotion of intercropping (e.g., corn or pineapple under coconut, etc.) and integrated farming systems, such as livestock-crops (e.g., integrated rice-duck farming system⁶, crops-livestock-fish (e.g., *Palayamanan*),⁷ and agro-forestry will be strengthened to maximize the use of land, improve resiliency, and enhance sustainability. SFFs shall be provided with capacity-building and retooling on appropriate cropping systems and technologies (e.g., suitable crops or combination of crops/livestock/fish, and management techniques, etc.) to help them not only in increasing their productivity and income but also contribute to the sustainable and efficient use of natural resources, and increase resilience. With intercropping or integrated farming, there will be increased diversity which can result in lower risk of pest and disease problems (i.e., better management of pest outbreak), increase insect and soil microbial diversity, and higher probability that at least one species or crop can withstand the weather disturbances. Likewise, viable technologies on sustainable land management, such as soil health management through balanced fertilization to improve soil quality and land productivity will be made accessible to SFFs.

Intensify the promotion of urban agriculture, backyard/household gardening of edibles and backyard animal raising, and community gardening. Given the importance of ensuring a steady supply of food, urban households and communities will be encouraged to produce fresh and healthy food from their backyards and spaces. The DA, in partnership with other government agencies, the LGUs, and the private sector, shall intensify the promotion of urban agriculture, subsistence backyard/household gardening

and animal raising, and community gardening through the establishment of community gardens in barangays and schools with vacant areas. The community/backyard gardens may serve not only as a source of nutritious food and livelihood but also as additional income for those who will sell their surplus. Production inputs such as seeds/seedlings, soil, compost, and initial stock (e.g., small ruminants, chicken, ducks, etc.) will be provided as start-up kits, complemented with skills training on sowing of seeds and proper management, composting, and pest disease management, among others. Registration processes and reporting requirements will need to be streamlined for more efficient assistance to investors/firms pursuing urban agriculture, particularly modern methods of growing plants and fish, such as hydroponics, aeroponics, and aquaponics (see Chapter 11).

Effectively implement RCEF in a timely manner to assist rice farmers during the transition period given the removal of the quantitative import restrictions (QRs) on rice. The RTL aims to make rice accessible and affordable to all Filipinos, particularly the poor who spend about 29 percent of their total food expenditure on rice. It also established a Rice Competitiveness Enhancement Fund (RCEF), with an annual allocation of PHP10 billion for six years, to enhance the productivity and competitiveness of rice farmers by providing them: (a) farm machinery and equipment; (b) high-yielding seeds; (c) low-interest credit; and (d) skills training programs on farm mechanization and modern farming techniques. The tariff collection, in excess of PHP10 billion, will still be provided to rice farmers for (a) cash transfer program; (b) titling of rice lands; (c) crop insurance; and (d) crop diversification. For the cash transfer program, it will be a short-term measure of the government while the rice industry is in transition and will prioritize farmers most affected by the drop in farmgate prices.

⁶ The integrated rice-duck farming system grows rice and ducks together in an irrigated paddy. The paddling movement of the ducks stimulates plant growth, while duck manure naturally fertilizes the soil. The ducks also eat the harmful insects and weeds, thus eliminating the need for pesticides and herbicides.

⁷ Palayamanan is a model of diversified integrated rice-based farming system developed and established by PhilRice composed of synergistically-compatible farming ventures such as rice, onion, poultry, livestock, and aquaculture. Under this system, the livestock transform plant residues and by-products into edible high-quality protein and manure, which is then applied to crops as organic fertilizer to increase crop productivity.

Intensifying development and adoption of modern, climate- and disaster-resilient production technologies

Accelerate irrigation development, especially the construction of disaster- and climate-resilient small-scale irrigation systems and retrofitting of existing ones, to be guided by a National Irrigation Master Plan (NIMP). This includes the financing of the modernization of priority irrigation systems, quick response for restoration works in disaster-prone areas, and regular preventive operations and maintenance for optimal production for the year-round cropping (*see Chapter 19*). In addition, to support sustainable consumption and production (SCP) initiatives, proper use of water-saving and water-harvesting technologies such as alternate wetting and drying (AWD), rotational method, rainwater harvesting, and solar-powered irrigation⁸ will also be promoted in areas where it is applicable. The protection, rehabilitation, and management of critical watersheds for irrigation are critical counterpart interventions to ensure sustainable water supply (*see Chapter 20*).

Intensify research and development (R&D) activities for AFF, including the development and commercialization of appropriate technologies to improve productivity, reduce post-harvest losses, and enhance risk resilience. Implementation of activities supporting the development and commercialization of climate- and disaster-resilient technologies, such as high-yielding and stress-tolerant crop varieties, fish species, and animal breeds, will be intensified. Innovators and discoverers of these mature technologies will be linked with prospective investors to facilitate technology transfer and adoption (*see Chapter 9*). Advanced and emerging technologies (e.g., biotechnology, genomics, nanotechnology) will also be explored to address the challenges and vulnerabilities of the AFF sector.

Intensify the provision of appropriate farm and fishery machineries, equipment, and facilities. The government will intensify its efforts in facilitating the use of farm and fishery machinery, equipment, and facilities based on the appropriateness of technology to local needs and conditions to raise the efficiency of farm operations and reduce production costs and post-harvest losses. In consideration of the new normal, more farm machinery and equipment will need to be provided, in lieu of manual labor, given the need to limit the movement of people and sustain the practice of social distancing.

In line with the implementation of the Agriculture and Fisheries Mechanization (AFMECH) Law, the Agriculture and Fisheries Mechanization Engineering Resource Network (AFMechERN) will be regularly updated to provide timely and reliable data on existing agri-fishery machineries, equipment, and facilities, as well as other mechanization-related information. The Agricultural Machinery Testing and Evaluation Center (AMTEC)⁹ in Los Baños, Laguna will be capacitated to expand its services for testing and evaluation of: (a) imported machinery and equipment for domestic distribution; and (b) locally-developed machinery and equipment prior to its commercialization as mandated by the AFMECH Law (*see Chapter 9*). The local manufacturers of equipment and machinery will also be supported by providing them with training on the design, fabrication, operation, testing, and evaluation of equipment and machinery, and providing appropriate incentives.

Enhance the capacity of farmers and fisherfolk to adopt new and better technologies. This will be done through a ladderized approach that includes: (a) establishment of technology demonstrations or learning sites to introduce and showcase the success of new or innovative technology using blended

⁸ AWD is a water-saving technology that farmers can apply to reduce their irrigation water consumption in rice fields without decreasing yield. Rainwater harvesting is the collection of rain or runoff for productive purposes. Solar powered irrigation uses the sun's energy to power a pump which supplies water to crops.

⁹ AFMech Law designated AMTEC as the premier and reference testing center of agricultural and fisheries machinery in the country. The law further states that AMTEC shall assist in the formulation of quality, safety, and performance standards of agricultural and fisheries machinery and provide technical assistance in the establishment of testing centers in other parts of the country.

learning platforms; (b) scaling-up of successful learning sites to serve as strategic demonstration areas for innovative and sustainable farming and fishing; and (c) development of these learning sites and expansion to farm tourism sites as additional livelihood opportunities for farmers and fisherfolk. SFFs will also be provided with quality advisory and technical services which include on-demand knowledge-sharing and advisory on production and post-production technologies through blended learning platforms.

Strengthen the AFF extension system as a whole.

To facilitate diffusion and increase adoption of modern, climate- and disaster- resilient/ responsive technologies, an effective AFF extension system should be in place. To support this, the implementation of the following strategies will be strengthened: (a) improve competencies of agriculture extension workers (AEW), trainers, and other extension agents through continuous provision of capacity-building and retooling to enhance their knowledge and skills on recent AFF trends, technologies, and sustainable practices (e.g., organic agriculture, integrated farming systems, etc.); (b) develop new or modify existing extension modalities, methodologies, and approaches that are fit to the changing extension contexts (e.g., use of combinations of digital technology and traditional media or blended learning platforms, instead of face-to-face training); and (c) intensify accreditation of private extension service providers and training facilities to serve as partner organizations and venues. The DA will also engage in joint ventures and convergence with other government agencies (e.g., TESDA, LGUs, etc.), the business community, and other stakeholders in upgrading the operation, and improving the effectiveness of the AFF extension system and enhancing inter-institutional linkages between R&D and extension.

Increasing and protecting access of small farmers and fisherfolk to land and water resources

Fast-track and complete the parcelization¹⁰ of collectively-titled awarded lands and generation of individual titles to address investor uncertainty and facilitate investments in agrarian reform areas. The incomplete land ownership transfers to agrarian reform beneficiaries (ARB)–from collective to individual titles–has been a long-standing issue which erodes investor confidence on lands awarded under the Comprehensive Agrarian Reform Program (CARP). The parcelization process has encountered delays in the validation of individual ARBs listed in the collective Certificates of Land Ownership Award and in the identification of actual occupants of the subject landholdings. Legal issues are likewise confronted such as in the reconstitution of titles and inclusion/exclusion cases. To address this, the coordination and collaboration of the Department of Agrarian Reform (DAR) with CARP implementing agencies (IAs) should be strengthened with the intent of streamlining the parcelization process. In addition, the DAR and CARP IAs should be capacitated on the latest modern survey technologies and equipment to fast track the documentation and reconstitution of lost/missing titles and those with erroneous land surveys.

Strictly enforce and monitor the implementation of existing laws, rules, and regulations on land reclassification and conversion. The Joint Memorandum Circular¹¹ on the implementation of Memorandum Circular (MC) 54 should be revised to strengthen the land use reclassification process and the functions of concerned agencies. The inter-agency committee with representatives from the DA, the DAR, the Department of Human Settlements and Urban Development (DHSUD), the NIA, the Department of Environment and

¹⁰ Parcelization of landholdings with Collective Certificate of Land Ownership Award (CCLOA) is the process of subdividing and determining the exact metes and bounds of the areas, allocation of lots to ARBs in a CCLOA, determination of common use areas, portions with common service facilities, and establishment of areas capable of being alienated and disposed of by the government. (DAR, *Administrative Order No. 02 s. 2019*)

¹¹ HLURB, DAR, DA, and DILG, Joint Memorandum Circular, Prescribing the Guidelines to Implement MC 54 (*The Authority of Cities and Municipalities to Reclassify Lands Within the Limits Prescribed by Section 20 of RA 7160 Otherwise Known as the Local Government Code of 1991*), March 21, 1995.

Natural Resources (DENR), the Department of the Interior and Local Government (DILG), and the NEDA, among others, should also be reactivated. A database system will be developed as a repository of land reclassification information and as a tool for decision-making by the inter-agency committee. A MC on Section 65 of the Comprehensive Agrarian Reform Law (RA 6657) also needs to be issued to streamline and harmonize the actions of stakeholder government agencies on the land-use conversion process. These proposed measures will be accompanied by additional manpower both at the national and sub-national (i.e., regional, provincial) levels to enforce the rules and procedures and fast track the processing of land use reclassification and conversion.

Issuance of the guidelines by the BFAR on the delineation of municipal waters for LGUs with off-shore islands (*see Chapter 20*).

Establish a regulatory framework and formulate specific guidelines on implementing usufruct¹² arrangement for AFF purposes. While usufruct rights have been used in the Philippines for housing projects (e.g., Southville 3 Muntinlupa Housing Project and Taguig City Social Housing Project),¹³ this arrangement may also be explored for AFF purposes to aid in the optimal utilization of existing lands. However, there is a need to establish a regulatory framework and formulate specific guidelines to clearly define the usufruct arrangement for lands to be used for AFF purposes in order to protect the rights of farmers as well as the property owner.

Expanding access to markets of small farmers and fisherfolk

Increasing access to digitally-supported value chains

Provide efficient transport and logistics systems to link production areas to markets and ensure unhampered movement of A&F goods and services. This involves the establishment/construction of sufficient and strategically-located facilities such as wholesale food terminals and trading centers, warehouses, cold storage and refrigeration facilities, mobile storage, mobile marketplaces, rolling stores, foodbanks, and processing facilities that are linked with an interconnected transport system to ensure the continuous flow of A&F goods and services. Transport options should also be expanded to include the use of tramlines, cable lines, and animals to transport agricultural products as cost-effective alternatives, especially for linking remote upland communities to markets.

For fisheries, more Community Fish Landing Centers (CFLCs) will be established in strategic areas that will serve as landing and fish trading hubs. CFLCs will have post-harvest equipment and facilities to enable fisherfolk to preserve the good quality of their fish and fishery products and sell at a competitive price. CFLCs will also be opened as venues for skills training on fish processing, value-adding, and fisheries conservation and protection (*see Chapter 20 and Chapter 9*).

In addition to domestic logistics systems, international trade processes for A&F goods and services will be streamlined and enhanced to ensure non-disruption of flow of goods and services (*see Chapter 9 and Chapter 15*).

¹² Usufruct is the right to enjoy the property of another, with the obligation of preserving its form and substance, unless the title containing it or the law provides otherwise. (Article 562 Civil Code of the Philippines)

¹³ Anna Marie Karaos, Gerald Nicolas, and Gladys Ann Rabacal, *Innovative Urban Tenure in the Philippines: Challenges, Approaches and Institutionalization*, UN Human Settlements Programme, 2012.

Strengthen online marketing of agriculture and fishery products, including the establishment of online or digital channels for transactions and delivery services. With the continuing policy to practice social distancing under the new normal, supermarkets and retail establishments of A&F products will be encouraged to establish online or digital channels for transactions and delivery services. The DA can expand the reach of the recently launched *eKadiwa*¹⁴ to urban areas outside Metro Manila and expand the mode of payment and delivery service providers. In areas where food and grocery deliveries are not available, an online service delivery system where buyers send a list of items to buy to a *pabili* service provider may be explored as an option. Parallel to this, a registry system for online sellers or deliveries should be established to monitor and regulate the movement of people engaged in such transactions. Farmers and fisherfolk should likewise be encouraged to make use of digital payment systems (i.e., online or app-based financial technologies), particularly in receiving/accessing payments for their produce.

Organize small farmers and fisherfolk (SSF) into formal groups and promote farm and fishery consolidation and clustering arrangements to bring about economies of scale. Farm consolidation (e.g., sugarcane block farming, etc.) and clustering arrangements among small and medium growers will be promoted, particularly in production, processing, and value-adding activities to take advantage of communal inputs and economies of scale. By organizing SFFs into formal groups, this will increase access to support services (e.g., formal credit, modern farm technologies and machinery, capacity building, livelihood projects, etc.) and enable them to meet the demand of larger agribusiness enterprises and institutional buyers.

Link small farmers and fisherfolk groups to government nutrition programs (e.g., supplemental feeding programs, etc.), hospitals, and other facilities, as suppliers. Safe and nutritious A&F products such as fruits, meat, fish, vegetables, and dairy products can be supplied by SFF groups to school children or individuals and families affected by any disaster by linking SFF groups to supplementary feeding and relief programs of the government. The national government and LGUs will be encouraged to directly purchase from SFF groups to supply their food requirements for supplementary feeding programs and relief operations. Technical assistance, in terms of market matching and guidance in the government procurement process, should be provided. (see Chapter 11)

Intensify the implementation of the Philippine Competition Law and the Price Act to regularly monitor the price of food and essential commodities and address anti-competitive trade practices and illegal price manipulation. The Philippine Competition Commission (PCC) will be vigilant in monitoring anti-competitive practices that affect fair trade such as cartels, price-fixing, and market division/allocation, among others, to ensure fair competition in the market for the benefit of both consumers and businesses. The DA and the Department of Trade and Industry (DTI), in coordination with the LGUs and accredited consumer groups, will also intensify monitoring and enforcement activities to protect consumers from illegal price manipulation to ensure that prices of basic necessities (e.g., rice) and prime commodities,¹⁵ which include agricultural products, are at reasonable levels at all times.

¹⁴ The digital marketing platform of the DA's *Kadiwa ni Ani at Kita* which provides an easier and safer way for farmers and fisherfolk to sell their produce and access to fresh and nutritious agri-fishery products for consumers.

¹⁵ According to the Price Act (RA 7581), basic necessities include rice; corn; bread; fresh, dried and canned fish and other marine products, fresh pork, beef and poultry meal; fresh eggs; fresh and processed milk; fresh vegetables, root crops; coffee; sugar; cooking oil; salt; laundry soap; detergents; firewood; charcoal; candles; and drugs classified as essential by the Department of Health (DOH). Prime commodities, on the other hand, include fresh fruits; flour; dried processed and canned pork; beef and poultry meat; dairy products not falling under basic necessities; noodles; onions; garlic; vinegar; patis; soy sauce; toilet soap; fertilizer; pesticides; herbicides; poultry; swine and cattle feeds; veterinary products for poultry, swine and cattle; paper; school supplies; nipa shingles; sawali; cement; clinker; GI sheets; hollow blocks; plywood; plyboard; construction nails; batteries, electrical supplies; light bulbs; steel wire; and all drugs not classified as essential drugs by the DOH.

Increasing AFF-based enterprises

Strengthen AFF sector linkage to industry sector through innovative production, processing, value-adding, and marketing schemes. Pursue contract-growing arrangements, corporate farming, and other forms of linkages to integrate small farmers and fisherfolk and micro, small, and medium enterprises (MSMEs) into larger agribusiness enterprises. Consolidating or clustering SFFs and MSMEs will also allow product consolidation, expand supply to existing markets, and open up new markets, thereby increasing their income. To further enhance market access, the government will strengthen the conduct of market-matching activities, such as local (national, provincial, and regional) and international trade fairs, roadshows and exhibits, business trade missions, and other promotional activities (*see Chapter 9*).

Capacitate small farmers, fisherfolk, and MSMEs in diversifying into commodities with high value-adding and market potential. The transition period brought about by the liberalization of the rice industry offers an opportunity where uncompetitive rice farmers can pursue more profitable farm commodities. To support this, capacity building activities for diversifying into commodities with high-value adding and market value will be provided to SFFs and MSMEs. These activities will include processing, understanding markets, proper product handling and packaging, and ensuring food safety and quality standards. For instance, for coconut-based exports, the development of high-value by-products such as coco water, coco sugar, and other emerging product lines will be supported to maximize their export potential and help manage and reduce the impact of shocks brought about by volatility in domestic and world prices (*see Chapter 15*).

Adopt geographic indications (GIs)¹⁶ to improve the marketability and traceability of products and ensure quality standards. This is to increase and create awareness and knowledge on GIs, improve

the capacity of technical personnel and other stakeholders relative to the intellectual property component of GIs, and formulate the regulations for GIs (*see Chapter 9*).

Establish and/or update, and increase access of SFFs and other AFF stakeholders to timely and reliable agricultural market information systems. This should include the provision of information on prices, buyers, suppliers/sellers, and providers of ancillary services (e.g., trucking, packaging, warehousing, etc.) through the use of digital platforms and other appropriate media. This will guide their market decisions and facilitate networking among players in the value chain (*see Chapter 9 strategy on supporting business-matching activities*).

The utilization of ICT tools such as the Supply Chain Analytics (SCAN) Dashboard and SCAN Reporter should also be encouraged among AFF stakeholders to ensure the unhampered flow of goods and inputs. The SCAN Dashboard is an important tool for both the government and private sector to be aware of ground-level issues identified by supply chain players that need to be addressed. SCAN Reporter can help stakeholders report problems encountered in the supply chain (e.g., quarantine control point problem, permit-related problem, regulations, goods overpricing, and real-time road closures, traffic, and accidents) and submit such information to the dashboard.

Encourage the private sector to invest in agri-based enterprises. Particular attention will be given to the development of local and export markets for agricultural products (i.e., Halal and organic products). Public-private partnerships will be employed to pursue the establishment of agro-industrial hubs, A&F business incubators, and regional technology parks to support an environment that would foster innovation and technology transfer to facilitate a vibrant A&F technology-based entrepreneurial system.

¹⁶ Geographical indications are signs which identify a good as originating in a particular region or locality, where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographical origin. GIs are considered a useful tool for economic growth and sustainable development, particularly in rural areas.

The implementation of the *Sagip Saka* Act of 2019 (RA 11321) will also be fast-tracked to provide SFFs with greater opportunities to engage in entrepreneurial activities through the implementation of the Farmers and Fisherfolk Enterprise Development Program under the law. Aside from providing various forms of assistance to SFFs (e.g., improvement of production and productivity, improvement of producers' and entrepreneurs' access to financing, access to better technologies, and provision of business support and development services), RA 11321 also encourages private sector partnership or alliances between farmers and fisherfolk to engage in enterprise development and improve market access of producer groups.

Strengthen community-based enterprises in upland communities. The government will continue to implement and monitor programs and projects that foster community-based enterprises in upland areas. Provision of training and extension support services in these areas will be through a farmer-to-farmer approach where farmers serve as extension agents and are part of technology generation and dissemination.

Increasing access to innovative, affordable, and adequate financing

Provide access to affordable formal credit to start, restore, sustain, and expand AFF-based livelihood activities and businesses. The outreach of formal private sector credit and other financial services will be extended through the facilitation of data sharing among lending institutions to determine the financial needs of SFFs, and target and prioritize areas where such interventions are most needed. Corollary to this, the financial literacy and credit worthiness of SFFs and agri-based MSMEs will be enhanced to help them avail of formal credit. Credit enhancement will be provided by the Philippine Guarantee Corporation (PhilGuarantee) through intensified advocacy and expansion of its agricultural guarantee services, as well as the establishment of more credit surety funds spearheaded by the BSP. Creation of the personal property security registry under the Personal Property Security Act will also be pursued (*see Chapter 15*).

Continue to implement credit programs with low interest and flexible terms for SFFs and AFF-based enterprises. The government will continue to develop and implement innovative and affordable financing facilities, such as the Production Loan Easy Access and Survival and Recovery Assistance programs of the DA, which prioritizes loans for marginalized SFFs at low-interest rates, minimal or no collateral, and fewer documentary requirements. The DA can also expand the Kapital Access for Young Agripreneurs (KAYA) to finance the capital requirements of start-up or existing projects of young agripreneurs which intend to reach out and convince Filipino youth to engage in AFF ventures. Moreover, SFF's awareness of available innovative and affordable credit programs will be increased through marketing and promotion activities (e.g., radio and TV plugs and guestings and print collaterals).

Expand agricultural insurance coverage. The institutional capacity and capitalization of the Philippine Crop Insurance Corporation (PCIC) need to be strengthened and augmented to expand the provision of agricultural insurance services. With its current manpower and budget, the PCIC was able to provide insurance coverage for only 3.1 million farmers and fisherfolk in 2019, as compared to the 10 million registered in the Registry System for the Basic Sectors in Agriculture (RSBSA). Also, because of limited budget and subsidies, increasing penetration rate among farmers has an apparent trade-off on the amount of insurance coverage, which is inadequate to cover production costs. Despite this, the PCIC will continue to expand coverage by engaging in partnership agreements with more LGUs, with the latter paying the insurance premium of farmers and fisherfolk not covered by RSBSA, while the registry is being updated. The PCIC can also expand coverage for other causes of default such as income loss from not being able to sell/market their produce and low prices. In terms of facilitating faster payouts of indemnity claims, the PCIC will continue to develop and commercialize the implementation of innovative index-based insurance programs.

Improving access of consumers to nutritious, affordable, and safe food

Enforcing food safety standards and regulations

Strictly implement food safety measures, quarantine procedures, and other existing rules and regulations in managing risks and addressing food safety and quality standards. Recognizing that risks may abound in all segments of the value chain, producers, processors, transporters (including online deliveries), vendors, and consumers will adopt food safety, quality, and quarantine measures. The measures allow traceability of products to support the targeting of regulations and regulatory actions to specific sources of risks. There is also a need to strengthen, harmonize, and streamline regulatory services and develop standards to ensure safe and quality products, facilitate trade, and promote ease of doing business. This will include the rationalization and strengthening of national and regional laboratories to guarantee accurate data on crucial laboratory test requirements for regulatory and enforcement purposes and standards development. Corresponding skills and competencies needed by the AFF stakeholders (e.g., SFFs, extension workers, etc.) on areas of sanitation and hygiene, good manufacturing practice (GMP), good agricultural practices (GAP), good aquaculture practices (GAqP), and good animal husbandry practices (GAHP) will be provided to ensure food safety and quality standards.

Increasing development and adoption of food preservation technologies

Develop processing and packaging technologies to prolong shelf-life and improve nutritional content of agriculture and fishery products. The shift in consumer preferences to healthier diets and the increased demand for processed food with longer shelf-life calls for further expansion of R&D programs focused on innovative technologies for processing and packaging. This can be done by intensifying support for public research

institutions, state universities, and colleges in producing safe, nutritious, medicinal, therapeutic, and well-packaged agri-food products that are commercially viable. Partnerships and joint projects with the DA, DOST, DTI, and the private sector may be explored to develop agri-food processed products with enhanced nutritional content and longer shelf-life.

Cross-cutting strategies

The following cross-cutting strategies will also be implemented:

Strengthen coordination and convergence of government agencies in undertaking joint planning, monitoring, and budgeting for priority programs and projects. Joint planning, monitoring, and budgeting among AFF-related agencies will be pursued to ensure complementation in the implementation of priority plans, programs, and projects. For instance, the DA, DTI, and other related agencies, in consultation with AFF/industry players, will work together in the formulation of commodity/industry roadmaps to complete the linkage between the AFF sector and the industry.

Utilize and regularly update the A&F management information systems as a strategic targeting mechanism for identification and prioritization of beneficiaries and agriculture-related programs and services (e.g., RSBSA, ABEMIS, etc.). Existing management information systems, such as the RSBSA, should be used as a primary reference in targeting beneficiaries of agriculture and fishery programs and projects. The RSBSA will also be regularly updated, harmonized, and cross-referenced with existing registries, such as the Municipal Fisherfolk Registry (FishR) of BFAR, *Listahanan* or the National Household Targeting System for Poverty Reduction (NHTS-PR) of the Department of Social Welfare and Development (DSWD). These registries will also be cross-referenced with the Philippine Identification System (PhilSys) when it becomes available.

The DA initiative on establishing an online platform for transparency, inter-agency data sharing, and a science-based approach to farm to market road (FMR) planning and implementation will be enhanced to develop an Integrated Road for Agriculture Development (IROAD) that will store, consolidate, and manage GIS-based data of all FMR projects implemented by the government. This will address issues on FMR locations and interconnectivity and eliminate duplication of activities – ultimately enabling farmers and other stakeholders to fully utilize and benefit from long, completed, and strategically-linked roads. It may further be harmonized with the Agricultural and Biosystems Engineering Management Information System (ABEMIS) of the Bureau of Agricultural and Fisheries Engineering (BAFE) which contains geotagged data on machineries and equipment provided, postharvest and logistics facilities established, and FMRs completed. These systems should be made available, accessible, and easily understandable by the AFF stakeholders to help them make informed decisions and guide future investments.

Institutionalize the El Niño Task Force as a permanent body rather than an ad-hoc task force, to ensure the preparedness of the AFF sector.

Promote agribusiness courses and training programs (e.g., farm tourism, enterprise development, etc.) under collaborative schemes with the academe, government, and business sector; and integrate agriculture, including the use of modern technologies (e.g., drones, smart greenhouses, and smartphone applications) in the elementary and high school curriculum to encourage the youth to engage in agriculture and fisheries (*see Chapter 10*). Support, in terms of financing of start-up or existing agri-based projects of young entrepreneurs and agri-fishery graduates, will be provided to transform them into agripreneurs.

Intensify activities on increasing resilience of the AFF sector to climate and disaster risks (*see Chapter 20*). There is a need to intensify efforts in

improving the resiliency of AFF to climate and disaster risks. In addition, the following shall be considered:

- Integrate climate and disaster risks in the design of AFF programs and projects. For example, local climate change trends and projections should be considered in the construction of disaster- and climate-resilient farm structures and retrofitting of existing ones (e.g., small-scale irrigation systems);
- Intensify AFF extension services that will increase adoption of climate- and shock-resilient technologies (e.g., smart greenhouses, varieties that are short-maturing, high-yielding, flood/drought-tolerant, and stress-resilient, etc.), animal breeds, and best practices (e.g., AWD technology, integrated pest management, diversified/integrated farming, etc.);
- Enhance the decision support tools of concerned agencies by providing timely and site-specific weather and climate advisories and utilize advanced and appropriate ICT to make it more available and accessible to stakeholders;
- Develop and mainstream the use of early warning systems and other anticipatory mechanisms (e.g., PRISM, etc.) that can help anticipate potential hazards and disturbances which can disrupt production operations. For instance, the use of drones and the subsequent information generated by the DA, before, during, and after disasters will be further enhanced and promoted to increase preparedness and response efficiency; and
- Provide non-farm livelihood options especially to seasonal and disaster-affected farm and fishery workers, SFF, and their families. Seasonal workers/farmers will be trained on off-farm and non-farm activities to enable them to take advantage of alternative employment opportunities, including involvement in farm tourism, fabricating fiberglass boats, mangrove forest reforestation, and mushroom production.

Legislative Agenda

The following legislative measures are necessary to support the actions of the executive branch:

Table 8.2 Legislative Agenda to Expand Economic Opportunities in Agriculture, Forestry, and Fisheries and Ensure Food Security

LEGISLATIVE AGENDA	RATIONALE/DESCRIPTION
National Land Use Bill	Under this bill, prime agricultural lands shall be protected through proper and rational delineation, classification or reclassification, allocation, establishment, utilization, and management. This will ensure the viability and sustainability of on-farm employment and rural development by determining a socially-acceptable minimum agricultural land requirement that would maintain a level of agricultural industry in a given economic or spatial context at a given point in time (<i>see Chapter 20</i>). Likewise, the bill will harmonize and/or strengthen the enforcement of land use policies on the conversion and reclassification of agricultural lands to non-agricultural use.
Establishment of the Coconut Farmers and Industry Trust Fund*	The bill aims to consolidate all assets and benefits emanating from the coconut levy and create a Coconut Farmers and Industry Trust Fund to exclusively benefit coconut farmers and farmworkers. It will create a Trust Fund Management Committee consisting of representatives from oversight agencies, that is distinct from the PCA Board, to remove the conflict of interest in the previous vetoed version of the bill where PCA is both the approving agency and utilizing agency of the proposed trust fund. A Coconut Farmers and Industry Development Plan will also be drafted to set the directions and policies for the development and rehabilitation of the coconut industry in the long-term.
Strengthening of the PCIC	There is a need to reorganize the PCIC and increase its authorized capital stock to cater to the demands of SFFs more effectively.
Magna Carta for Young Farmers	This measure aims to promote and protect the rights of young farmers, establish programs for young farmers, and institutionalize young farmers' representation in agricultural decision-making and policy-making processes. This would address the declining interest of the youth on agriculture and fisheries.

* Enacted into law on February 26, 2021.

LEGISLATIVE AGENDA	RATIONALE/DESCRIPTION
Strengthening the Agricultural and Rural Financing System in the Philippines	This bill aims to amend the Agri-Agra Reform Credit Act of 2009 (RA 10000) by expanding the list of eligible projects and activities that can be funded by banks, as well as broaden the existing modes of alternative compliance, to allow banks to comply with their agricultural lending obligations. Diversifying the banks' lending portfolios will provide them with more options for investments and financing that will, in turn, increase the flow of finance and credit in the sector. It also aims to address the challenges in accessing formal credit by the agricultural sector owing to issues on bankability of projects, lack of technical expertise of financial institutions in agricultural financing, and the high levels of risk exposures of the sector.
Imposing Progressive Idle Land Tax	This is to promote the productive use of the idle lands, even if temporary, but without prejudice to the rights of owners to security of tenure.
Amendment of the Rice and Corn Law (PD 194)	This law places an unnecessary burden on foreign companies engaged in rice and corn by placing a time limit (30 years) on how long they may operate as 100 percent foreign-owned entities. After expiration of the allowed period, they are expected to divest in whole or in part (at least 60%) to Filipino citizens/local interests. There is a need to amend this law to attract foreign investments in the agriculture sector that will also provide employment opportunities to Filipinos.