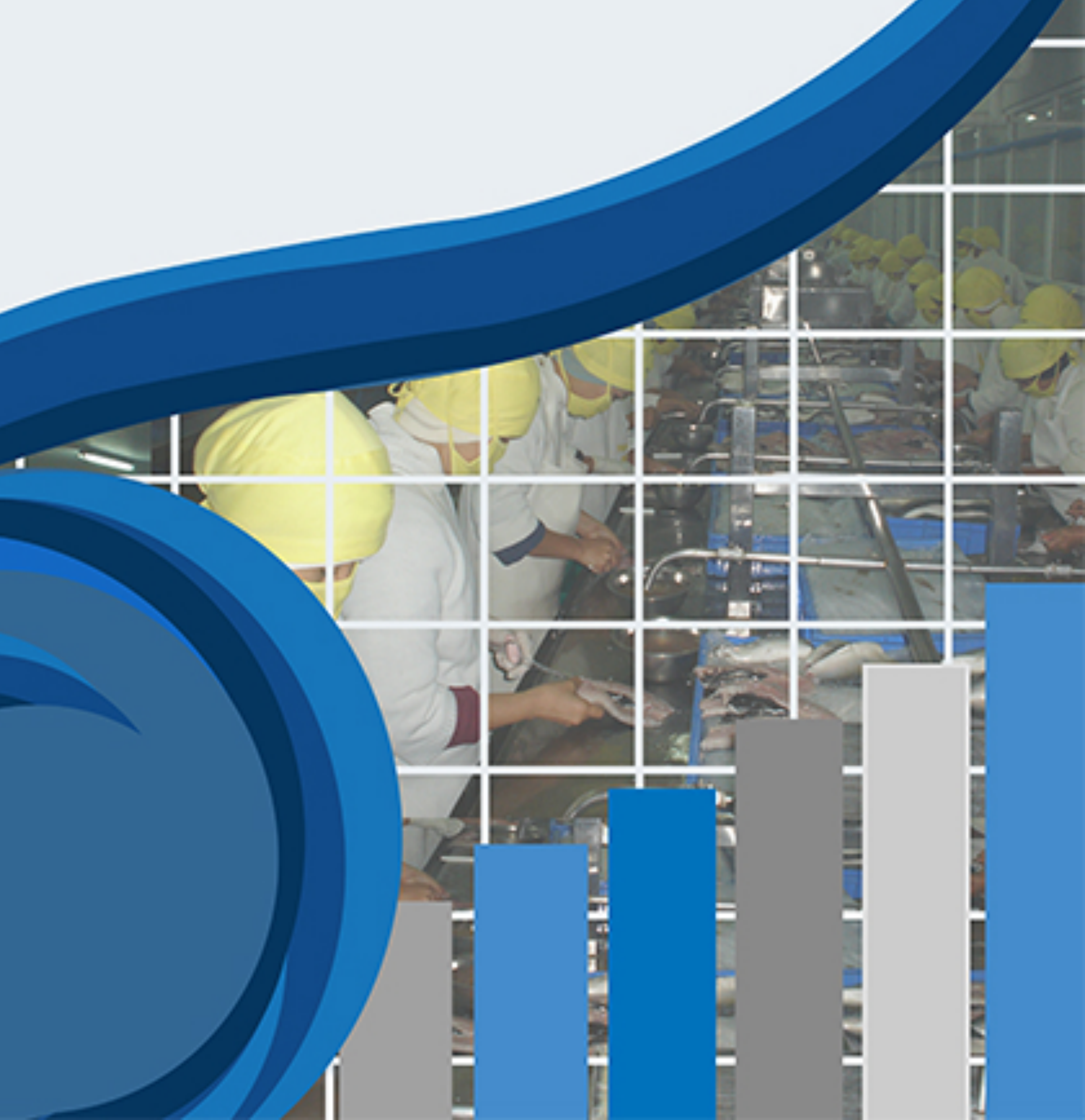
COMPREHENSIVE POST-HARVEST, MARKETING AND ANCILLARY INDUSTRIES PLAN 2018-2022



COMPREHENSIVE POST-HARVEST, MARKETING AND ANCILLARY INDUSTRIES PLAN 2018-2022

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List of Acronyms and Abbreviations

AFF	Agriculture, Forestry and Fishery
AFMA	Agriculture and Fisheries Modernization Act
AFMP	Agriculture and Fisheries Modernization Plan
AmBisyon	Ambisyon Natin
ARMM	Autonomous Region for Muslim Mindanao
ASEAN	Association of South East Asian Nations
BAFPS	Bureau of Agricultural and Fisheries Product Standards
BFAR	Bureau of Fisheries and Aquatic Resources
BFAR-AC	BFAR Administrative Circular
BoatR	Boat Registration
CAR	Cordillera Autonomous Region
CFLC	Community Fish Landing Center
CNFIDP	Comprehensive National Fisheries Industry Development Plan
CPHMAIP	Comprehensive Post-Harvest, Marketing, and Ancillary Industries Plan
CSOs	Civil Society Organization
DA	Department of Agriculture
DAO	Department Administrative Order
DOH-DAO	Department of Health Administrative Order
EEZ	Exclusive Economic Zone
EU	European Union
FAO	Fisheries Administrative Order
FishR	Fishers Registration
FNRI-DOST	Food and Nutrition Research Institute of the Department of Science and Technology
FPEs	Fish Processing Establishments
FPHFI	Fishery Post-Harvest Facilities and Infrastructure
GDP	Gross Domestic Product
GMP	Good Manufacturing Practices
GVA	Gross Value Added
HACCP	Hazard Analysis and Critical Control Points
ICT	Information and Communication Technology
IEC	Information , Education, and Communication
IPCS	Ice Plant and Cold Storage
LGUs	Local Government Units
M&E	Monitoring and Evaluation
MSMEs	Micro, Small and Medium Scale Enterprises
MT	Metric Tons
NCR	National Capital Region
NEDA	National Economic Development Authority
NFARMC	National Fisheries and Aquatic Resources Management Council
NFRDI	National Fisheries Research and Development Institute
NGAs	National Government Agencies
NGOs	Non-Government Organizations
NIR	Negros Island Region
NQS	National Quality Standards
NSO	National Statistics Office
OVI	Objectively Verifiable Indicators

List of Acronyms and Abbreviations

PD	Presidential Decrees
PDP	Philippine Development Plan
PFDA	Philippine Fisheries Development Authority
PFPHDP	Philippine Fisheries Post-Harvest Development Plan
PIDS	Philippine Institute for Development Studies
PNS	Philippine National Standards
PPP	Public-Private Partnership
PSA	Philippine Statistics Authority
RA	Republic Act
RDE	Research, Development and Extension
RoC	Republic of China
SDGs	Sustainable Development Goals
SPF	Specific Pathogen-Free
SPR	Specific Pathogen-Resistant
SPT	Specific Pathogen-Tolerant
SSOP	Sanitation Standard Operating Procedures
UAE	United Arab Emirates
UN FAO	United Nations Food and Agriculture Organization
USA	United States of America

Glossary of Terms

Ancillary Industries	firms or companies related to the supply, construction and maintenance of fishing vessels, gears, nets and other fishing paraphernalia; fishery machine shops; and other facilities such as hatcheries, nurseries, feed plants, cold storage and refrigeration, processing plants and other pre-harvest and post-harvest facilities.
Aquaculture	fishery operations involving all forms of raising and culturing fish and other fishery species in fresh, brackish and marine water areas.
Bureau	refers to the Bureau of Fisheries and Aquatic Resources (BFAR).
Buying/Trading Stations	place where fish and fishery products are sold and/or traded.
Commercial Fishing	the taking of fishery species by passive or active gear for trade, business & profit beyond subsistence or sports fishing, to be further classified as: (1) Small scale commercial fishing - fishing with passive or active gear utilizing fishing vessels of 3.1 gross tons (GT) up to twenty (20) GT; (2) Medium scale commercial fishing - fishing utilizing active gears and vessels of 20.1 GT up to one hundred fifty (150) GT; and (3) Large commercial fishing - fishing utilizing active gears and vessels of more than one hundred fifty (150) GT.
Fish and Fishery/Aquatic Products	include not only finfish but also mollusks, crustaceans, echinoderms, marine mammals, and all other species of aquatic flora and fauna and all other products of aquatic living resources in any form.
Fisherfolk	people directly or personally and physically engaged in taking and/or culturing and processing fishery and/or aquatic resources.
Fishery Management Areas	a bay, gulf, lake or any other fishery area which may be delineated for fishery resource management purposes.
Landing Centers	place where fish and fishery/aquatic products are unloaded.
Machinery	machinery and equipment for the production, harvesting, processing, storage, manufacture, preserving, transporting and distribution of fisheries products.
Municipal Fishing	refers to fishing within municipal waters using fishing vessels of three (3) gross tons or less, or fishing not requiring the use of fishing vessels.
Open Access Regime	condition where access to the fishery (for the purpose of harvesting fish) is unrestricted.
Post-harvest Facilities	include, but are not limited to, fish port, fish landing, ice plants and cold storages, fish processing plants.
Post-harvest Transport	the act of transporting fish and other fishery/aquatic products from landing centers to buying/trading stations and to the market.
Supply Chain	the sequence of processes involved in the production/culture/harvest and distribution of fish and fishery/aquatic products.
Traditional Fish Landing Centers	traditional areas with no formal infrastructure facilities such as ports where fish and other fishery/aquatic products are unloaded.

Republic of the Philippines
SENATE

Message

Chairperson, Senate Committee on Agriculture and Food

Congratulations to the Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR) on the success of their three-series consultative workshop to develop the 2018-2022 Comprehensive Post-Harvest, Marketing and Ancillary Industries Plan (CPHMAIP) and the launch of this book!

As the current chairperson of the Senate Committee on Agriculture and Food, I of course support the goals and actions of DA-BFAR to further grow and develop our country's fisheries sector. Thus, it is my hope that CPHMAIP 2018-2022 will do accomplish that and that it will successfully pan out from an industry plan to an industry success story.

CPHMAIP is mandated by the amended Fisheries Code, which I principally authored and passed into law. I consider Republic Act (RA) 10654 (An Act to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing, Amending R.A. 8550) as a legislative milestone since it translated into numerous benefits.

The amendments that we have put in place in the fisheries code will alleviate poverty and provide supplementary livelihood to municipal fisherfolk, who, together with farmers, remained among the poorest in the country.

The law is also instrumental in the lifting of the yellow tag imposed by the European Union (EU) then, which if not immediately addressed, would cause a ban on the exportation of fish products to one of the country's largest markets. In addition, it enabled the Philippines to be given the GSP+ by the EU which will allow 6,000 of our products including seafood to enter EU free of tariff.

The Philippines, an agricultural country blessed with a rich marine biodiversity, has so much potential and competitive advantage in fisheries. We need to efficiently implement institutional reforms and policy interventions to ensure the proper management of the country's fishery resources. It is important not only to our food security since seafood is major part of Filipinos' diet, but also to the sustainability of our seas. There should be a balancing act between protecting our oceans and providing food security.

I hope the 2018-2022 CPHMAIP will accomplish what the other fisheries industry plans failed to achieve.

CYNTHIA A. VILLAR
Senator

Republic of the Philippines
Office of the Secretary
Department of Agriculture

Message

Secretary, Department of Agriculture

As our national leadership gears up its efforts towards change and national renewal, we in the DA welcome the completion and publication of the 2018-2022 Comprehensive Post-Harvest, Marketing and Ancillary Industries Plan (CPHMAIP).

In meeting both the increasing local and world-wide demand for fresh fish and other fishery products, the key lies not only in the maximum yet sustainable utilization of our fisheries and aquatic resources for direct human consumption but also in ensuring that the produce of our fisherfolk and fish farmers does not go to waste. Thus, reducing post-harvest losses due to poor handling and sanitation throughout the distribution chain is today's most urgent task for us in the Department of Agriculture.

Towards this end, the CPHMAIP shall serve as our lighthouse as we navigate the rough seas of ensuring that we have available, affordable and good quality fish now and in the coming years. With the full participation and deliberation by the country's fishery post-harvest and marketing stakeholders including partners from the academe, research institutions and the national and local government, I am confident that CPHMAIP is more than sufficiently equipped to address the various challenges confronting the fisheries industry today, particularly in the aspect of post-harvest and marketing.

Indeed, by forging strong partnerships with the fishery stakeholders, making optimal use of available post - harvest and marketing technologies, and improving quality control and human resources capacity, as underscored in this plan, we are not just improving the fisheries industry; we are also becoming closer to our goals of attaining food security, uplifting the lives of our fisherfolk and ensuring the sustainability of our fishery resources.

Mabuhay ang Industriya ng Pangisdaan!

EMMANUEL F. PIÑOL
Secretary

Republic of the Philippines
Department of Agriculture
Bureau of Fisheries and Aquatic Resources

Message

Undersecretary for Fisheries
Director, Bureau of Fisheries and Aquatic Resources

Congratulations to all those who actively participated in formulating the Comprehensive Post-Harvest, Marketing and Ancillary Industries Plan (CPHMAIP) for 2018-2022.

Aside from the threat of illegal, unreported and unregulated or IUU fishing which causes fisheries production to decline, another factor which undermines the country's food fish sufficiency are post-harvest losses due to inadequate technical capabilities and fisheries post-harvest facilities. If left unaddressed, we continue to lose around 40% of our production. Thus, the government through the Bureau of Fisheries and Aquatic Resources of the Department of Agriculture is seriously committed in the implementation of various programs and projects to ensure that our fisherfolk, fish farmers and fish processors are provided with the necessary support from the government as they exert effort to eradicate post-harvest losses.

However, efforts from the government would only be effective if they are firmly rooted in a comprehensive plan which is formulated with wide and strong participation by concerned fishery stakeholders. The plan will harness existing government initiatives such as the establishment of Community Fish Landing Centers in strategic coastal communities around the country. It will also reinforce our undertakings on giving timely and relevant technical assistance on post-harvest and marketing. And finally, it is our hope that this plan will spring forth positive results on reducing poverty incidence in the coastal communities.

I am confident that CPHMAIP 2018-2022 will help us towards the realization of our goal in providing the Filipino nation with available, affordable and safe fish supply, today and beyond.

Mabuhay tayong lahat!

COMMODORE EDUARDO GONGONA PCG (Ret)
Undersecretary for Fisheries and concurrent BFAR National Director

Executive Summary

By virtue of Article IV Section 58 of the Philippine Fisheries Code (RA 8550 as amended by RA 10654), the BFAR took the lead and facilitated the formulation of a 5-year Comprehensive Post-Harvest, Marketing, and Ancillary Industries Plan (CPHMAIP) 2018-2022 through an industry-wide consultation and consensus building with some 250 personnel and key representatives from relevant national government agencies (NGAs), industry stakeholders of major fisheries and aquatic commodities, post-harvest, processing and ancillary service providers, academe and other research institutions, National Fisheries and Aquatic Resources Management Council (NFARMC), local government units (LGUs), civil society organization (CSOs), non-government organizations (NGOs) and other stakeholders.

The Philippine fisheries sector contributed 1.5% to total Gross Domestic Product (GDP) at 2000 constant prices, and 13.2% to Gross Value Added (GVA) in agriculture, hunting, forestry, and fishing in 2016. Specific to this industry group, fishing contributed the second highest next to agricultural crops. Yet, about 20-40% of total fish caught and farmed valued at P57B is lost annually due to poor post-harvest practices. This resulted to underutilization of the fishery economic value by some 2 million small scale artisanal fisherfolk. Filipino fishermen remain to be the second poorest sector in the country, as 34% remained below the poverty line, and are the most vulnerable to shocks. In addition, the Philippine fisheries is beset with a number of challenges that range from resource depletion to marketing concerns. Nutritional value of fish is likewise reduced as a result of quality deterioration. On the global scale, on the other hand, demand for seafood continues to grow as consumers become more conscious of their health and sustainability of the marine and aquatic resources.

While improvements have been noted after related interventions were put in place over the recent years, the need to effectively link production, manufacturing and marketing from the sea to the table while ensuring quality, safety and sustainability of fish and fishery products remains. This CPHMAIP 2018-2022 aims to bring down fisheries post-harvest losses to 10% and increase the competitiveness of Philippine fish and fishery products in terms of domestic and foreign trade and marketing.

To achieve the twin goals of minimizing post-harvest losses and increasing the volume and value of trade fish and fishery products, both in the domestic and international markets, the plan recommends the following, among others: provision of infrastructure support; provision of competitive and modern ancillary support; harmonization of market information and communication network for trade and marketing; enhancement of capacities, including access to credit, insurance and incentives; and, promotion of one country brand for Philippine fish and fishery products. Identified under each theme are unifying objectives and actions that will be carried out in the next five years. Total investment requirement to implement this plan is estimated at 29 billion pesos while projected accrued benefit at the end of the planning period is pegged at 74 billion pesos.

1. Introduction

The Philippines as an archipelagic country is endowed with rich marine and fishery resources that contributes income to its economy, generates employment and provides food to its populace. The fisheries sector, however, is confronted with challenges over the years which principally roots from unsustainable fisheries management and practices. While notable measures were already undertaken to address this core problem, the concern on reducing post-harvest losses in the fish supply chain to a minimum level and further enhancing the competitiveness of fishery products remain a challenge to date.

Section 58 of the Philippine Fisheries Code (RA 8550 as amended by RA10654) mandates for the formulation of comprehensive plan for post-harvest and ancillary industries in the country. This Comprehensive Post-Harvest, Marketing and Ancillary Industries Plan (CPHMAIP) 2018-2022 is an update of the Philippine Fisheries Post-Harvest Development Plan 2013-2016. Furthermore, this CPHMAIP 2018-2022 fleshed out the Post-Harvest and Marketing sectoral strategies as outlined in the Comprehensive National Fisheries Industry Development Plan (CNFIDP) 2016-2020. The marketing component has been added to this CPHMAIP 2018-2022 in due consideration of its critical role in reducing post-harvest losses as well as in the achievement of the overall sectoral targets of the fisheries sector.

The CPHMAIP 2018-2022 is jointly developed by the fishery industry stakeholders, partner government and non-government agencies, civil society organizations, academe and research institutions through a series of workshops and consultations spearheaded by the Bureau of Fisheries and Aquatic Resources (BFAR). The plan likewise identified the gaps, actions, activities, and budget needed to achieve the targets set for the post-harvest and marketing sectors. Achieving these targets will require the unified effort and meaningful participation of all identified stakeholders.

2. Legal Basis, Coverage, Framework, and Process

2.1 Legal Basis and Coverage

Article IV Section 58 of the Fisheries Code of 1998 (RA 8550), as amended by Republic Act 10654 s. 2015, mandates the Department of Agriculture (DA), through the BFAR, to formulate a comprehensive plan for post-harvest and ancillary industries. In doing so, the BFAR will have to conduct a regular study of the Philippine fisheries post-harvest operations and ancillary industries that will take into consideration eight (8) key points as indicated in Figure 1.

Since fishery post-harvest losses can happen after harvest/catch up to marketing, with the persistent request from stakeholders during the workshops, and sub-item (f) above, marketing is an integral part of the scope of this Plan. Moreover, the backward and forward linkages of the supply chain will be likewise covered as far as definition of ancillary industries is concerned.

Figure 1. CPHMAIP 2018-2022 Legal Basis

ARTICLE IV SECTION 58 of the amended Fisheries Code (RA 8550 as amended by RA 10564) necessitates the formulation of a comprehensive plan for post harvest and ancillary industries, taking into account, among others, the following:

- **a** Detailed and clear guidelines on the distribution, construction, maintenance and use of post-harvest infrastructure facilities
- **b** Extension of credit and incentives for post-harvest operations
- **c** Promotion and strengthening of semi-processing, processing, and handling
- **d** Development of domestic fishmeal industry
- **e** Development of fisheries ship-building and repair as a viable industry
- **f** Development and strengthening of marketing facilities and activities, including the pricing system with emphasis on collective marketing and the elimination of middlemen
- **g** Increased participation of cooperatives and non-government organizations post-harvest operations and ancillary industries
- **h** Integration of fisheries post-harvest operations into the national fisheries plan

2.2 Plan Framework

In the vertical hierarchy of plans, the CPHMAIP 2018-2022 feeds into and anchors into higher level sectoral and development plans as illustrated in Figure 2.

2.2.1 United Nations Sustainable Development Goals (SDGs) 2030

The Philippines is committed to achieve the targets in the SDGs (Figure 3). Specifically, the CPHMAIP hopes to directly contribute towards achieving Goal 2: Zero Hunger and Goal 14: Life Below Water (conservation and sustainable use of the world's oceans, seas, and marine resources). The Plan also hopes to contribute indirectly in attaining Goal 1: No Poverty; Goal 8: Decent Work and Economic Growth; and, Goal 9: Industry, Innovation, and Infrastructure.

Figure 2. CPHMAIP 2018-2022 in the Hierarchy of Plans

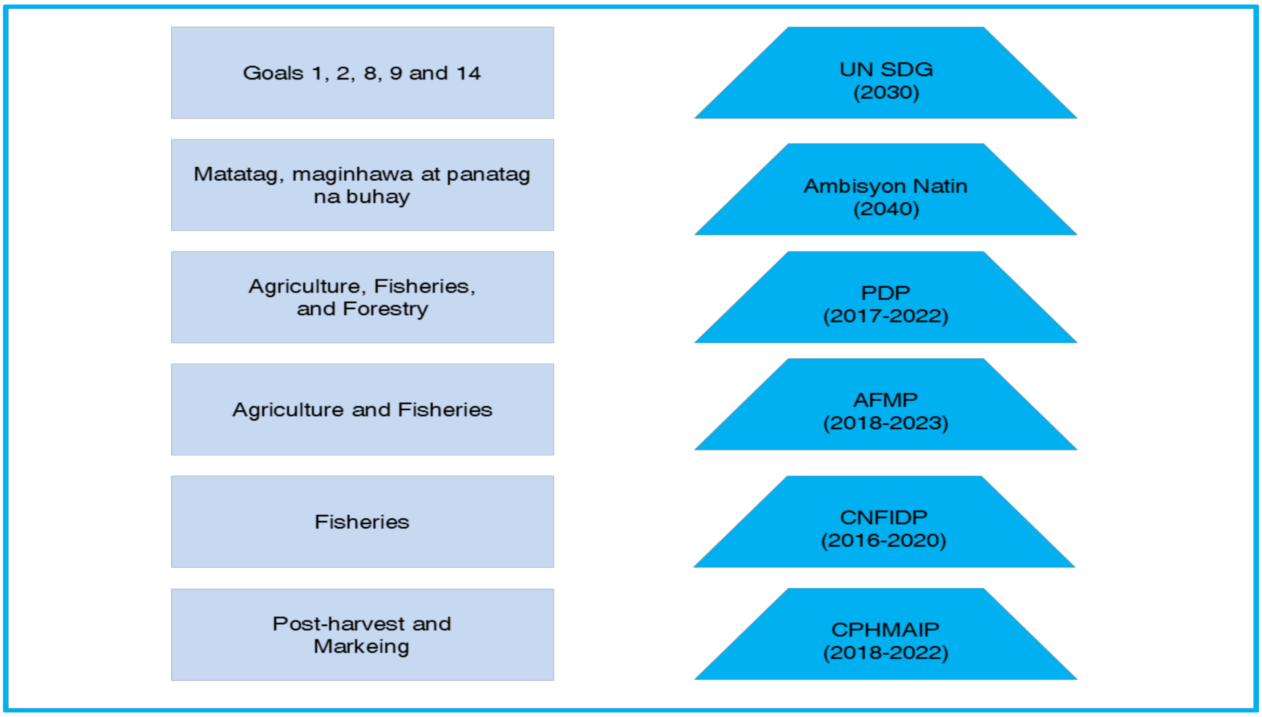


Figure 3. The Sustainable Development Goals

2.2.2 Ambisyon Natin 2040

Spearheaded by the National Economic Development Authority (NEDA), the long-term vision for 2040 is for Filipinos to enjoy a strongly rooted, comfortable and secure life (*matatag, maginhawa at panatag na buhay)*. Agriculture, where fisheries is a sub-sector, is one of the priority sectors of AmBisyon Natin 2040. The sector can feed directly into the *maginhawa* component specifically characterized by a living condition free from hunger and poverty.

2.2.3 Philippine Development Plan (PDP) 2017-2022

The Agriculture, Forestry and Fishery (AFF) chapter of the PDP is subsumed under the "inequality-reducing transformation (*pagbabago*)" pillar. Meanwhile, the interventions contained in the CPHMAIP is aimed at helping in attaining the AFF's end of plan targets by 2022 as shown in Table 1. Specifically, the CPHMAIP will work towards the achievement of the sectoral outcomes A and B. Outcome A is the increase in value of production of fisheries (commercial at 2.5%, municipal at 1%, and aquaculture at 5%), as well as increase in the value of agriculture and fishery exports by 9%. Outcome B is a 5%-6% increase in labor productivity of farmers and fisherfolk. Among the PDP targets that the CPHMAIP will work towards are: 1) the facilitation of the use of fishery machinery and equipment; 2) strengthening of the extension system; 3) physical linkages between production areas and markets; 4) capacity building on value-adding for small fisherfolk businesses; and, 5) the provision of affordable and easy to access formal credit.

Table 1. PDP End of Plan Targets for AFF

INDICATORS	BASELINE		END OF PLAN TARGET
	YEAR	VALUE	2022
Sector Outcome A: Economic opportunities in AFF 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 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%

Source: PDP 2017-2022

2.2.4 Agriculture and Fisheries Modernization Plan (AFMP) 2018-2023

The agriculture and fisheries targets and strategies as contained in Chapter 8 of the PDP is being fleshed out in the AFMP. As mandated by Section 13 of the Agriculture and Fisheries Modernization Act (AFMA), the DA's AFMP is a six-year plan to develop and modernize the agriculture and fisheries sector. The priorities in the CPHMAIP will be inputted into the AFMP once finalized.

2.2.5 Comprehensive National Fisheries Industry Development Plan (CNFIDP) 2006-2025

Crafted in 2006, the CNFIDP is a 20-year plan of the Philippine fishing industry intended to provide a comprehensive framework for promoting optimal development and long-term sustainable streams of benefits. It is divided into four (4) medium term periods with its corresponding themes as shown in Table 2.

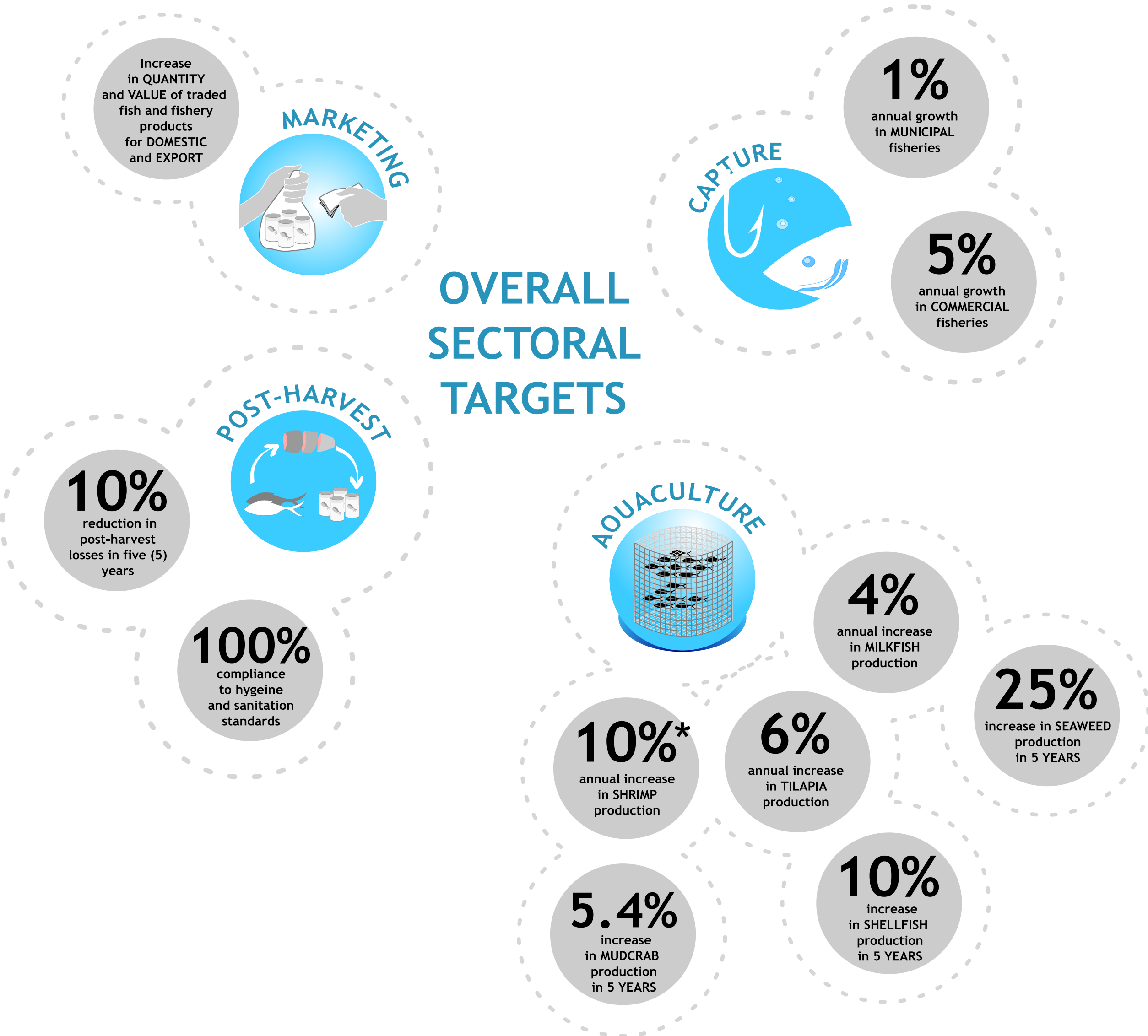
Table 2. Medium Term Periods and Themes

MEDIUM TERM PERIOD	THEME
2006-2010	Strengthening the Foundation of Sustainable Growth
2011-2015	Improving Sector's Performance by Building on Gains from Previous Plan
2016-2020	**Increasing Global Competitiveness of Philippine Fishery Products**
2021-2025	Maintaining the Benefits of a Sustainable Industry

Five program components or sub-sectors were identified in the original CNFIDP, namely: (1) Municipal Fisheries; (2) Commercial Fisheries; (3) Aquaculture; (4) Post-Harvest; and, (5) Institutional Support and Policy Support.

The third iteration of the CNFIDP, that is 2016-2020, envisions a sustainable and competitive fisheries industry that contributes to food security and provides optimum socio-economic benefits to Filipinos. To help track the achievement of this vision are four (4) overall sectoral targets as shown in Figure 4.

Figure 4. CNFIDP 2016-2020 Overall Sectoral Targets



Source: Comprehensive National Fisheries Industry Development Plan 2016-2020
**For updating as per industry recommendation from 10% annually to 2% annually for 5 years*

The CPHMAIP 2018-2022 will hinge on the sectoral targets and strategies of both Post-Harvest and Trade and Marketing sectors as outlined in the CNFIDP 2016-2020 (Table 3).

Table 3. Post-Harvest and Marketing Sectoral Targets and Strategies

SECTOR	TARGETS	STRATEGIES
Post-Harvest	• 10% reduction in post-harvest losses in five (5) years • 100% compliance to hygiene and sanitation standards	1. Improve fisheries post-harvest and cold chain technology and facilities; 2. Increase production of value-added products from fish and fishery by-products/processing wastes; 3. Improve compliance of fishing establishments to relevant national and international regulations; 4. Increase and strengthen fishery-based livelihood and entrepreneurial programs in coastal communities; and 5. Formulate and implement consistent policies on granting of incentive and other support services to all domestic or national companies vis-à-vis grants to foreign companies in relation to post-harvest fisheries.
Trade and Marketing	• Increase in quantity and value of traded fish and fishery products for domestic export	1. Expand the market for sustainable fish and fishery products; 2. Ensure the availability of sufficient supply in food fish-deficient area; 3. Increase the number of capacitated/competitive fishery-based MSMEs that can enter the market; 4. Establish a comprehensive market information system (MIS); 5. Strengthen the enforcement of laws, policies and regulations related to trade and marketing; and 6. Enhance capacity/competency of fishery institutions, manpower, and professionals (LGUs, NGAs, academe, and other industry players) specific to marketing.

Source: Comprehensive National Fisheries Industry Development Plan 2016-2020

2.3 Plan Formulation Process

As a supplemental plan to the CNFIDP 2016-2022, the CPHMAIP 2018-2022 was developed following a thorough consultative process, involving industry-wide consultation and consensus building with some 250 personnel and key representatives from relevant national government agencies (NGAs), industry stakeholders of major fisheries and aquatic commodities, post-harvest, processing and ancillary service providers, academe and other research institutions, National Fisheries and Aquatic Resources Management Council (NFARMC), local government units (LGUs), civil society organizations (CSOs), non-government organizations (NGOs) and other stakeholders.

The planning process involved a three-series three-day workshop spread across three months. Participating groups and organizations were encouraged to address issues through dynamic consensus consultation groups so all sectors and concerns could be represented well. Figure 5 sums up the consensus building process the plan went through.

Figure 5. CPHMAIP 2018-2022 Consultation Process

3. The Philippine Fisheries at a Glance

3.1 Fisheries Resources

Fish and fishery/aquatic products generally come from two sources: capture fishery and aquaculture. Capture fishery refers to the catching and harvesting of fish and other marine and aquatic resources from the wild or natural environment whereas aquaculture pertains to all forms of raising and culturing fish and other fishery species in fresh, brackish and marine water areas. In terms of reporting, capture fishery in the Philippines is further divided into commercial and municipal.

Given its vast marine and inland resources (Table 4), the Philippines is among the major fish producing countries in the world. Based on FAO 2014 data, the country ranked 8th in terms of total production of fish, crustaceans, mollusks and aquatic plants (including seaweeds) or a global production share of 2.4%. For fish, crustaceans and mollusks alone, the Philippines ranked 11th (with 1.1% share) and ranked 3rd in terms of world aquatic plants, including seaweeds, (with 5.7% share).

In 2016, total national fish production reached 4.4 million MT. Aquaculture remains the top contributor at 51%, followed by municipal fisheries at 26% and commercial fisheries at 23% (Figure 6).

Using the same data for 2016, Figure 7 revealed the top five most productive regions which are the ARMM (18.9%), Region IX (12.8%), MIMAROPA (11.1%), Region IV-A (7.6%), and Region VI (7.0%).

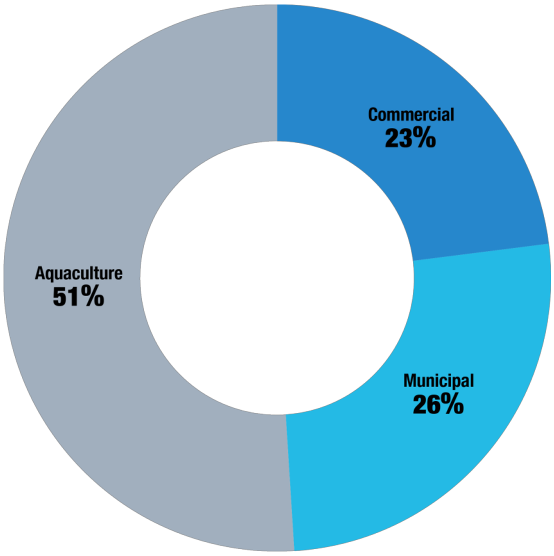
Looking into the 10-year trend of the volume of fisheries production in the country from 2007 to 2016, a significant downward trend was observed starting 2010 (Figure 8). The decline was common in all sub-sectors.

Table 4. Philippine Marine and Inland Resources

MARINE RESOURCES		INLAND RESOURCES	
1. Total territorial water area (including the EEZ) a. Coastal b. Oceanic	2,200,00 sq km 226,000 sq km 1,934,000 sq km	1. Swamplands a. Freshwater b. Brackishwater	246,063 ha 106,328 ha 139,735 ha
2. Shel area (200 m depth)	184,600 sq km	2. Existing Fishpond a. Freshwater b. Brackishwater	253,854 ha 14,531 ha 239,323 ha
3. Coral reef area	27,000 sq km (within the 10-20 fathoms	3. Other Inland Resources a. Lakes b. Rivers c. Reservoirs	250,000 ha 200,000 ha 31,000 ha 19,000 ha
4. Coastal length	36,289 km		

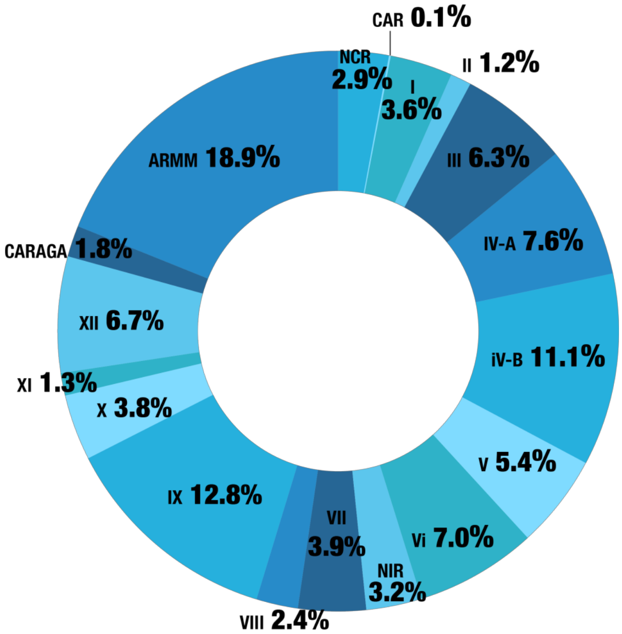
Source: Philippine Fisheries Profile 2016

Figure 6. Total Fish Production, By Sector, 2016



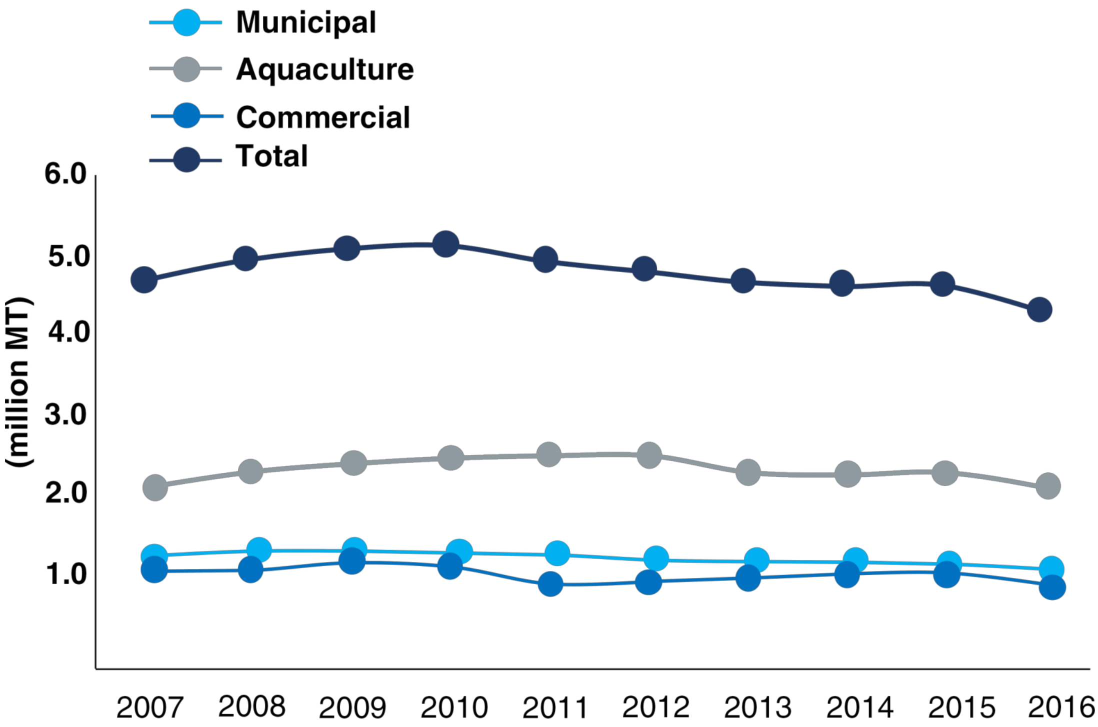
Source: Philippine Fisheries Profile 2016

Figure 7. Total Fish Production Volume, by Region, 2016



Source: Philippine Fisheries Profile 2016

Figure 8. Volume of Fish Production, By Sector, 2007-2016



Source: Philippine Fisheries Profile 2016

3.2 Socio-Economic Contribution of Fisheries

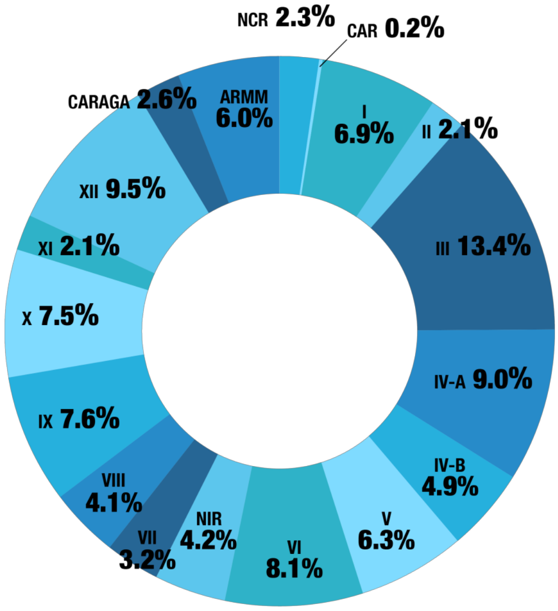
3.2.1 Fisheries Production Value

In 2016, the country's national fish production was valued at P229 billion (at current prices). Aquaculture stood to be the top earner contributing 39.8% to total earnings followed by municipal fisheries and commercial fisheries with 34.5% and 25.7% shares, respectively.

For the same year, the top three earning regions were Regions III at P30.78 billion, followed by Region XII with P22.2 billion and Region VI-A with P20.49 billion (Figure 9).

Examining the trend of total fish production value over the last decade, a decline was noted from 2014-2016 (Figure 10).

Figure 9. Total Fish Production Value, by Region, 2016

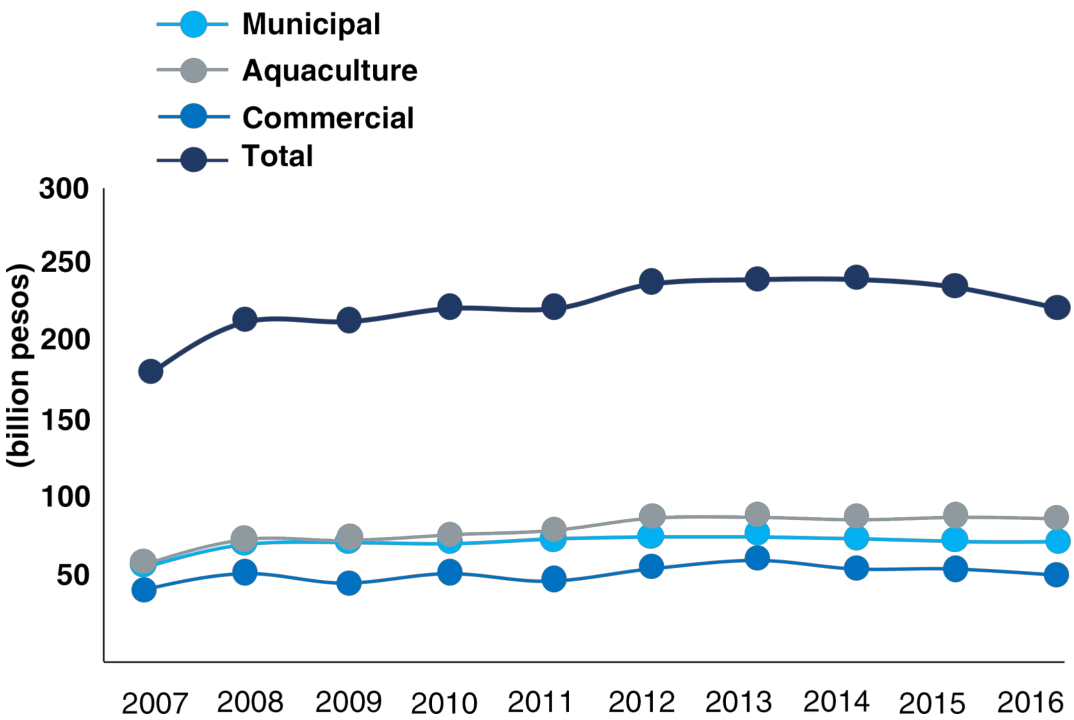


Source: Philippine Fisheries Profile 2016

In 2016, the fisheries sector contribution to total Gross Domestic Product (GDP) was 1.3% at current prices and 1.5% at 2000 constant prices, respectively.

Specific to the fisheries contribution to Gross Value Added (GVA) in agriculture, hunting, forestry, and fishing in 2016, it contributed P185 billion at current prices (13.2% share) and P123 billion at 2000 current prices (17.3% share), accordingly. Specific to this industry group, fishing contributed the second highest next to agricultural crops (Table 5).

Figure 10. Value of Fish Production, By Sector, 2007-2016



Source: Philippine Fisheries Profile 2016

Table 5. Fisheries Contribution to GVA in Agriculture, Hunting, Forestry, and Fishing by Industry Group, 2016

INDUSTRY GROUP	AT CURRENT PRICES (P Million)	% TO AGRI SECTOR	AT CONSTACT PRICES (P Million)	% TO AGRI SECTOR
1. Agricultural Crops (palay, corn, coconut, etc)	780, 329	55.8	338,557	47.6
2. Livestock	184,570	13.2	104,153	14.7
3. Poultry	140,255	10.0	83,478	11.7
4. Agricultural activities	105,247	7.5	57,744	8.1
5. Foresrty	2,418	0.2	3,622	0.5
6. Fishing	184,796	13.2	122,955	17.3
TOTAL	**1,397,616**	**100.0**	**710,510**	**100.0**

Source: Philippine Fisheries Profile

3.2.3 Fisheries Contribution to Foreign Exchange

The Philippines is a net exporter of fish. Foreign trade performance of the fishery industry in 2015 registered a net surplus of 511 million US dollars - total export value of 943 million US dollars and import value of 432 million US dollars.

The three major export commodities (tuna, seaweeds, and shrimp/prawn) attributed for 61% (153,667 MT) of the total export volume (226,821 MT) and 57% (US$ 540,123 million) of the total export value in 2015. The other major fishery exports such as crabs/crab fats, octopus, *lapu-lapu*, cuttlefish/squid, ornamental fish, round scad and sea cucumber constituted the other 20%.

Among the major destinations of Philippine fish and fishery product exports (in terms of value) are USA, 24%; Japan, 13%; Hong Kong 9%; Germany , 6%; China, Rep of , 4.8%; Taiwan (ROC), 3.7%; UK, 3.6%; Spain, 3.3%; Netherlands, 2.1%; and, South Korea, 1.9%.

Fifty two percent (52%) of the total import value for 2015 was contributed by three major commodities, namely: 56% in chilled/frozen fish; 1.6 % in prawn feeds; and flour, meals and pellets of fish, crustaceans, and mollusks fit and unfit for human consumption, 2.9%.

The Philippine fishery imports originated from the following major countries: China, 24%; Indonesia, 2%; Taiwan (ROC), 12%; Papua New Guinea, 13%; Vietnam, 13%; Japan 6% ; Norway, 3% Korea, 8%; USA, 4%; and Denmark 1%.

3.2.4 Fish as Main Source of Animal Protein

The 2013 National Nutrition Survey done by the Food and Nutrition Research Institute of the Department of Science and Technology (FNRI-DOST) indicated that fish and fish products had been the chief source of animal protein among Filipino households based on a mean one-day per capita food consumption (Table 6).

3.2.5 Fisheries Contribution to Employment

Available data from the 2002 NSO Census for Fisheries indicated that the fishing industry employs a total of 1,614,368 fishing operators nationwide. Of the said figure, the municipal operators comprised 85.0%, commercial operators 1.0% and aquaculture operators 14.0%.

Data from the Municipal Fisherfolk Registration System (FishR) of BFAR as of August 2018 revealed that the number of fishing operators in the country is now pegged at 1,929,188. The corresponding number of registered boats under Municipal Fishing Vessels and Gears Registration (BoatR) hits 263,405 during the same period.

The above figures exclude those who are employed in the ancillary services sector. There is no available data, however, on the number of employed under the ancillary services.

Table 6. Trends in Mean One-Day per Capita Food Consumption Among Filipino Households, 2003, 2006, and 2013

FOOD GROUP/ SUB-GROUP	CONSUMPTION (in grams)		
	2003	2008	2013
Body-building Food			
Fish, meat and poultry	185	193	207
Fish and fish products	**104**	**110**	**109**
Meat and meat products	61	58	65
Poultry	20	24	33
Eggs	13	14	16
Milk and milk products	49	42	45
Whole milk	35	33	34
Milk products	14	10	11
Dried beans, nuts and seeds	10	9	9

Source: FNRI-DOST

3.2.6 Poverty in Fisheries

Those employed in the agriculture sector appeared to be the poorest in the Philippines. Farmers and fishermen registered poverty incidence levels even higher than that of the general population (Table 7). While the 2015 figure was still dismal, it can be noted the poverty incidence among fishermen exhibited a slight improvement, that is, from 41.3% in 2009 to 39.2% in 2012 and further went down to 34.0 in 2015. Fishermen exhibited the most improvement among all the sectors.

Based on 2015 data, the Philippine Institute for Development Studies (PIDS) estimated that fishermen were among the basic sectors that are most vulnerable to shocks. Specifically, 83.6% of them were considered highly and relatively vulnerable.

Table 7. Poverty Incidence for Basic Sectors

Sector	2006		2009		2012		2015		Increase/ Decrease		
	Poverty Incidence	cv	Poverty Incidence	cv	Poverty Incidence	cv	Poverty Incidence	cv	2006-2009	2009-2012	2012-2015
Philippines	26.6	1.9	26.3	2.0	25.2	2.1	21.6	3.5	(0.3)	(1.1)	(3.6)
Farmers	38.5	2.1	38.0	2.1	38.3	2.5	34.3	3.0	(0.5)	0.2	(4.0)
Fishermen	41.2	4.6	41.3	4.0	39.2	4.7	34.0	5.8	0.1	(2.1)	(5.2)
Children	35.2	1.7	35.3	1.4	35.2	1.7	31.4	1.9	0.1	(0.1)	(3.8)
Self-employed and Unpaid Family Workers	30.6	2.2	29.9	2.0	29.0	2.4	25.0	2.8	(0.8)	(0.9)	(4.0)
Women	25.9	1.9	25.7	1.6	25.6	1.9	22.5	2.1	(0.2)	(0.1)	(3.1)
Youth	21.1	2.2	21.6	1.8	22.3	2.2	19.4	2.4	0.5	0.7	(2.9)
Migrant and Formal Sector Workers	16.0	2.5	16.8	2.1	16.6	2.6	13.4	2.7	0.7	(0.2)	(3.2)
Senior Citizens	16.9	3.1	16.1	2.5	16.2	2.9	13.2	3.1	(0.7)	0.0	(3.0)
Individuals residing in urban areas	12.6	4.0	12.6	3.3	13.0	4.2	11.5	5.0	(0.0)	0.4	(1.5)

Source: Philippine Statistics Authority (PSA)

3.3 Challenges of the Philippine Fishery Industry

The original CNFIDP outlines nine (9) gaps and challenges affecting the Philippine fishing industry as follows: (1) depleted fishery resources largely brought about by excessive fishing effort and open access regimes; (2) degraded fishery habitats due to destructive fishing methods, conversion of fishery habitats into economic uses, and negative impacts from land-based activities; (3) intensified resource use competition and conflict among fisher groups and other economic sectors; (4) unrealized full potential of aquaculture and commercial fisheries, as there are still underutilized areas for industry developments; (5) uncompetitive products due to inferior quality and safety standards; (6) post-harvest losses in terms of physical, nutritional, and value losses; (7) limited institutional capacities, from the local up to the national levels of governance; (8) inadequate/inconsistent fisheries policies that promote conducive environment for sustainable development; and (9) weak institutional partnership among government agencies, civil society organizations (CSOs) and the private sector.

With each constraint, corresponding strategic objectives were drawn out (Figure 11). These problems can be actually trimmed down to eight by combining the concerns on institutional capabilities and partnerships.

Related to the problems identified above, biomass levels of demersal and pelagic species continue to decline, while demand keeps on increasing and fisherfolk continue to fish to the brink of depletion, especially in areas without closed fishing seasons. It is along this line that policy advocates at the global and national levels are now pushing to capitalize on aquaculture as the alternative and sustainable approach to attaining food security and price stability. Boosting the aquaculture value chain will not only lessen the pressure on marine capture fishery but is likewise seen as a strategic approach to poverty alleviation/wealth creation in rural fishing communities.

Also, conflict often arise between commercial and municipal fishers because of differences in gears and problems with maritime zoning and implementation. Problems also arise between Philippine-flagged vessels and foreign vessels in certain areas.

Concerns on the effect of climate change to the fisheries sector was likewise raised during the workshops. Climate change will continue to strongly affect the Philippines and other neighboring countries. In 2016, FAO estimated that this climatic phenomenon is expected to cause a 2% decline in world capture fisheries.

Much as the BFAR and other government agencies and offices are taking the lead in the development of the industry and the management of fisheries, limited institutional capacities, human resources and low prioritization in terms of financial support and resources are prevailing challenges currently faced by the organizations.

The CPHMAIP 2018-2022 will, however, focus on minimizing post-harvest losses and enhancing the competitiveness of fishery products.

Figure 11. Problems and Corresponding Objectives Identified in the CNFIDP

PROBLEMS	OBJECTIVES
Depleted fishery resources largely brought about by excessive fishing effort and open access regimes	Rationalize utilization of fishery resources
Degraded fishery habitats due to destructive fishing methods, conversion of fishery habitats into economic uses and negative impacts from land-based activities	Protect fishery habits
Intensified resource use competition and conflict among fisher groups and other economic sectors	Reduce resource use and competitors, and conflict
Unrealized full potential of aquaculture and commercial fisheries, as there are still underutilized areas for industry developments	Develop full potential of aquaculture and commercial fishing
Uncompetitive products due to inferior quality and safety standards	Promote competitiveness of fishery products
Post-harvest losses in terms of physical, nutritional, and value losses	Minimize post-harvest losses
Limited institutional capabilities from the local up to the national levels of governance	Enhance institutional capabilities
Inadequate/inconsistent fisheries policies that promote conducive environment for sustainable development	Promote appropriate fisheries policies
Weak institutional partnership among government agencies, civil society organizations and private sectors	Strengthen institutional partnerships

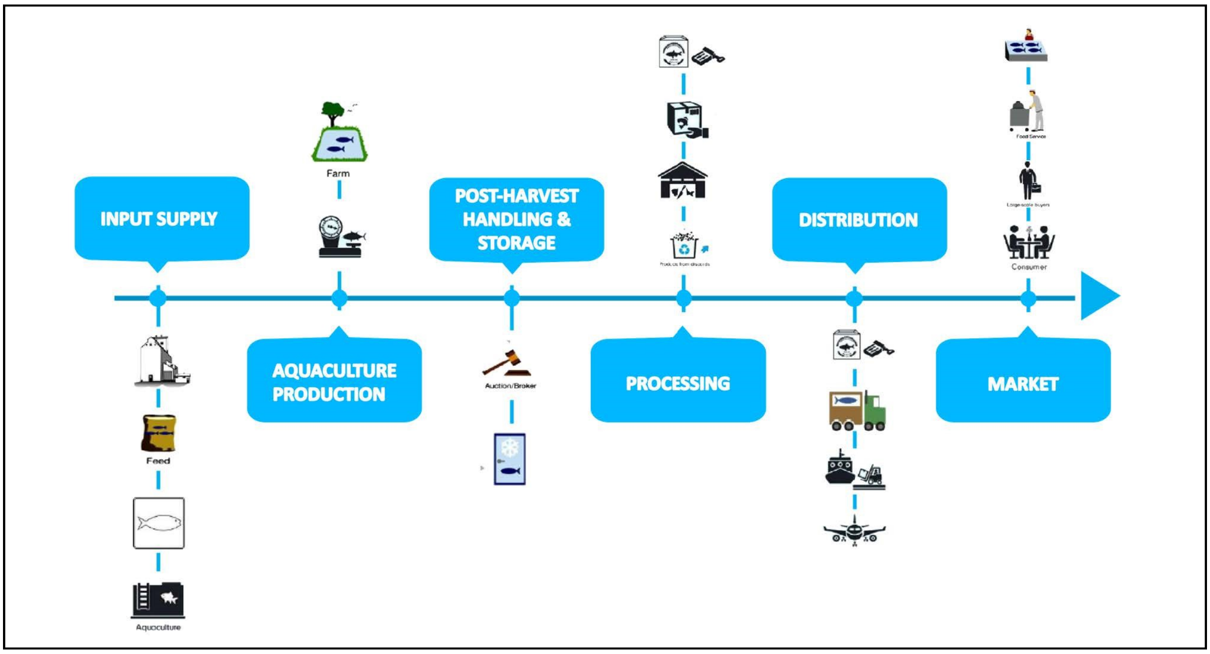
Source: Comprehensive National Fisheries Industry Develop Plan 2016-2020

4. The Philippine Fisheries Post-Harvest, Ancillary Industries and Marketing

4.1 Fishery Supply Chain

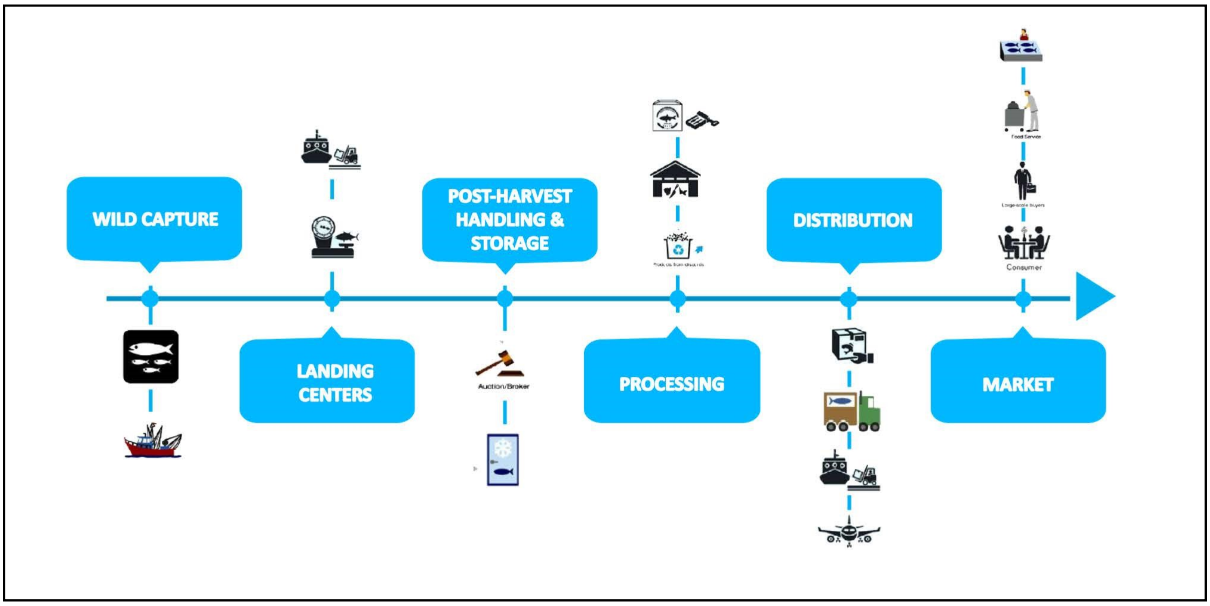
To understand better the post-harvest scenario in fisheries, it helps to have an appreciation of how a fishery supply chain looks like, both in aquaculture fisheries (Figure 12) and capture fisheries sub-sectors (Figure 13). While determining the coverage of the post-harvest is easy and straightforward, the ancillary industries cover the backward linkages – input supply and production for aquaculture as well as wild capture and landing centers for capture.

Figure 12. Supply Chain in Aquaculture Fisheries



Source: Comprehensive National Fisheries Industry Develop Plan 2016-2020

Figure 13. Supply Chain in Capture Fisheries



Source: Comprehensive National Fisheries Industry Develop Plan 2016-2020

4.2 Post-Harvest Handling Practices and Fish Processing Methods

About 70% of the total fish consumption in the Philippines is in fresh or chilled form while the remaining 30% is processed into either frozen products, cured (i.e., salted, dried, smoked, fermented, and pickled), canned, or disposed as live food.

To reduce spoilage, maintain quality and produce safe and competitive fish and fishery products, several fish processing methods are used in the Philippines. Such preservation and processing techniques involve any of the following: (1)temperature control, either low temperature (i.e. chilling at 0-4 degree Celsius or freezing at 18 degree Celsius) or high temperature (i.e. thermal processing, boiling and smoking); (2) moisture reduction (i.e. salting, drying, smoking and fermentation); (3) other processing methods (i.e. mincing, surimi processing, seaweed processing, marinating/pickling, etc.); and, (4) combination of several techniques to produce high value products.

Among landing sites, the most typical preservation method is chilling using crushed ice. Other chilling media available in the Philippines are refrigerated/ chilled seawater and ice slurry. Availability and affordability are usually the determining factors in medium choice.

Traditional processing of fish and other aquatic resources is still a common practice among coastal communities. Fish processing, especially fish drying and smoking, is usually undertaken by women in the community. In cases where supply of fish is very abundant, even fish traders engage in fish drying and smoking.

Fish species that are caught in large quantities during their peak seasons such as sardines (*tamban*), siganid (*danggit*), mackerel/round scad, anchovies and squids are usually the ones that are being traditionally processed (Table 8).

In addition, deboned and marinated milkfish in either plastic, vacuum and styropor packs is gaining increasing acceptance and demand both in the local and export market. Bottled milkfish is likewise now available in the market.

The majority of fish processors in the country are micro, small and medium enterprises. The big players are usually involved in canning and bottling of sardines, milkfish and tuna. Exporting of fresh chilled and/or frozen tuna is commonly undertaken by the big processors too.

Table 8. Common Processed Forms of Commercially Important Species

COMMODITY	DRIED	SMOKED	FISH SAUCE	CANNED	BOTTLED	FRESH CHILLED/ FROZEN
Sardines	🐟		🐟	🐟		
Siganid	🐟 *		🐟			
Mackerel/ Round Scad	🐟	🐟	🐟			
Anchovy	🐟		🐟			
Squid	🐟					
Tuna				🐟	🐟	🐟
Milkfish		🐟			🐟	🐟

** Some are deboned first before drying*

4.3 Status of Post-Harvest Facilities

4.3.1 Fish Landing Sites

In the Philippines, fish catch are landed in government-owned and operated fish ports, traditional landing centers and privately owned facility. Government-owned fish ports and landing centers are managed either by the Philippine Fisheries Development Authority (PFDA), by the LGUs or jointly managed by both. A number of fish ports and landing area in the country are currently proposed for construction/ improvement/ rehabilitation/ upgrading to increase competitive advantage in the region.

4.3.1.1 Private Fish Landing Sites

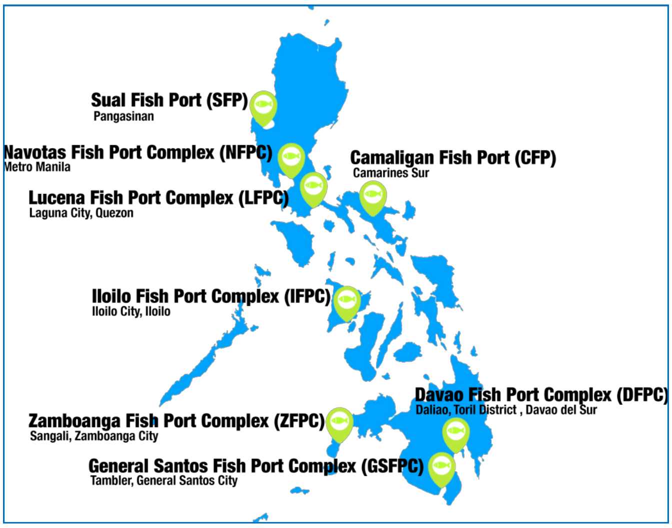
As of September 2017, the Bureau was able to list down and monitor at least 46 private municipal fish ports in four regions distributed as follows: Region XI with six (6); Region XII with 12; Region IV-A with 11; and MIMAROPA with 17.

4.3.1.2 Government-Owned and Managed Fish Ports

Figure 14 shows the eight (8) regional fish ports managed and operated by the PFDA. Table 9 indicates each port's facilities such as ice plant and cold storage facilities, processing, commercial and industrial areas. The capacities of the port facilities to include pier and quays and market bay vary from one another. Navotas and General Santos are the two biggest fish ports managed by the PFDA.

The PFDA eight (8) regional fish port are all operational but the facilities need to be improved/ rehabilitated to conform with HACCP and GMP standards/SSOP . In the case of Sual, however, only the market halls and ice making plant remain to be operational to date. Although the biggest, Navotas fish port has no ice plant and cold storage facility and processing area. There are five (5) private companies operating cold storage facilities inside the port with a total capacity of about 1,100 MT and two (2) ice plant of bigger capacities operated by the NFPC stakeholders. The General Santos and Davao Fish Port Complexes are considered to have the best practices in post-harvest as both are home to a number of fish processors who are into exports.

Figure 14. List of Names and Locations of PFDA Ports in the Philippines



Source: Philippine Fisheries Development Authority (PFDA)

Table 9. PFDA Fish Port and Facilities (at maximum operating capacity)

FISHPORT	MARKET HALLS (#of bays)	COLD STORAGE (MT)	CONTACT PLATE FREEZE (MT)	BLAST FREEZER (MT)	ICE MAKING PLANT (MT/day)	PROCESSING AREA (SQ M)	COMM'L AREA (SQ M)
Camaligan	6	45	5,400	2,332	5,000	45	5,400
Davao	14	80	8,625	1,190	12,300	80	8,625
General Santos	100	18,000	27,600	2,221	121,552	18,000	27,600
Iloilo	35	280	-	3,000	95,197	280	-
Lucena	31	18,000	7,200	760	16,625	18,000	7,200
Navotas	205	-	-	-	314,546	-	-
Sual	11	Non-operational	Non-Operational	Non-Operational	6,450	Non-Operational	Non-Operational
Zamboanga	12	250	12,775	2,570	23,399	250	12,775

Source: Philippine Fisheries Development Authority (PFDA) 2018

4.3.1.3 Government-Owned and Managed Fish Ports: LGU

On top of the eight regional fish ports of the PFDA, there are 116 municipal fish ports managed by the LGU and one (1) jointly managed by the PFDA and LGU in 2017.

The BFAR likewise improved municipal fisherfolk's access to post-harvest facilities by launching the Community Fish Landing Center (CFLC) Project in 2015. As of December 2017, there were a total of 343 completed and 156 in varying stages of construction. The Bureau also has 226 more CFLCs to be established, which would bring the total to 725 (Table 10). It is worthy to note that the greatest number of CFLCs to be constructed will be located in the ARMM. This region has no major fish port despite its position as top producing region.

Moreover, it will be strategic to put up infrastructure facilities such as the CFLCs that are physically and electronically (via electronic trading platforms) connected to regional/provincial trading hubs which in return are further connected to the mega cities' *bagsakan centers* or main trading posts. Given fund limitations, it will be pragmatic to encourage private sector involvement in investing and running these trading hubs via the public-private partnership (PPP) scheme.

4.3.1.4 Traditional Landing Centers

Traditional landing centers are usually used by municipal fishers. Some municipal fishermen unload in municipal fish ports too.

These particular type of landing sites are also more likely to be non-compliant to standards and regulations put forth by authorities. There is also definite need for baseline data to account for the number of traditional landing sites as well as other details relevant to their operation.

Comparing the distribution of commercial catch by type of landing center in 2003 (total catch of 1,109,636MT) vis-a-vis that of 2015 (total catch of 1,084,625 MT), it can be noted that there was an increase in the utilization of PFDA and LGU – managed landing centers (Table 11). The decline in utilizing the traditional fish landing sites can be explained by the increased number of CFLCs and improvement in the access to cold storage facilities. This uptake is a good indicator of an improving post-harvest handling practices among fishermen.

Regardless of fish landing type, the need to further improve the basic post-harvest facilities among all types of landing centers is evident.

Table 11. Distribution of Commercial Catch, by Type of Landing Centers, 2003 and 2015

LANDING CENTER TYPE	% SHARE 2003	% SHARE 2015	SHARE DIFFERENCE
Traditional	56	39	↓17
PFDA-managed	22	32	↑10
Private	20	21	↓1
LGU-managed	2	8	↑6

Source : BFAR-FPED

Table 10. CFLCs, By Region, as of December 2017

REGION	TOTAL TARGET (2015-2017)	ON-GOING PREPARATION FOR CONSTRUCTION	AT VARIOUS STAGES OF CONSTRUCTION	CONSTRACTION COMPLETED
I – Ilocos Region	44	5	3	36
II – Cagayan Valley	24	9	5	10
III – Central Luzon	26	6	7	13
IV-A - CALABARZON	51	21	10	20
MIMAROPA	55	24	10	21
V – Bicol Region	77	22	19	36
VI – Western Visayas	61	14	16	31
VII – Central Visayas	54	6	22	26
VIII – Eastern Visayas	68	20	10	38
IX – Zamboanga Peninsula	45	9	5	31
X – Northern Mindanao	48	22	11	15
XI – Davao Region	24	15	3	6
XII - SOCCSKSARGEN	16	6	6	4
Caraga	40	9	2	29
ARMM	91	38	26	27
CAR	1		1	
TOTAL	**725**	**226**	**156**	**343**

Source: Bureau of Fisheries and Aquatic Resources

4.3.2 Ice Plants and Cold Storage Facilities

Starting 2011, it has become mandatory for all cold storage warehouses for all agricultural and fisheries products in the Philippines to be accredited by virtue of DA DAO No. 23. As of October 2015, a total of 239 accredited cold storage facilities for fish and fishery/aquatic products were recorded throughout the country.

Commercial fishermen are relatively in a better position compared to their municipal counterparts as the former have access to the refrigeration and cold storage facilities within the major fish port complexes. Majority of the municipal fish ports and landing centers have no refrigeration facilities, thus, municipal fishers find it hard to access even simple ice-making facilities.

As of December 2017, there are a total of 79 ice plants and cold storage (IPCS) in the country: four (4) on lease to the private sectors; 56 turned-over to the LGU; one (1) to TESDA; and 18 IPCS were either non-functional, dilapidated, totally damaged and/or reverted to LGU (Table 12).

Table 12. Ice Plants and Cold Storage (IPCS), as of December 2017

OPERATION AND MANAGEMENT SCHEME	NUMBER OF IPCS
On lease to private sector	4
Turned over to LGUs	56
Turned over to TESDA	1
Non-functional, dilapidated, totally damaged and/or reverted to LGU	18
TOTAL	**79**

Source: PFDA

Other than the government-owned and managed IPCS, the BFAR was able to accredit about 239 private-owned cold storage establishments in 2015, the greater majority of which were in NCR with 38.5% share (Table 13). It can be noted that top fisheries producing regions like ARMM, Region IX and MIMAROPA, had notable deficiencies in terms of accredited cold storage facilities.

Table 13. Number of Accredited Cold Storage Establishment , as of 31 December 2015

REGION	ACCREDITED COLD STORAGE ESTABLISHMENT
I – Ilocos Region	8
II – Cagayan Valley	1
III – Central Luzon	22
IV-A - CALABARZON	28
MIMAROPA	2
V – Bicol Region	6
VI – Western Visayas	8
VII – Central Visayas	22
VIII – Eastern Visayas	6
IX – Zamboanga Peninsula	6
X – Northern Mindanao	9
XI – Davao Region	12
XII - SOCCSKSARGEN	14
Caraga	3
ARMM	
CAR	
NCR	92
TOTAL	**239**

Source: BFAR as cited in CNFIDP 2016-2020

4.3.3 Fish Processing Establishments (FPEs)

There is insufficient data on backyard FPEs in the Philippines. Accessible and available data presented commonly reflect big players in the fishing industry. Backyard FPEs and those which are still using the traditional methods of fish processing such as salting, drying, smoking and fermentation, among others, are left unrecorded. Since most backyard FPEs do not have permits, they are not usually regulated nor regularly inspected by the concerned authorities and, thus, pose concerns on food quality and safety.

It is good to note that the number of accredited fishery-based FPEs including MSMEs in the Philippines had gone up by seven folds, that is, from 208 in 2015 to 1,456 in 2017. The product forms of these MSMEs comprised any or combination of the following: fresh, chilled/frozen fish and value-added fish, and other fishery/aquatic products.

One common critical concern faced by MSMEs in the Philippines is the difficulty in accessing capital owing to stringent requirements of formal financing institutions. As such, many of them resort to traditional financiers who charge cut-throat interest rates.

Meanwhile, the big players are able to penetrate international markets owing to their compliance to local regulations and standards, including stiff export market requirements. The Philippines has maintained the EU market as a trading partner in spite of its strict food safety requirement since 1995. Other key international markets include the USA, Australia, Canada, Japan, ASEAN member countries, UAE and emerging markets like China and Russia.

Table 14 indicates the number of fish processing plants and accredited fishery establishments in the country.

Table 14. Fish Processing Plants and Accredited Fishery Establishments, By Region

REGION	PRE-PROCESSING PLANTS*	PROCESSING PLANTS INCLUDING MSMES*	BFAR APPROVED (NON-EU)**	GMP RECOGNIZED **	EU APPROVED **	HALAL APPROVED **
I – Ilocos Region	1	751	1		1	1
II – Cagayan Valley			4	1		n.d.
III – Central Luzon	4	36		3	1	2
IV-A - CALABARZON	13	78	32	5	14	10
MIMAROPA	4	26	7	11	1	n.d.
V – Bicol Region	48	419	1	5		n.d.
VI – Western Visayas		22	7	2		
VII – Central Visayas	12	19	10	3	2	2
VIII – Eastern Visayas	5	2	1	2		n.d.
IX – Zamboanga Peninsula		21	17	16	11	11
X – Northern Mindanao		15	1		1	n.d.
XI – Davao Region		4	3			n.d.
XII - SOCCSKSARGEN	3	59	9	12	21	3
Caraga			2			n.d.
ARMM	2	4				n.d.
CAR						n.d.
TOTAL	**92**	**1,456**	**95**	**60**	**52**	**29**

Source: Bureau of Fisheries and Aquatic Resources
** — as of 2017*
*** — as of 31 December 2015*
n.d. — no data

4.3.4 Fish Distribution and Transportation Facilities

In a typical supply chain of either a fresh or processed fishery commodity, the distribution segment can include packing, storing, selling and transporting functions. These are usually undertaken by carriers/transporters, peddlers/liners, vendors and to some extent, even by wholesalers and retailers.

From the landing centers and aquaculture farms, fish catch and harvest are ideally brought to buying and trading stations. From there, the mode of distribution to various domestic markets can involve: fish carriers to regional and local markets, and to processing plants; buses to regional and local markets; and tricycles and multi-cabs from community fish landing to local public markets, tourist destinations or malls. For transporting fish to remote and upland barangays, motorcycles (*habal-habal*) are used, while ships and planes are employed to transport fish and fishery products for export market.

Keeping the fresh fish in its prescribed chilling/freezing temperature is very critical after harvest/landing and during transport. In 2017, the BFAR recorded 303 refrigerated vans and fish carriers all over the country (Table 15). The number of buying and trading stations which is pegged at 256 in the same year is an indication too that additional number of these stations are still needed in other parts of the country, such as that of CAR and Caraga regions for instance, where no buying and trading station exists to date.

*Table 15. Fish Distribution and Transport Facilities, 2017**

REGION	BUYING AND TRADING STATIONS	TRANSPORT AND DISTRIBUTION (REEFER VANS, FISH CARRIERS)
I – Ilocos Region	35	207
II – Cagayan Valley	2	3
III – Central Luzon	13	
IV-A - CALABARZON	56	11
MIMAROPA	22	16
V – Bicol Region	6	
VI – Western Visayas	15	
VII – Central Visayas	11	2
VIII – Eastern Visayas	8	
IX – Zamboanga Peninsula	1	
X – Northern Mindanao	72	17
XI – Davao Region	8	8
XII - SOCCSKSARGEN	4	31
Caraga		
ARMM	3	8
CAR		
Total	**256**	**303**

Source: Bureau of Fisheries and Aquatic Resources
** — initial data*

4.4 The Fisheries Ancillary Industries

RA 8550 defines ancillary industries as firms or companies related to the supply, construction and maintenance of fishing vessels, gears, nets and other fishing paraphernalia; fishery machine shops; and other facilities such as hatcheries, nurseries, feed plants, cold storage and refrigeration, processing plants and other pre-harvest and post-harvest facilities. Table 16 reflects the inventory of farmed fish and aquatic product facilities, shipyard and boat construction, fish holding for live and farmed products, fishing/freezer vessels and feed millers in the Philippines as of 12 September 2017.

While the Philippines ranked as the world's fourth largest shipbuilding nation in 2014, one major concern to note is the non-professionalization of shipbuilding skills in the fishery sector among experienced and apprenticing boat builders and boat makers, as well as the low wages accorded to them in comparison to their international counterparts. This concern will have to be addressed as the country is consolidating its position as one of the largest shipbuilding nations in the world.

4.5 Post-Harvest and Marketing Challenges

Two core problems related to post-harvest identified in all three iterations of the CNFIDP are post-harvest losses and less competitive fish and fishery products.

Below is the brief summary of the assessment results on Philippine fisheries post-harvest done by Yap in 2015, a decade after the first iteration of the CNFIDP.

4.5.1 Post-Harvest Losses

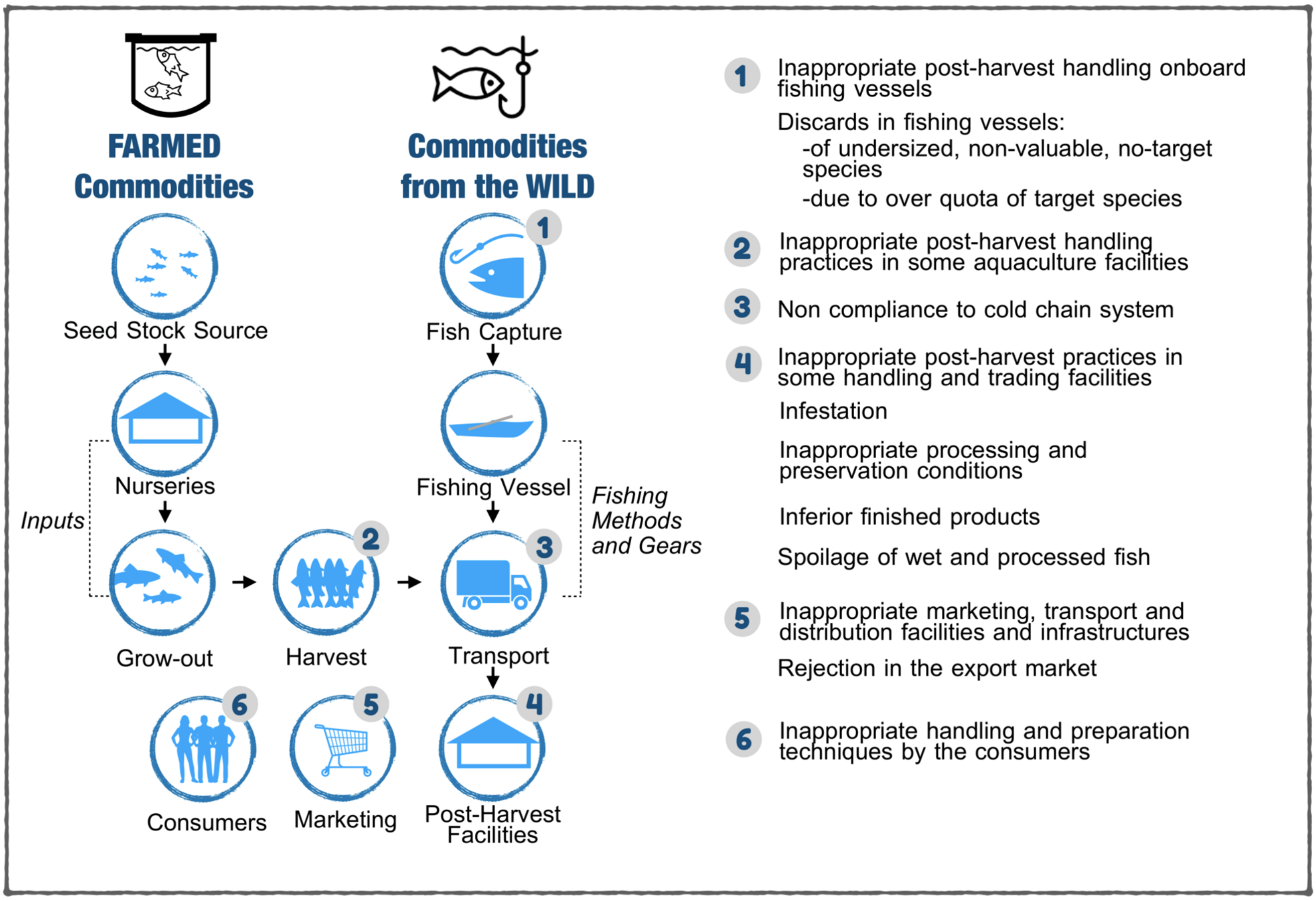
Post-harvest losses occur along the supply chain after a fishery resource is caught or harvested (Figure 15). The losses can either be physical or material (due to improper post-harvest handling practices in fish landing and trading facilities or those discarded in fishing vessels), nutritional (inappropriate processing and preservation practices can lead to decline in a fish' nutritional value) or in terms of value (decrease in market value because of spoilage of wet fish, infestation of dried and smoked fish, weight loss and inferior finished product).

Table 16. Initial Inventory Status of Input Supply Facilities for Ancillary Services, as of 12 September 2017

REGION	FARMED FISH AND AQUATIC PRODUCTS FACILITIES	SHIPYARD AND BOAT CONSTRUCTION	FISH HOLDING FOR LIVE AND FARMED PRODUCTS	FISHING/ FREEZER VESSELS	FEED MILLERS
I – Ilocos Region	404	40		7	2
II – Cagayan Valley	6				
III – Central Luzon			106	15	
IV-A - CALABARZON	307	1	55	45	13
MIMAROPA	3	3			
V – Bicol Region					
VI – Western Visayas					
VII – Central Visayas	9	4	17		5
VIII – Eastern Visayas		1			
IX – Zamboanga Peninsula	2				
X – Northern Mindanao	120	6	18	44	
XI – Davao Region	2	3	2	1	2
XII - SOCCSKSARGEN	92	19	4	289	14
Caraga					
ARMM	13	3	1	3	
CAR					
Total	**958**	**80**	**203**	**404**	**36**

Source: Bureau of Fisheries and Aquatic Resources

Figure 15. Causes of Fisheries Post-Harvest Losses in the Supply Chain



Source: Yap 2015 as cited in the CNFIDP 2016-2020

The first iteration of CNFIDP in 2006 estimated that 25-40% of the total fisheries production in the country is lost along the fish supply chain due to discards and improper post-harvest handling. The CNFIDP 2016-2020 estimated this figure to be down to 25% in 2015 and the same plan targets to bring it down further to 15% in 2020.

For instance, concerns on fish handling in local markets that can lead to losses include: misconception among local buyers that iced fish is no longer fresh such that some vendors will not use ice to keep the freshness of the fish; use of linoleum in fish display; lack or absence of crushed ice; use of old and worn-out styropor boxes in storing fish; and, even lack of awareness in proper fish handling by vendors.

To address the common use of concrete or wooden surface of market stalls and the presence of dilapidated stalls which can harbor microorganisms, insects and other pests that can contaminate the fish, the BFAR distributed a total of 3,372 units stainless steel fish stalls (cladding) nationwide. Around 125 units of fish stalls with aquarium for live fish in Metro Manila were also provided. Designs of the said stalls can be further improved to make them more fit to the needs of the vendors.

The results of the BFAR-National Fisheries Research and Development Institute (NFRDI) current studies on post-harvest losses of key fishery commodities will be helpful in determining the specific levels of baseline losses, their specific causes and possible interventions per major fishery commodity. Replicating such studies to other commercially important species will be also necessary.

4.5.2 Less Competitive Fish and Fishery Products

The CNFIDP 2016-2020 identified a number of post-harvest constraints related to trading and marketing of fish and fishery products. The perennial problem of limited marketing networks at the domestic market hinders the distribution of fish and fishery products from highly productive areas to fish-deficient areas. Another apparent concern is the limitation on infrastructure and post handling facilities and storage among regional and municipal fish ports and wet markets, prior to trading of any fishery commodities.

In the arena of international trade, challenges are commonly related to export rejection due to the following reasons: (1) food quality issues including presence of filth and substandard end products; (2) food safety issues such as the presence of microbial contaminants (e.g., *Salmonella sp*, *Escherichia coli, Listeria monocytogenes,* etc.) and chemical contaminants (both naturally occurring and those acquired from the environment) such as heavy metals, industrial contaminants, histamine, ciguatera, etc.; and, (3) non-compliance to regulatory requirements (e.g., non-registration as Low Acid Canned Food or acidified manufacturer with USFDA i.e., FCE pursuant to 21 CFR 108.25 (c), etc.)

Other trade barriers included: (1) technical barriers to trade; (b) sanitary and phytosanitary measures; (3) trade related intellectual property rights issues; (4) complicated export/import procedures; (5) stringent regulatory frameworks of importing/ exporting countries; and (6) unstable market prices.

An increase in quantity and variety of value-added fishery products in the local markets was noted. During the same review period, 20 fishery commodities (excluding aquatic plants) and about 70 various forms of fishery products are being recorded as exports. A comprehensive inventory of available traditional and value-added fishery products in the domestic market remains wanting, however.

The country has a number of laws (Table 17), Fisheries Administrative Orders or FAOs (Table 18), Philippine National Standards (PNS) for fish and fishery products (Table 19).

Table 17. List of Republic Acts (RA), Presidential Decrees (PD), Department of Agriculture Administrative Order (DA - AO), Department of Health Administrative Order (DOH-AO), BFAR Administrative Circular (BFAR-AC), related to Post Harvest Fisheries

RA/AO/AC	YEAR	TITLE
RA No. 8550	1998	Philippine Fisheries Code of 1998 (as amended by RA 10654)
RA No. 7394	1991	The Consumers Act of the Philippines of 1991
RA No. 10611	2013	Food Safety Act of 2013
RA No. 10654	2015	An Act to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing
PD No. 856	1946	Sanitation Code of the Philippines
DA AO No. 23	2011	Mandatory Accreditation of Cold Storage Warehouses
DOH AO No. 153	2004	Revised Guidelines on Good Manufacturing Practice in Manufacturing, Packing, Repacking or Holding Food
BFAR AC No. 251	2014	Traceability System for Fish and Fishery Products

Source: Yap 2015 as cited in the CNFIDP 2016-2020

Table 18. List of Fisheries Administrative Orders (FAOs) related to Post-Harvest Fisheries

FAO NO.	YEAR	TITLE
195	1999	Rules and Regulations Governing Importation of Fresh Chilled / Frozen Fish and Fishery/ Aquatic Products
199	2000	Guidelines on Fish Transshipment
209	2001	Guidelines on the Production, Harvesting, Handling, and Transporting of Shellfish for
210	2001	Rules and Regulations on the Exportation of Fresh, Chilled, or Frozen Fish and Fishery/
211	2001	Requirements for Pre-Processing and Processing Plants the SSOP thereof and the
212	2001	Guidelines on the Implementation of HACCP System
213	2001	Establishment and Maintenance of BFAR's Quality Control Laboratories and Collection
227	2008	Rules and Regulations Governing the Export of Fish and Aquatic Products to European
228	2008	Rules Governing the Organization and Implementation of Official Controls on Fishery and Aquatic Products Intended for Export to the EU Market for Human Consumption

Source: Yap 2015 as cited in the CNFIDP 2016-2020

Table 19. List of Philippine National Standards for Fish and Fishery Products, as of December 2017

NO.	PNS/BAFPS NUMBER	DESCRIPTION
1	PNS/BAFPS 46:2006 ICS 67.020	Code of Hygienic Practice for the Sale of Fresh Agriculture and Fishery Products in Markets and Authorized Outlet
2	PNS/BAFPS 66:2008 ICS 67.120.30	Frozen Milkfish
3	PNS/BAFPS 67:2008 ICS 67.120.30	Frozen Tilapia
4	PNS/BAFPS 68:2008 ICS 67.120.30	Dried Danggit
5	PNS/BAFPS 69:2008 ICS 67.120.30	Quick Frozen Raw Squid
6	PNS/BAFPS 70:2008 ICS 67.120.30	Quick Frozen Shrimp or Prawns
7	PNS/BAFPS 71:2008 ICS 67.120.30	Quick Frozen Finfish, Uneviscerated and Eviscerated
8	PNS/BAFPS 72:2009 ICS 67.120.30	Live, Chilled/Frozen Abalone
9	PNS/BAFPS 73:2009 ICS 67.120.30	Live, Chilled/Frozen Grouper
10	PNS/BAFPS 89:2011 ICS 67.120.30	Live and Raw Bivalve Molluscs
11	PNS/BAFPS 90:2011 ICS 67.120.30	Quick Frozen Fish Fillets
12	PNS/BAFPS 91:2011 ICS 67.120.30	Quick Frozen Lobsters
13	PNS/BAFPS 85:2012 ICS 67.120.30	Dried Raw Seaweed-Specification
14	PNS/BAFPS 128:2013 ICS 67.120.30	Dried Sea Cucumber
15	PNS/BAFS 136:2014 ICS 67.120.30	Fresh and Frozen Cephalopods
16	PNS/BAFS 137:2014 ICS 67.120.30	Fresh-chilled and Fresh-frozen Tuna for Sashimi
17	PNS/BAFS 138:2014 ICS 67.120.30	Fresh-chilled, Fresh-frozen and Treated Tuna
18	PNS/BAFS 176:2016 ICS 67.120.30	Dried Anchovies
19	PNS/BAFS 177:2016 ICS 67.120.30	Live Mangrove Crab
20	PNS/BAFS 178:2016 ICS 67.120.30	Pasteurized Crab Meat
21	PNS/BAFS 101:2016 ICS 67.120.30	Halal Agriculture and Fisheries Products

Source: Bureau of Fisheries and Aquatic Resources

While the enforcement of the above laws and regulations, coupled with other national developments on fish inspection, audit and traceability related to post-harvest and food safety, contributed to improvement in fishery export, as can be gleaned from the declining incidence of export refusal/detention of Philippine fish and fishery products (Table 20), the ultimate goal is to further reduce, if not totally eliminate, these incidents.

The influx of imported fish and fishery products in the light of global and ASEAN integration, while providing more choices to consumers, poses a threat to local manufacturers. Incentives are readily available to foreign players investing in the Philippines. On the other hand, local players feel disadvantaged in a way that they do not enjoy the same incentives and likewise face stringent market requirements abroad. In line with this, there is a need to further intensify the BFAR's efforts related to marketing.

Another challenge for the local manufacturers is in the area of product packaging and labelling. While locally produced and manufactured fish and fishery products may meet international approval in taste and quality, product presentation and packaging sorely lack creative, original design, quality material and appeal.

On a positive note, the utilization of fish by-products (e.g. fish meal and silage from entrails and other fish waste) provides a window of opportunity for additional income even to small enterprises. Aside from the economic benefits that can be derived from it, maximizing usage of fish by-products is also an environment-friendly act.

Table 20. Incidence of Export Refusal /Detention of Philippine Fish and Fishery Products , Most Common Causes, 2011-2015

YEAR	REASONS	# OF INCIDENCE	% (DEC/INC)
2011	1. Filthy/Decomposed substance/ adulteration 2. Salmonella	115	
2012	1. Unsanitary manufacturing practices 2. Filthy/Decomposed substance/ adulteration	123	7.0%
2013	1. Needs compliance to regulations of importing countries 2. Filthy/Decomposed substance/ adulteration	75	-39.0%
2014	1. Unsanitary manufacturing practices 2. Filthy/Decomposed substance/ adulteration 3. Nitrofurans	59	-21.3%
2015	1. Filthy/ Decomposed substance/ adulteration	25	-57.6%

Source: BFAR as cited by Yap 2015

4.5.3 Philippine Fisheries Post-Harvest Challenges in Summary

While progress had been made in the efforts of minimizing post-harvest losses and improving competitiveness, the task of achieving the 10% further reduction in post-harvest losses and making the country's fish and fishery products more globally competitive remains daunting. Due to strategic location of fishing villages all over the archipelago, some fishing communities are still wanting in terms of post-harvest facilities. The traditional methods of fish utilization and preservation prevail in these areas, thus, there is a need to establish more post-harvest facilities coupled with capacity and institutional building. A requisite to such interventions is the updating and implementation of this Plan.

5 The CPHMAIP 2018-2022

Four themes emerged as a result of the series of workshops conducted in formulating this Plan, as follows: (1) Post-harvest Infrastructure; (2) Ancillary Services; (3) Trade and Marketing; and (4) Institutional Capacities and Crosscutting Concerns.

5.1 Post-Harvest Infrastructure

Addressing the gaps in terms of infrastructure in Philippine fishery post-harvest will contribute in achieving the two core goals of the post-harvest sub-sector, namely: (1) reduced post-harvest losses from 25% to 15% in 5 years; and, 2) 100% compliance of facilities to hygiene and sanitation standards.

Post-harvest infrastructure and facilities are essential to improving the quality, maintaining the safety of fish products, and maintaining the Philippines' position as a consistent supplier of safe and quality fish products in the global market.

Among the gaps identified during the workshop under this theme are: incomplete inventory of fish landing centers (government-owned and managed fish ports, regional and municipal, as well as private fish ports) along with their existing cold storage facilities, equipment and machinery; non-standard guidelines on development and sustainable operation of related facilities; low quality of procured post-harvest facilities; presence of non-operational/not completed fish ports; misuse of some given facilities and equipment (e.g., fish stalls); limited and/or non-application of post-harvest technologies; among others.

Improving efficiency in the fishery post-production system, through reduction of post-harvest losses, enhancement in the quality of fish, improvement of the distribution system, and maximization of fish by-products using innovative technologies at par with local and international standards, will require the necessary actions related to post-harvest infrastructure, machinery and equipment. Specifically, this will require two sub-actions, namely: (1) improving fisheries post-harvest infrastructure; and, (2) providing more appropriate and more competitive fisheries machinery and equipment.

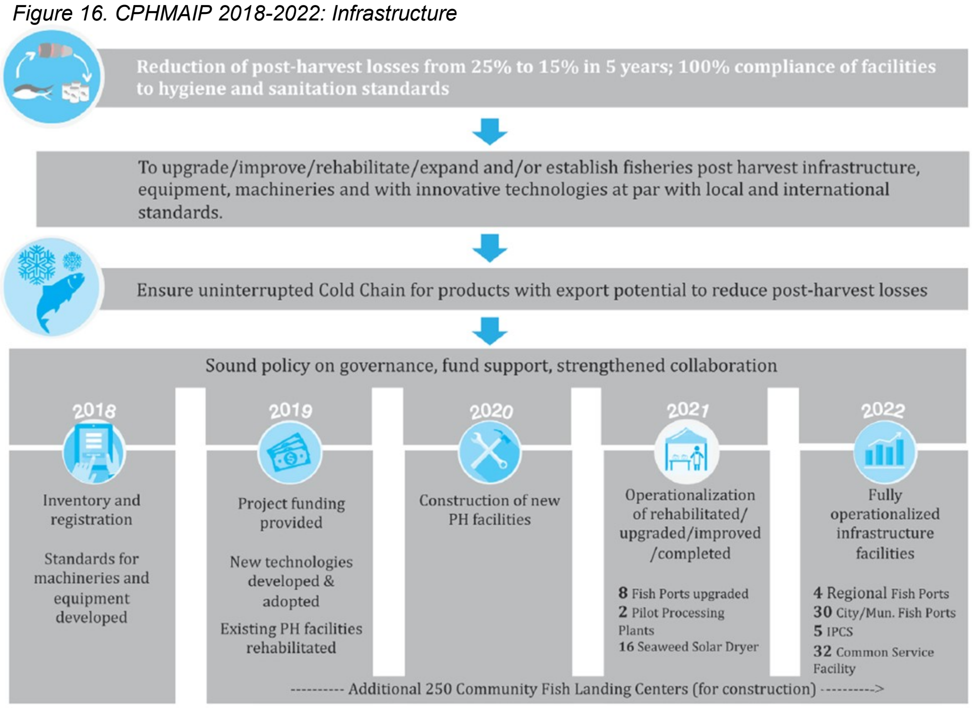
Figure 16 summarizes the Post-Harvest Infrastructure component of this Plan while Annex A contains the corresponding full details (including specific activities, indicators, timelines, budget and responsible actors).

5.2 Ancillary Services

The same with the Infrastructure, the Ancillary Services is aimed at contributing to the twin goal of the post-harvest sub-sector.

Among the identified challenges besetting the ancillary services are: limited availability of locally-made machinery and equipment appropriate to the needs of the industry; limited number of testing or

Figure 16. CPHMAIP 2018-2022: Infrastructure



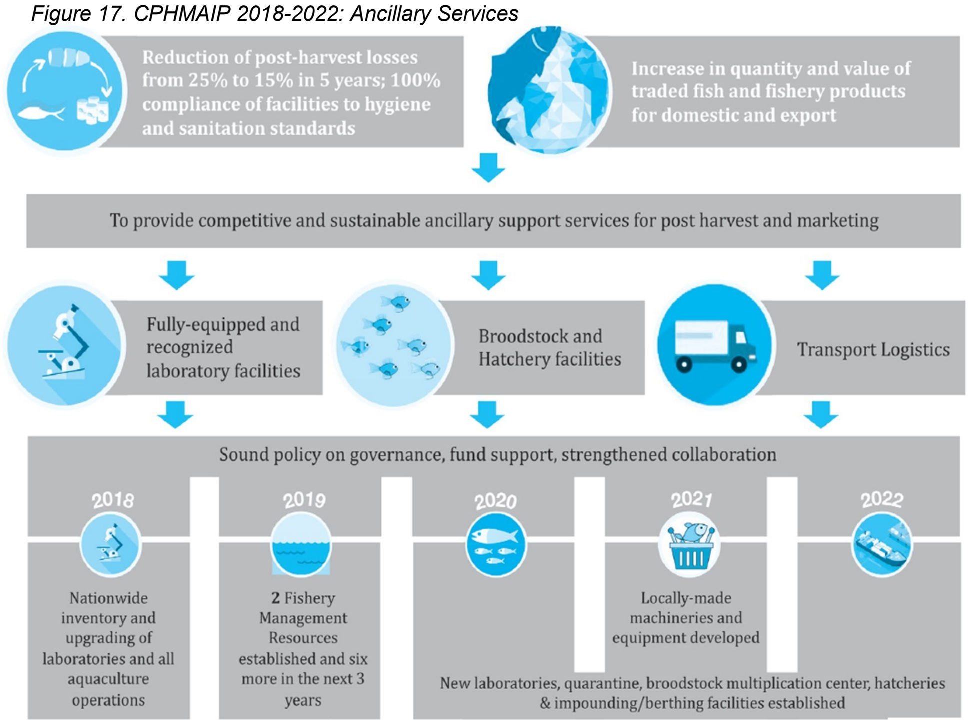
diagnostic laboratory services; lack of available public lands for production facilities, etc.; lack of SPF, SPR and SPT broodstock domestication program; non-compliance of grow-out farms on biosecurity and food safety; limited number of well-maintained quarantine facilities; and, limited/lack of fish disposal facilities.

In view of the above challenges, the agreed unifying strategic objective is to provide a competitive and sustainable ancillary support services for fisheries post-harvest and marketing. In doing so, the following actions are required:

1. Manufacturing of locally-made ancillary machinery and equipment relevant to the needs of the industry (aquaculture - vacuum harvester, feeders and sorters, bottom feeding machines, windmill to aerate ponds and to pump water and silt clearing machines/ pump in mariculture areas for aquaculture; capture - other machinery or equipment to support R&D and for fisheries resource management);
2. Inventory of existing laboratories and current industry needs including existing laboratory services such as product testing, fish health, parasitology, microbiological, physico-chemical and others;
3. Establishment of standard laboratories in priority regional fish ports and landing centers;
4. Development of mechanisms (public and private) to allow ease of access for small scale fish producers to laboratory services;
5. More competitive and reliable ancillary ship-building industry for the fishery sector (including policy advocacy)
6. Improvement of biosecurity and food safety; and,
7. Establishment and maintenance of quarantine facilities and fish disposal facilities

Figure 17 provides a synopsis of the Ancillary Services component of this Plan while Annex B contains the corresponding full details (including specific activities, indicators, timelines, budget and responsible actors).

Figure 17. CPHMAIP 2018-2022: Ancillary Services



5.3 Trade and Marketing

The CPHMAIP 2018-2022 adopts the trade and marketing goals of the CNFIDP 2016-2020 which is to increase the quantity and value of traded fish and fishery products for the domestic and export markets.

Achieving the above goal will require solving the trade and marketing-related gaps besetting the Philippine fishery sector. These constraints as identified by the Trade and Marketing group during the workshops can be grouped into five:

1. limited market of Philippine fishery products both at the local and export market;
2. insufficient supply of fish in food fish-deficient areas;
3. limited number of capacitated/competitive fishery-based MSMEs that can enter the market;
4. underdeveloped/ unsynchronized/ weak information and communication technology (ICT) in fisheries; and
5. inadequate data collection for local and international marketing strategy positioning.

The first action of expanding markets will require addressing the following: non-compliance to market requirements (quality, quantity, traceability, and value) which is actually linked to infrastructure on the common service facilities of MSMEs; non-competitive product in terms of non-existent country brand equity; limited volume and species of fisheries commodities that can meet the domestic and international markets; mismatching of product and supply with the demand; lack of alternative market of excess supply arising from seasonality of fisheries commodities; limited market information; fragmented data on fisheries; and, presence of middlemen and capitalists who control market and trade mechanisms.

The second action on ensuring the availability of sufficient supply in food fish-deficient areas will need to solve these limitations: lack of market infrastructure support/ logistics/ post-harvest facilities; high cost of mark-ups from farm gate price to wholesale price; lack of market access for fish product in the domestic and international markets; and, lack of investments in aquaculture and mariculture in some regions.

The third action on increasing the number of capacitated/competitive fishery-based MSMEs that can enter the market stems from the following concerns: lack of updated database of existing MSMEs; limited access to capital; limited support in assessing the viability of MSMEs businesses; lack of technical know-how of start-up MSMEs; inconsistent business requirements of Local Government Units (LGUs); lack of baseline data; non-compliance of MSMEs in regulatory requirements; limited fishery value-added products; and, high production cost in the areas of energy and water waste management.

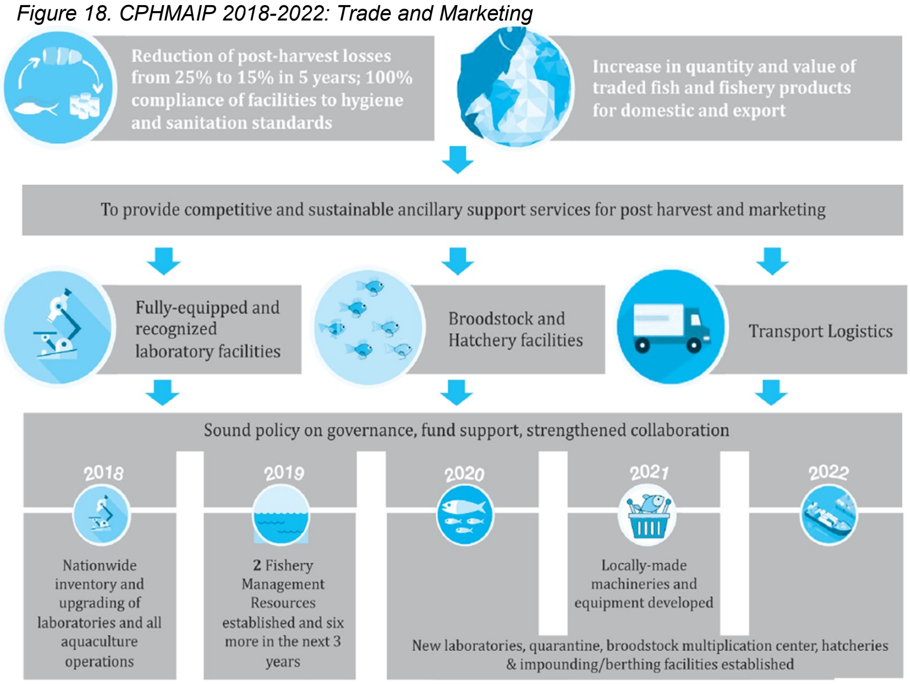
The fourth action on developing/ synchronizing and strengthening ICT in fisheries is hinged on lack of market information which limits access to markets – this deters the traceability requirements of the export market.

Finally, the fifth action on strengthening fishery data collection was anchored on inadequate computer and communication facilities for market information generation and dissemination as well as the limited manpower of responsible agencies.

Among the expected outcomes identified in this theme are as follows: (1) Increased number and volume of Philippine products compliant to domestic and export market requirements by producers and processors; (2) Country brand for the Philippine Seafood Industry developed and adopted; 3) Increased access to market through accessible, transparent and accurate information on market demands and supply for local and export markets; (4) Equitable percentage increase in profit margins of all players in the supply chain and reduced market layers in the supply chain to its optimum level; (5) Increased fish sufficiency in food fish-deficient areas; (6) Increased number of capacitated/competitive fishery-based MSMEs that can enter in the market; (7) Available financial support and access to subsidize capital including acceptable and fair interest rates for MSMEs; (8) Standardized government business requirements and fees; (9) Availability of accurate and complete necessary baseline data with regular updating; and, (10) Increased number of investors, fish production and value from aquaculture and mariculture.

Figure 18 summarizes the Trading and Marketing component of this plan while Annex C contains the corresponding full details (including specific activities, indicators, timelines, budget and responsible actors).

Figure 18. CPHMAIP 2018-2022: Trade and Marketing



5.4 Institutional Capacities & Crosscutting Concerns

This theme encompasses the necessary crosscutting support that will translate or facilitate the implementation of the previously identified actions under the three themes above and ultimately in the overall achievement of post-harvest and trade and marketing goals. The following are covered under this theme: Research, Development and Extension (RD&E); regulatory; scholarships and manpower development; access to credit and insurance as well as tax and incentives; and lastly, legislations, policy advocacy and other necessary support mechanisms.

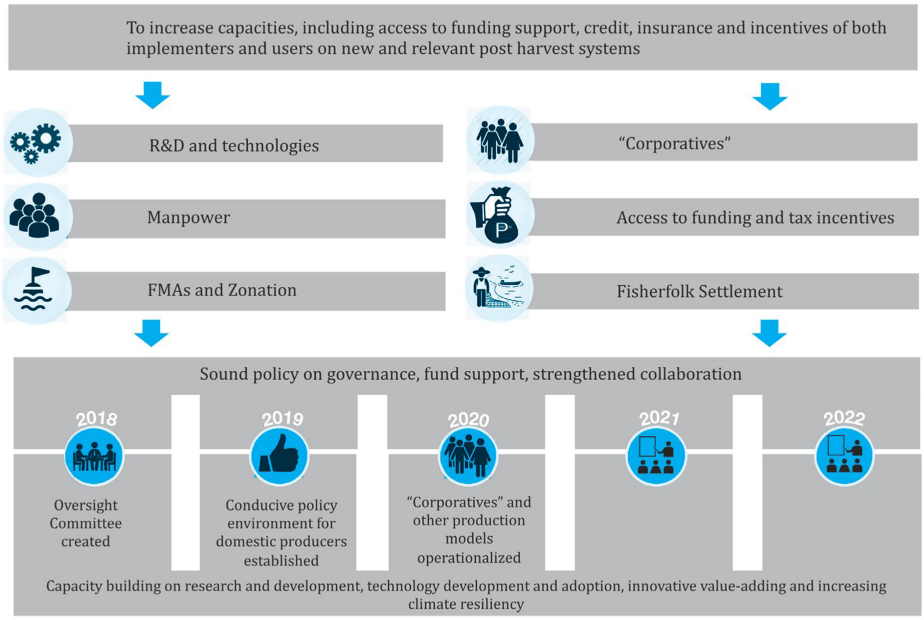
Addressing the gaps and concerns through the corresponding suggested actions for each sub-theme (Table 21) will consequently increase the capacities of both users of fishery resources and implementers of fishery rules and regulations to function fully and converge as responsible stakeholders in line with the goal of reducing post-harvest losses as well as in increasing volume and value of traded fish and fishery products. Other capacity building activities, IEC, ICT and M&E may be or may not be separated as sub-themes since these serve as equally important inputs and cuts across all themes and sub-themes.

Table 21. Gaps and Actions under Institutional Capacities and Crosscutting Concerns

SUB-THEME/GAPS	ACTION
Research, Development & Extension (RDE)	
Limited information/studies on available technologies for post-harvest and value-added product development for adoption	Increase R&D efforts on post-harvest (e.g., expand coverage to other commercially important fish species) and value adding of fish and fishery products (including potential waste products)
Low adoption of appropriate technology developed	Establish regional R&D facilities Capacitate users through technology demonstrations and IEC
Regulatory	
Low compliance to national and international post-harvest and marketing standards	Improve compliance to post-harvest and fish processing establishments to relevant national and international regulations by: –Harmonization of national standards –Hiring of personnel –Capacity building for both regulatory personnel, processors, –IEC
Scholarships and Manpower Development	
Limited manpower in the fishery sector (e.g., fish technicians)	Expand fisheries scholarship program –IEC
Policy advocacy	
Less competitive ancillary shipbuilding industry for the fishery sector	Modernizing the ancillary shipbuilding industry for the fishery sector –modernization, apprenticeship, and competency skills (e.g. welding) in the K to 12 program –salary standards and facilities at par with international shipbuilding industry –zoning for potential shipbuilding sites
Other policy concerns	Advocacy on: –Mandatory inspection of all fish processing establishments – Maritime zoning –Fisher folks settlement areas –Establishment of Fisheries Management Areas (FMAs) in areas without closed fishing season –Development of incentive package for local players, other than those which are already offered by the national government and LGUs –Continues dialogue with PSA for the improvement of data collection on fisheries
Access to finance and other fiscal incentives	
Less competitive MSMEs due to limited access to credit and other financing schemes	Empowering fish and fishery-related "corporatives" –Providing access to capital via government and private financing institutions coupled with capacity development
Domestic players are at a disadvantaged viz their foreign counterparts in terms of incentives provided by government	Development of incentive package for local players, other than those which are already offered by the national government and LGU

Figure 19 depicts the Institutional Capacities & Crosscutting Concerns component of this Plan while Annex D contains the corresponding full details (including specific activities, indicators, timelines, budget and responsible actors).

Figure 19. CPHMAIP 2018-2022: Institutional Capacities & Crosscutting Concerns



6. Budget Summary and Time Frame

The estimated budgetary requirement to implement the Plan is pegged at P29,207,275,000.00 distributed over five (5) years (Annex E). The lion share of 87.5% is allotted for infrastructure, while the remaining amount will be distributed as follows: ancillary, 9.2%; trade and marketing, 2.0%; and, institutional capacities and crosscutting themes with 1.3%.

7. Implementation Strategy and Arrangement

The BFAR will take the lead in Plan implementation including fund sourcing through incorporation of the priorities contained herein in the Bureau's annual Public Investment Plan. Nonetheless, the multi-stakeholder and consultative approach undertaken during the planning process will be likewise carried out in the implementation phase. As such, the BFAR will facilitate the conduct of regular consultative dialogue with stakeholders from across the fishery sector, such as partners from private sector, NGAs, LGUs, academe and other research institutions, CSOs and NGOs, among others.

The PFDA will support the implementation of the Plan, specifically on the Fishery Post-Harvest Facilities and Infrastructure (FPHFI). As such, the PFDA will take the lead in the implementation and supervision of the Plan and activities related thereto and will provide Annual Accomplishment Report to the BFAR.

8. Monitoring and Evaluation

To ensure the successful and efficient implementation of any plan or program, an effective M&E scheme is required. Such scheme would allow clear definition of responsibility and accountability centers that will facilitate achievement of plan targets. Thus, upon adoption of this Plan, a detailed M&E scheme should be designed prior to operational programming.

Performance indicators and implementing mechanisms are two of the important elements of an effective M&E scheme. Each logical hierarchy of desired outcomes or targets at plan, program, project, action and activity levels normally has its corresponding set of performance indicators. The thematic plans of this CPHMAIP as derived from the series of workshops already contained corresponding objectively verifiable indicators (OVIs) per specific activity. What is wanting at this stage is the identification of associated risks and assumptions and means of verifications (MOVs) if indeed the targets are attained at each level.

The BFAR in cooperation with the PFDA shall be responsible in designing and implementing the detailed M&E scheme as well as the implementing mechanism of the Plan. Regular review and enhancement at the project level (i.e., actions and specific activities) shall be taken at least annually. At the Plan level, it is recommended to undergo regular review and enhancement during the 2nd and last year of implementation. Result of the review will serve as input in the next planning cycle or Plan updating for possible adjustment and enhancement.

ANNEXES

Annex A: Post-Harvest Infrastructure

STRATEGIC OBJECTIVE	GAPS	ACTIONS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS
To upgrade/ improve/ rehabilitate/expand and/or establish fisheries post harvest infrastructure, equipment, machineries and with innovative technologies at par with local and international standards	**A. Some of the fish ports are not operational** - Incomplete updates on the status of fish ports and fish landing sites. - There are constructed facilities and equipment that are not yet operational. - Non-completion of other facilities (i.e. CFLCs) - Some equipment are not used for intended purpose (i.e. fish stalls, cold storage) - Low quality procured PH equipment (i.e. fish stalls) - Establishment of agri-fisheries machinery and equipment service sector - Limited post-harvest interventions (Blue ice technology or cooler box, sorting, and descaling machines)	Post-harvest Infrastructure, Machinery and Equipment -Improve fisheries post-harvest infrastructure -Provide appropriate and more competitive fisheries machinery and equipment		Efficient/competitive/standardized fisheries post-harvest infrastructure, machinery, and equipment Appropriate and competitive fisheries machinery and equipment utilized
			A.1. Inventory of regional and municipal as well as private fish ports and other existing facilities, equipment and machinery	Number of inventories completed: a. Regional Fish Port b. Municipal/ City Fish Ports c. Private Fish Ports/landing sites d. CFLCs e. Processing Plants f. IPCS g. Pre-Processing Plants h. Municipal Fish Landing centers i. Equipment and machinery
			A.2. Update PFDA's Fisheries Post-harvest Master Plan	Master plan updated / Preparation of Re-Validation Study /Feasibility Study
			A.3. Conduct of feasi-bility study	Number of FS conducted RFPs C/MFPs IPCS -PFDA -DA-BFAR
			A.4. Rehabilitate, improve, upgrade, and establish/provide regional and municipal fish ports and other existing facilities including machinery and equipment	A.4.1. Number of facilities rehabilitated/ improved/ upgraded - DES Conducted - Construction Started - Construction Completed - Pilot Fish Processing - Plant Seaweed Solar Dryer
				A.4.1.1. Conduct of DES
				A.4.1.2.Regional Fish Ports
				A.4.1.3. Pre-processing plants - Seaweed Solar Dryer
				A.4.1.4. Pilot Fish Processing Plant
				A.4.2 Number of facilities established DES Conducted Construction Started Construction Completed - RFPs - C/MFPs - IPCS - CFLCs - Common Service Facilities

PHYSICAL TARGETS						FINANCIAL TARGETS (P'000)						ACTORS	
2018	2019	2020	2021	2022	TO-TAL	2018	2019	2020	2021	2022	TOTAL	LEAD	MEMBERS
												BFAR	PFDA, LGU, Private Sector, SCUs
		1			1			30,000			30,000	PFDA	BFAR, LGU, Private Sector , SCUs, Fisherfolk
15	17	11	11	12	66	4,500	5,100	3,000	3,000	3,000	18,600	BFAR, PFDA	LGU, Private Sector, SCUs, Fisherfolk
												BFAR PFDA	LGU, Private Sector, SCUs, Fisherfolk
3	2	3			8		336,000	589,282.41			925,282.41	PFDA	
	3	2	3		8		429,190	2,785,095.6	6,583,065	6,866,241	16,663,591	PFDA	LGU, Private Sector, SCUs, Fisherfolk
		16			16			2,400			2,400	BFAR	LGU, Fisherfolk
		2			2			40,000			40,000	BFAR	LGU, Fisherfolk
												BFAR	LGU, Private Sector, SCUs, Fisherfolk

Annex A: Post-Harvest Infrastructure

STRATEGIC OBJECTIVE	GAPS	ACTIONS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS
To upgrade/ improve/ rehabilitate/expand and/or establish fisheries post harvest infrastructure, equipment, machineries and with innovative technologies at par with local and international standards	**A. Some of the fish ports are not operational** - Incomplete updates on the status of fish ports and fish landing sites. - There are constructed facilities and equipment that are not yet operational. - Non-completion of other facilities (i.e. CFLCs) - Some equipment are not used for intended purpose (i.e. fish stalls, cold storage) - Low quality procured PH equipment (i.e. fish stalls) - Establishment of agri-fisheries machinery and equipment service sector - Limited post-harvest interventions (Blue ice technology or cooler box, sorting, and descaling machines)			A.4.2.1. Conduct of DES for RFPs/MFPs/ IPCS
				A.4.2.2 Regional Fish Ports/City/Municipal Fish Ports *Note: 4 units RFPs and 62 units C/MFPs*
				A.4.2.3. Community Fish Landing Centers
				A.4.2.4. IPCS - BFAR
				A.4.2.5. Common Service Facilities
			A.5. Provision of post-harvest equipment and machinery (i.e. reefer van, fish carrier with hatch , brining tanks etc.)	Number of machinery and equipment provided
	B. Lack of awareness on the AMTEC requirements		B.1. Develop basic standards for fish ports and other post-harvest facilities, machinery and equipment	Number of standards developed
			B.2. Develop guidelines for the establishment of new post-harvest infrastructure facilities and distribution of machinery and equipment.	Guidelines developed
			B.3. Develop guidelines for the sustainable operation of Post-harvest Infrastructure; and re-distribution of idle and functional post-harvest equipment and machinery.	Number of guidelines developed
	C. Limited scope on the assessment of post harvest losses Limited communication infrastructure facilities that link fish producers, fish ports, landing centers, and markets.		Identify and adopt available innovative technologies for optimum utilization of existing post-harvest equipment and machinery	Number of available innovative technologies adopted
TOTAL				

PHYSICAL TARGETS						FINANCIAL TARGETS (P'000)						ACTORS	
2018	2019	2020	2021	2022	TO-TAL	2018	2019	2020	2021	2022	TOTAL	LEAD	MEMBERS
15	17	11	11	12	66	15,000	42,500	50,000	75,000	50,000	232,500	PFDA	
15	17	11	11	12	66	285,000	807,500	950,000	1,425,000	950,000	4,417,500	PFDA LGU	Fisherfolk, Private Sector
	70	60	60	60	250		210,000	180,000	180,000	180,000	750,000	BFAR LGU	PFDA, Fisherfolk
			6	7	13				210,000	245,000	455,000	BFAR	PFDA, LGU, Fisherfolk
		12	10	10	32			480,000	400,000	400,000	1,280,000	BFAR	LGU, Fisherfolk
								48,000	48,000	64,000	160,000	BFAR	LGU, Private Sector, SCUs, Fisherfolk
1	1	1	1	1	5	400	400	400	400	400	2,000	BFAR, PFDA , BAFE, BAFS, AMTEC	LGU, Private Sector, SCUs, Fisherfolk
1					1							BFAR, PFDA	LGU, Private Sector, SCUs, Fisherfolk
	1				1							BFAR	PFDA, LGU, Private Sector, SCUs, Fisher-folk
	3	3	3	3	12							Private Sector, BFAR	PFDA, LGU, BFAR , SCUs, Fisherfolk
50	131	133	116	117	547	304,900	1,830,690	5,158,178	8,924,465	8,758,641	24,976,874		

Annex B: Ancillary Services

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS	OUTCOMES
Machineries Development of locally-made machineries and equipment relevant to the needs of the industry a. aquaculture (vacuum harvester, feeders and sorters; bottom feeding machines; windmill to aerate ponds; windmill to pump water and ; silt clear-ing machines/pump in mariculture areas among others) b. capture (other machineries or equipment to support R&D and for fisheries resource management)	Limited availability of locally-made machineries and equipment relevant to the needs of the industry	Inventory of local manufacturing sector - Identification of existing locally-made fisheries machineries and equipment - Assess capability/capacity of local manufacturers	No. of manufacturing sector assessed	AFMEC Accreditation of machineries (aquaculture and capture fisheries)
		Conduct needs assessment of machineries and equipment for capture and aquaculture - prepare project proposal w/ inputs from experts	Assessment conducted	
		Identify proven/appropriate design for equipment and machineries and negotiate for license and local manufacturing or joint venture	No. proven/right design identified and negotiated for license	
		Develop suitable machineries and equipment based on the results of the needs assessment	No. of equipment and machineries developed	
Laboratories Inventory of existing laboratories and current industry needs including existing laboratory services such as product testing, fish health, parasitology, microbiological, physico-chemical and others. BFAR Existing Laboratory services 1. Antibiotic residue 2. Molecular Diagnostics 3. Physico-chemical 4. Parasitology 5. Microbiology 6. Marine Toxins 7. Cyanide and Formalin NFRDI Existing laboratory services 1. Species ID 2. Heavy metals, 3. Histamine 4. Limnology and oceanography 5. Microbiology 6. Fats and oils	Limited testing/ diagnostic laboratory services	Conduct of nationwide inventory of existing laboratories	No. of laboratories (operational/non-operational, services rendered, man power complement) assessed	
		Upgrade existing laboratory and services including test related to FDA Certification	No. of existing laboratory upgraded	Laboratories maintenance/upgraded
		Establish laboratories A. Handling, Processing and Product Development Laboratory B. Food Safety and Quality Assurance Laboratory	No. of laboratories established	Laboratories established
Establishment of standardized laboratories (e.g. services) in priority regional fish ports and landing centers -centralized/ clustered laboratories -standardized procedures in conformity with the international standards -capability building		Ensure the recognition of existing and newly-established laboratories	No. of laboratories accredited	Laboratories recognized
Development of mechanisms (public and private) to allow ease access of small scale fish producers to laboratory services		Develop guidelines on the provision of laboratory services to small-scale fish producers	No. of private sector partnership established	
Policy Support Provision of technical guidelines in support to LGUs to delineate and zone coastal land and water uses (e.g. to resolve conflicting uses consistent with CLUP)	Unavailability of National Protocol for BFAR	Coordinate with concerned agencies re: delineation and zoning of municipal waters		
		Zoning of municipal waters	No. of municipal water zoned/delineated	Zoning of municipal waters
		Establishment of Fishery Management Areas (FMAs) in areas without closed fishing season	No. of FMAs established	FMAs established
Develop and implement fisherfolk settlement/resettlement areas	Lack of available public lands	Develop clear guidelines and consolidate success stories to substantiate Rule 141.1 of RA 10654	List of success stories documented Guidelines developed	
		Conduct of inventory of suitable areas for fisherfolk settlement/resettlement areas in coordination with DENR/NAMRIA	No of inventory conducted	

PHYSICAL TARGETS						FINANCIAL TARGETS ('000)						ACTORS	
2018	2019	2020	2021	2022	TOTAL	2018	2019	2020	2021	2022	TOTAL	LEAD	MEMBERS
	1	1	1	1	4		1,000	1,000	1,000	1,000	4,000	BfFAR	BAFE, Private Sector
												BFAR, DOST	BAFE
												BFAR, NFRDI	BFAR-CFD
											-	BFAR-NFLD	BFAR-RFOs, Private Sector
18		6	-	-	24	180,000	195,000	230,000	230,000	230,000	1,065,000	BFAR	
	6				6		120,000				120,000	BFAR	
2	2	2	2	2	10	50	50	50	50	50	250		
												BFAR	DILG, LGUs
												BFAR-FRMD, DILG, LGUs	
	1	1	1	1	4		1,000	1,000	1,000	1,000	4,000		
	2	2	2	2	8		20,000	20,000	20,000	20,000	80,000		
												NAPC, BFAR	Inter-agency, LGUs

Annex B: Ancillary Services

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS	OUTCOMES
Improved biosecurity and food safety	No SPF, SPR and SPT broodstock domestication program	Establish broodstock multiplication center and improvement of hatchery and nursery as support facilities through the National Broodstock Development Program	No. of health cert issued No. of facilities assessed No. of accredited and registered facilities Manual of operations prepared	Broodstock multiplica-tion center established
				Broodstock multiplica-tion center maintained
				Hatchery established
				Hatchery maintained
	Non-compliance of grow-out farms on biosecurity and food safety	Update inventory of all aquaculture operations (nursery, hatchery, grow-out farms across commodities)	Updated list of grow-out farms and hatcheries	
		Publish updated list of grow-out farms and hatcheries on BFAR website	Availability of updated list at all times	
	Lack of agri-fisheries machinery and equipment service sector	Establish a fisheries laboratory in regional fish ports for sensory evaluation and histamine testing for local and international markets	Number of fisheries laboratories established	Fisheries laboratory established
				Fisheries laboratory established maintained
Ensure the availability of sufficient supply in food fish deficient areas	Limited volume of supply of fish and fishery products to meet minimum fish sufficiency level (e.g. 8.5% in the Cordillera Administrative Region-Philippine Statistics Authority (CAR-PSA)	Conduct consumer preference survey, including concerns and challenges in the region	No. of consumer preference survey conducted	
		Provide livelihood packages on aquaculture (hatcheries, grow-out farms, backyard fishpond, rice fish culture, post-harvest activities, etc.)		Livelihood packages provided
		Encourage Public Private Partnership (PPP)	No. of consultation/ meetings conducted	
		Coordinate with appropriate agencies		
		Encourage possible investors including Overseas Filipino Workers (OFWs)	No. of meetings conducted	
Quarantine Facilities	Quarantine Facilities	Establish quarantine facilities -Acquisition of land	No. of quarantine facilities established	Establishment of quarantine facilities
		Maintenance of quarantine facilities	No. of quarantine facilities maintained	Maintenance of quarantine facilities
		Fish disposal facilities (confiscated and contaminated fishery products)	No. of Fish disposal facility established	Establishment of fish disposal facilities
		Maintenance of fish disposal facilities (confiscated and contaminated fishery products)	No. of Fish disposal facilities maintained	Maintenance of fish disposal facilities
TOTAL				

PHYSICAL TARGETS						FINANCIAL TARGETS ('000)						ACTORS	
2018	2019	2020	2021	2022	TOTAL	2018	2019	2020	2021	2022	TOTAL	LEAD	MEMBERS
	6				6		65,000				65,000	BFAR	Private Sector
	37	6			43		146,000	166,000	166,000	166,000	644,000		
	1				1		25,000				25,000		
	17	1			18		51,000	54,000	54,000	54,000	213,000		
												BFAR	
	5	5	5		15		100,000	100,000	100,000		300,000	BFAR, PFDA	LGUs, Private Sector, SCUs. Fisherfolk
		5	5	5				25,000	25,000	25,000	75,000		
												BFAR	LGUs, Private Sector
						102,000	102,000	102,000	102,000	102,000	510,000	BFAR	LGUs, Private Sector
													LGUs, Private Sector, BOI
													OWWA
	7				7		56,000				56,000	BFAR FIIQD	
		7			7			35,000	35,000	35,000	105,000		
	7				7		7,000				7,000		DENR, DOH
		7			7			3,500	3,500	3,500	10,500		
20	92	43	16	11	167	282,050	889,050	737,550	737,550	637,550	3,283,750		

Annex C: Trade and Marketing

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OUTCOMES	OBJECTIVELY VERIFIABLE INDICATORS	TARGETS	
					2018	Budget ('000)
A. Expansion of market for Philippine fish and fishery products (domestic and export market)	A.1. Non-compliance to market requirements (quality, quantity, traceability, and value) **link to infrastructure on the common service facilities of Micro, Small Scale Medium Enterprises (MSMEs)*	A.1. a. Strengthen consistent compliance with traceability, food safety and quality standards and product certification requirements	Increased number and volume of Philippine products compliant to domestic and export market requirements by producers and processors			117,206
		A.1.a.i. creation of a Technical Working Group (TWG) to review the cost-effectiveness of the minimum standards for domestic and export market		TWG created	1	
				No. of policy reviews conducted	8	
				No. of policies reviewed	8	
		A.1.a.ii. Formulation of commodity based product standards (BAFS) **applicable to domestic market*		No. of commodity based product standards formulated	8	
		A.1.a.iii. application of existing standard requirements for domestic markets and compliance of standards in the international market		Consumer Watch Group (CWG) created	1	
				No. of MSMEs assisted	18	
				No. of trainings/ seminars/ workshops/ orientations conducted	36	
				No. of Information, Education and Communication (IEC) activities conducted	17	
	A.2. Non-competitive product in terms of non -existent country brand equity	A.2.a. country branding of fisheries commodity products	Country brand for the Philippine Seafood Industry developed and adopted			
		A.2.a.i. Conduct market research		No. of market research conducted	1	
				No. of research report generated	1	
		A.2.a.ii. Coordination and collaboration with relevant agencies on country branding and product promotion strategies (Dept. of Trade and Industry, Dept. of Tourism)		No. of consultations/ meetings conducted	10	
				No. of MOA/ MOU signed/ entered	1	
		A.2.a.iii. Contract out to advertising and marketing firms for promotional activities for Philippine fishery products and country branding		No. of promotional and advertising materials developed	2	
		A.2.a.iv. Launch brand		Launch and no. of promotional activities and promotional/ advertising bursts	1	
		A.2.a.v. Conduct continuous marketing and periodic promotion		No. of promotional activities conducted		
		A.2.a.vi. Create country brand *for the entire seafood industry of the Philippines*				

TARGETS										Actors	
2019	**Budget ('000)**	**2020**	**Budget ('000)**	**2021**	**Budget ('000)**	**2022**	**Budget ('000)**	**TOTAL TARGETS**	**GRAND TOTAL ('000)**	**Lead**	**Members**
	117,206		117,206		117,206		117,206		586,030	BFAR	FDA, BAFS, Private Sectors, SCUs, Phil-Mech
8		8		8		8		40			
8		8		8		8		40			
8		8		8		8		40			
18		18		18		18		90			
36		36		36		36		180			
17		17		17		17		85			
										BFAR, DTI, DOT	Private Sectors
1		1		1		1		5			
1		1		1		1		5			
4		4		4		4		26			
		1				1		3			
2		2		2		2		10			
								1			
4		4		4		4		16			

Annex C: Trade and Marketing

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OUTCOMES	OBJECTIVELY VERIFIABLE INDICATORS	TARGETS	
					2018	Budget ('000)
A. Expansion of market for Philippine fish and fishery products (domestic and export market)	A.2. Non-competitive product in terms of non -existent country brand equity	A.2.a.vii. Participation in trade fairs, conventions, seafood conferences and exhibitions/ summits, business match making/fora		No. of trade fairs, conventions, seafood conferences and exhibitions/ summits, business match making/fora participated	2	
				No. of trade fairs, conventions, seafood conferences and exhibitions/ summits, business match making/fora conducted	1	
				Total amount of sales generated (booked and negotiated) *in billion pesos	6.48	
		A.2.a.viii. Conduct business trade missions (5) * for PH Infra group (5)		No. of business trade missions conducted	2	
				No. of business trade mission agreements contracted	1	
		A.2.b. Capacity building of MSMEs				
		A.2.b.i. Conduct trainings on value-adding		No. of trainings conducted	64	
				No. of MSMEs assisted	640	
		A.2.b.ii. Coordinate/ facilitate synergies among appropriate agencies on product development		No. of consultations/ meetings facilitated	4	
				No. of MOA/ MOU signed/ entered	16	
		A.2.c. Massive Information, Education and Communication (IEC) campaign				
		A.2.c.i. Conduct of IEC activities		No. of IEC materials developed/ produced	1	
				No. of IEC materials distributed	16,000	
				No. of IEC activities conducted	17	
	A.3. Limited volume and species of fisheries commodities that can meet the domestic and international markets	A.3.a. Conduct supply and market mapping and establish information system				
		A.3.a.i. Establish Information, Communication Technology (ICT) on fisheries (refer to detailed ICT intervention below)*	Increased access to market through accessible, transparent and accurate information on market demands and supply Increased volume and expand the number of fisheries species for domestic and international markets		1	
	A.4. Mismatching of product and supply with the demand	A.4.a.i. Inventory of existing fishery products in the market	Effective and efficient matching of product to demand	No. of commodity profile identified and documented	8	
		A.4.a.ii. Conduct market mapping of buyers and suppliers, cluster hubs, community fish landing centers (CFLCs)	Intelligent sourcing of legitimate buyers and suppliers. Updated location mapping of cluster hubs and CFLCs available	No. of market mapping conducted	8	
		A.4.a.iii. Develop fishery commodities corridor		Fishery commodity corridor developed/ produced	8	
				Fishery commodity corridor updated	8	

TARGETS										Actors	
2019	Budget ('000)	2020	Budget ('000)	2021	Budget ('000)	2022	Budget ('000)	TOTAL TARGETS	GRAND TOTAL ('000)	Lead	Members
2		2		2		2		10		BFAR, DTI, DOT	Private Sectors
1		1		1		1		5			
8.64		10.8		12.96		15.12		54			
2		2		2		2		10			
1		1		1		1		5			
										BFAR, DTI, Local Government Units (LGUs)	
64		64		64		64		320			
960		1,280		1,280		1,280		5,440			
4		4		4		4		20			
		16				16		48			
1		1		1		1		5			
16,000		16,000		16,000		16,000		80,000			
17		17		17		17		85			
										BFAR, DICT, DOST, DTI	Private Sectors
								1			
8		8		8		8		40			
8		8		8		8		40			
8		8		8		8		40			
8		8		8		8		40			

Annex C: Trade and Marketing

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OUTCOMES	OBJECTIVELY VERIFIABLE INDICATORS	TARGETS 2018	TARGETS Budget ('000)
A. Expansion of market for Philippine fish and fishery products (domestic and export market)	A.5. Lack of alternative market of excess supply arising from seasonality of fisheries commodities	A.5.a. Establish linkages with other stakeholders in the industry for the domestic and international markets				
		A.5.a.i. Establish e-commodity exchange platform		E-commodity exchange platform developed	1	
		A.5.a.ii. Establish e-sourcing module		E-sourcing module developed	1	
				No. of hits/ views generated	1000	
				No. of inquiries received/ generated	100	
		A.5.b. Strengthening of fishery associations and cooperatives				
		A.5.b.i. Assess existing fishery associations and cooperatives		No. of fishery associations and cooperatives assessed	32	
		A.5.b.ii. Conduct capacity-building training (i.e. organizational development, community organization and strengthening of "entrepreneurialship")		No. of capacity-building trainings conducted	64	
				No. of MSMEs assisted	640	
	Lack of market infrastructure support/ logistics/ post harvest facilities that resulted to high transportation costs	Create enabling environment to encourage investments in agri-fisheries logistics				
		Identify strategic areas to build farm to market roads				
		Establish model buying station and trading centers in strategic locations				
		Establish best-in-class cold storage facilities and post harvest facilities in strategic locations				
	A.6. Limited market information	A.6. a. i. Establish Fisheries Management Information System		Fisheries Management Information System established	1	
	A.7. Fragmented data on fisheries	A.7.a. Secure and consolidate data on the fisheries industry				
		A.7.a.i. Conduct market research and benchmarking		No. of market research and benchmarking conducted	1	
		A.7.a.ii. Regular updating of fisheries information		No. of fisheries information updated on time	1	
	A.8. Presence of middlemen and capitalists who control market and trade mechanisms	A.8.a. Develop and strengthen marketing facilities and activities including the establishment of pricing system with emphasis on collective marketing				
		A.8.a.i. Strengthen/ organize small fishery producers into cooperatives or associations to act as consolidators	Equitable percentage increase in profit margins of all players in the supply chain Reduced market layers in the supply chain to its optimum level	No. of cooperatives or associations assisted/ organized	32	
		A.8.b. Improve efficiency across the value chain				
		A.8.b.i. Promote transparent pricing system thru bulletin boards at marketing hubs, fish ports and CFLCs		No. of pricing information broadcasted/ disseminated	24	
		A.8.b.ii. Develop web/mobile applications (refer to ICT)		No. of web/ mobile applications developed	1	
				No. of web/ mobile applications downloaded	1200	
		A.8.b.iii. Facilitate access to credit to fish producers		No. of borrowers assisted	320	

TARGETS										Actors	
2019	Budget ('000)	2020	Budget ('000)	2021	Budget ('000)	2022	Budget ('000)	TOTAL TARGETS	GRAND TOTAL ('000)	Lead	Members
										PAFPI, ECOEPI	BFAR
								1			
								1			
1,200		1,400		1,600		1,800		7,000			
120		140		160		180		700			
										BFAR	CDA, LGUs, DTI, DOLE, NAPC, NGOs, POs
32		32		32		32		160			
64		64		64		64		320			
960		1,280		1,280		1,280		5,440			
								1			
										BFAR, DICT, DOST, DTI	Private Sectors
1		1		1		1		5			
		1				1		3			
										BFAR,	DICT, DOST, DTI, CDA,LGUs, NGOs, NAPC, Private Sec-tors
32		32		32		32		160			
24		24		24		24		120			
1		1		1		1		5			
1,320		1,452		1,597.2		1,756.92		7,326.12			
480		768		896		896		3,360			

Annex C: Trade and Marketing

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OUTCOMES	OBJECTIVELY VERIFIABLE INDICATORS	TARGETS 2018	TARGETS Budget ('000)
B. Ensure the availability of sufficient supply in food fish deficient areas	B.1. Limited volume of supply of fish and fishery products to meet demand of fish sufficiency at 8.5% in the Cordillera Administrative Region - Philippine Statistics Authority (CAR-PSA)	B.1.a.i. Conduct consumer preference survey, including concerns and challenges in the region	Increased fish sufficiency at 8.5% in the CAR - PSA region	No. of consumer preference survey conducted	1	6,500
				No. of consumer preference report generated	1	
		B.1.b. Encourage aquaculture production				
		B.1.c. Encourage Public Private Partnership (PPP)				
		B.1.c.i. Coordinate with appropriate agencies i.e. Dept. of Trade and Industry- Board of Investments (DTI- BOI)		No. of consultation/ meetings conducted	4	
		B.1.c.ii. Development of investment packages with government incentives		No. of investment package developed	1	
				No. of investment fora conducted	1	
				No. of investment facilitated	2	
				No. of PPP investment secured	1	
		B.1.d. Encourage possible investors including Overseas Filipino Workers (OFWs)				
		B.1.d.i. Conduct promotional activity on periodic international investment fora		No. of international promotional activity and investment fora conducted	4	
		B.1.d.ii. Coordinate with appropriate agencies Land Bank/ Development Bank of the Philippines (DBP), Agricultural and Commercial Attaché and Government Financing Institutions (GFIs)		No. of meetings conducted	4	
				No. of MOA/ MOU signed/ entered	2	
	B.2. Lack of market infrastructure support/ logistics/ post harvest facilities	B.2.a. Establish cold storage facilities/ post harvest				
		B.2.a.i. refer to infrastructure				
		B.2.b. Provide logistic support				
		B.2.b.i. refer to capacities				
		B.2.c. Low cost/appropriate post harvest facilities				
		B.2.c.i. refer to infrastructure				
	B.3. High cost of mark-ups from farm gate price to wholesale price	B.3.a. Obtain and generate historical data on farm gate price on fishery commodities	Reasonable, fair and nationwide standard of wholesale price	No. of historical data on fisheries commodities generated	2	
		B.3.a.i. Conduct interview and survey of fish producers/ suppliers				
		B.3.b. Identify add-on costs coming from either facilities like cold storage or logistics				
		B.3.b.i. Establishment of shared services/ common facilities (i.e. logistic add-ons)		No. of shared services/ common facilities established		
		B.3.b.ii. Contract with logistic providers to directly link to the market		No. of logistics providers contracted		

TARGETS										Actors	
2019	Budget ('000)	2020	Budget ('000)	2021	Budget ('000)	2022	Budget ('000)	TOTAL TARGETS	GRAND TOTAL ('000)	Lead	Members
1	6,500	1	6,500	1	6,500	1	6,500	5			
										BFAR	DTI, LGUs, PSA
1		1		1		1		5			
										BFAR	DTI-BOI, Other relevant agencies
6		8		10		12		40			
		1				1		3			
2		2		2		2		9			
4		6		6		8		26			
2		3		3		4		13			
										BFAR	POEA, OWWA, GFIs, MFIs
4		8		8		8		32			
4		8		8		8		32			
2		4		4		4		16			
2		2		2		2		10		BFAR	DTI, PSA

Annex C: Trade and Marketing

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OUTCOMES	OBJECTIVELY VERIFIABLE INDICATORS	TARGETS	
					2018	Budget ('000)
B. Ensure the availability of sufficient supply in food fish deficient areas		B.3.b.iii. Consolidate supply to create economies of scale				
		B.3.c. Negotiate with transport groups (shipping, airlines, trucking)				
		B.3.c.i. Conduct dialogue with service providers		No. of dialogues conducted		
	B.4. Lack of market access for fish product in the domestic and international markets	B.4.a. Encourage and promote business matching activities between buyers and sellers	Increased market access for fish and fishery products in the domestic and international markets	No. of business networking established	12	
		B.4.a.i. Establish business networking (business match-ing, online marketing, direct linkages and trade fairs, etc.)				
	B.5. Lack of investments in aquaculture and mariculture in some regions	B.5.a. Create an environment/ atmosphere for investment opportunities				
		B.5.a.i. Conduct and produce feasibility studies and invest-ment proposals	Increased number of investors in aquaculture and mariculture Increased fish production and value from aquaculture and mariculture	No. of feasibility studies conducted	8	
				No. of investment proposals presented	8	
				No. of investment generated and secured	4	
		Coordinate with appropriate agencies (DTI- BOI)		No. of coordination meetings		
		Create investment packages with government incentives		No. of investment packages developed		
				No. of investment fora conducted		
				No. of investments facilitated		
		Conduct periodic international investment fora		No. of international investment fora conducted		
		Coordinate with appropriate agencies (Landbank/ DBP, Agri and Commercial Attaché, GFIs)		No. of meetings conducted		
				No. of MOA/ MOU signed/ entered		
C. Increase in the number of capacitated/ competitive fishery-based MSMEs that can enter the market	C.1. Lack of updated database of existing MSMEs	C.1.a. Conduct profiling and documentation of existing MSMEs				19,018
		C.1.a.i. Enhance MSME profiling form including needs assessment	Increased number of capacitated/competitive fishery-based MSMEs that can enter in the market Increased income of MSMEs	No. of survey forms enhanced	1	
				No. of survey forms accomplished	640	
	C.2. Lack of financial support Limited capital High interest rates in small scale credit/ lending Strict credit require-ments	C.2.a. Facilitate the grant of government incentives and easier access to credit				
		C.2.a.i. Coordinate with Land Bank, DBP, GFIs and Financial Institutions (FIs) to discuss possible credit facility for aquaculture	Available financial support and access to subsidize capital. Acceptable and fair interest rates for MSMEs.	No. of consultations/ meetings conducted	2	

TARGETS										Actors	
2019	Budget ('000)	2020	Budget ('000)	2021	Budget ('000)	2022	Budget ('000)	TOTAL TARGETS	GRAND TOTAL ('000)	Lead	Members
12		12		12		12		60		BFAR	
										BFAR	
8		8		8		8		40			
8		8		8		8		40			
4		4		4		4		20			
								0			
								0			
								0			
								0			
								0			
								0			
								0			
	19,018		19,018		19,018		19,018			BFAR	
1		1		1		1		5			
960		1,280		1,280		1,280		5,440			
										BFAR	ACPC, GFIs, MFIs
2		2		2		2		10			

Annex C: Trade and Marketing

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OUTCOMES	OBJECTIVELY VERIFIABLE INDICATORS	TARGETS 2018	TARGETS Budget ('000)
C. Increase in the number of capacitated/ competitive fishery-based MSMEs that can enter the market		C.2.b. Evaluate and assist MSMEs in their project planning and business credit application				
		C.2.b.i. Empower cooperatives and associations with project planning and business credit know how		No. of MSME applicants	640	
				No. of MOA/ MOU signed/ entered	1	
		C.2.b.ii. Utilize cooperatives, associations and Micro-financing Institutions (MFIs) as service conduits		No. of technical assistance rendered	640	
		C.2.c. Facilitate access to credit		No. of technical assistance rendered	640	
		C.2.d. Facilitate market access		No. of technical assistance rendered	640	
		C.3.a. Establish linkages with relevant agencies (DTI, DOST, DSWD, DOLE, DA-ACPC, etc.) and assist in the conduct of feasibility and market studies				
	C.3. Limited support in assessing the viability of MSMEs business	C.3.a.i. Coordinate with DTI and other appropriate agencies	Coordinated teamwork established with appropriate agencies.	No. of consultations/ meetings conducted	1	
				No. of MOA/ MOU signed/ entered	1	
	C.4. Lack of technical-know-how of start-up MSMEs	C.4.a. Conduct capacity building on technical-know-how in business planning and implementation in the fisheries industry				
		C.4.a.i. Conduct training on value-adding	MSMEs equipped with necessary technical know -how and management	No. of trainings conducted	64	
		C.4.a.ii. Coordinate with DTI, DOST and other relevant agencies to conduct training (i.e. packaging and labelling, business name and registration)		No. of consultations/ meetings conducted	1	
				No. of MOA/ MOU signed/ entered	1	
		C.4.b. Provide continuous technical assistance in entrepreneurship and product development		No. of technical assistance rendered	640	
	C.5. Inconsistent business requirements of Local Government Units (LGUs) and "high tax?" payment	C.5.a. Conduct dialogue with relevant agencies (DILG, BIR) to discuss concerns and issues				
		C.5.a.i. Coordinate with LGU, GoNegosyo, BIR and other relevant agencies for application of BMBE (Barangay Micro-Business Enterprise) and business application requirements	Government standardization of business requirements and fees	No. of consultations/ meetings conducted	2	
				No. of MOA/ MOU signed/ entered	1	
		C.5.a.ii. BFAR to facilitate access to incentives for fishery-related businesses with appropriate agencies		No. of technical assistance rendered	640	
		C.6.a. Conduct surveys and interviews of players in the fisheries industry				

TARGETS										Actors	
2019	Budget ('000)	2020	Budget ('000)	2021	Budget ('000)	2022	Budget ('000)	TOTAL TARGETS	GRAND TOTAL ('000)	Lead	Members
										BFAR	ACPC, GFIs, MFIs
960		1,280		1,280		1,280		5,440			
		1				1		3			
960		1,280		1,280		1,280		5,440			
960		1,280		1,280		1,280		5,440		BFAR	ACPC, GFIs, MFIs
960		1,280		1,280		1,280		5,440		BFAR, DTI	
										BFAR	
1		1		1		1		5			
		1				1		3			
										BFAR, DOST, DTI	
64		64		64		64		320			
1		1		1		1		5			
		1				1		3			
960		1,280		1,280		1,280		5,440		BFAR, DOST, DTI	
										BFAR	
2		2		2		2		10			
		1				1		3			
960		1,280		1,280		1,280		5,440			
										BFAR	LGUs

Annex C: Trade and Marketing						
ACTIONS	GAPS	SPECIFIC ACTIVITIES	OUTCOMES	OBJECTIVELY VERIFIABLE INDICATORS	TARGETS	
					2018	Budget ('000)
	C.6. Lack of baseline data	C.6.a.i. Coordinate with DTI and other appropriate agencies for list of existing MSMEs	Availability of accurate and complete necessary baseline data with regular updating	No. of consultations/ meetings conducted	2	
				No. of industry reports generated		
	C.7. Non-compliance of MSMEs in regulatory requirements	C.7.a. Provide assistance and mentoring to MSMEs in compliance to regulatory requirements	MSMEs complying to regulatory requirements			
		C.7.a.i. Conduct awareness program on regulatory requirements		No. of technical assistance rendered	640	
		C.7.a.ii. Establish comprehensive information system on MSMEs		MSME information system established	1	
		C.7.a.iii. Conduct capacity building training of MSMEs on Good Aquaculture Practices (GAqP) and Good Manufacturing Practices (GMP) and other relevant trainings		No. of trainings conducted	64	
				No. of MSMEs assisted	640	
		C.7.b. Efficiency in processing of regulatory requirements				
		C.7.b.i. Coordinate with DOST and FDA on the regulatory requirements		No. of consultations/ meetings conducted	2	
	C.8. Limited value added product	C.8.a. Encourage MSMEs to develop new value added product	Availability of expanded value-added products			
		C.8.a.i. Conduct product development program				
		C.8.a.ii. Conduct training on value-adding		No. of trainings conducted	64	
	C.9. High production cost in the areas of energy and water waste management	C.9.a. Promotion of renewable energy and water waste management system	Reduced production cost in fish capture and culture through application of technology using renewable energy			
		C.9.a.i. Propose government subsidy for renewable energy and water waste management systems		No. of consultations/ meetings conducted	2	
		C.9.b. Identify value-chain process				
		C.9.b.i.Conduct value-chain analysis (VCA) on top five priority commodities (*bangus*, tilapia, shrimp, seaweeds and shellfish)		No. of VCA developed	8	
				No. of policy recommendations submitted/ issued	8	
D. Develop/ Synchronize and Strengthen/Information & Communication Technologies (ICT) in Fisheries	D.1. Lack of market information limits access to markets – this deters the traceability requirements of the export market.	D.1.a. Data collection, to include among others: production volume and value, location, prices – stakeholders' profile (suppliers, producers, traders, fisherfolk, etc.) – fishery policies, laws and regulations – regulatory services (testing, inspection, certification, etc.) – registered/accedited fisheries establishments/facilities – fish consumption (sufficiency, consumer preferences, etc.) – extension services – reports, weather, new technologies, inventory of IECs – events				

TARGETS										Actors	
2019	Budget ('000)	2020	Budget ('000)	2021	Budget ('000)	2022	Budget ('000)	TOTAL TARGETS	GRAND TOTAL ('000)	Lead	Members
2		2		2		2		10			
1				1				2			
										BFAR	
960		1,280		1,280		1,280		5,440			
								1			
64		64		64		64		320			
960		1,280		1,280		1,280		5,440			
										BFAR	
2		2		2		2		10			
										BFAR	DTI, DOST, NGOs
64		64		64		64		320			
2		2		2		2		10			
8		8		8		8		40			
8		8		8		8		40			
										BFAR	PSA, LGUs

Annex C: Trade and Marketing

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OUTCOMES	OBJECTIVELY VERIFIABLE INDICATORS	TARGETS 2018	TARGETS Budget ('000)
D. Develop/ Synchronize and Strengthen/Information & Communication Technologies (ICT) in Fisheries	D.1. Lack of market information limits access to markets – this deters the traceability requirements of the export market.	D.1.a.i. Create interagency working committee to identify ICT needs/requirements, policies and implementing guidelines (note: see MDG on ICT)	Access to market information and implementation of traceability data for the export markets	Inter-agency and industry TWG created	2	
				No. of consultations/ meetings conducted	4	
E. Data collection (fishery/ aquaculture)	E.1. Inadequate computer and communication facilities for market information generation and dissemination	E.1.a. Develop ICT software/ systems in Fisheries				
		E.1.a.i. Development and establishment of ICT in Fisheries	Installation of sufficient computer and communication facilities	ICT developed and established	1	
	E.2. Limited manpower of concerned agencies	E.2.a. Identify number of required manpower to enable the fulfilment of nationwide surveys, reports and activities				
		E.2.a.i. Recruitment drive		No. of headcount increased		
		E.3.a. Propose increase and allocation of human resource (HR) budget				
		E.3.a.i. Execute HR budget for discussion, consideration and approval		No. of budget proposals submitted and approved		
GRAND TOTAL						**142,724**

TARGETS										Actors	
2019	Budget ('000)	2020	Budget ('000)	2021	Budget ('000)	2022	Budget ('000)	TOTAL TARGETS	GRAND TOTAL ('000)	Lead	Members
2		2		2		2		10			
4		4		4		4		20			
										BFAR, DICT, DOST, DTI	Private Sectors
								1			
	142,724		142,724		142,724		142,724		713,621		

Annex D: Increasing Capacities

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS
Increase production of value-added products from fish and fishery by-products/ processing wastes	Limited information on existing technologies available for adoption	Identification of existing fishery processing technologies	Number of existing fishery processing technologies identified
Increase R&D efforts, use new fish processing technologies		Conduct capacity building activities for researchers for specific industry needs: • Technology (e.g. ethnic products) • Climate-resilient facilities designed • Branding • Marketing • Aquaculture • Post-harvest value chain analysis	Number of training (3 trainings per year) Number of people trained (50 participants per training) Number of technologies developed Number of climate-resilient facilities designed
		Conduct capacity building activities for BFAR technical personnel for specific industry needs: • Technology (e.g. ethnic products) • Climate-resilient facilities designed • Branding • Marketing • Aquaculture • Post-harvest value chain analysis	Number of training (3 trainings per year) Number of people trained (50 participants per training) Number of technologies developed Number of climate-resilient facilities designed
		Conduct capacity building activities for industry for specific industry needs: • Technology (e.g. ethnic products) • Climate-resilient facilities designed • Branding • Marketing • Aquaculture • Post-harvest value chain analysis	Number of Number of training (3 trainings per year) Number of people trained (50 participants per training) Number of technologies developed Number of climate-resilient facilities designed
	Limited value-added product	Encourage MSMEs to develop new value added products Conduct product development program	
		Conduct training on value-adding for MSMEs	
	Limited species covered by the projects	Assessment/ inventory of possible raw materials (low value, high volume, by-catch, processing waste) and existing fishery products that need to be developed/improved	Number of assessments conducted
	On-going revival of the Philippine Journal for Fisheries	Sustain regular publication of Philippine Journal of Fisheries	Number of publications
		Conduct write shops on scientific articles	Number of write shops conducted (3 per year) Number of articles published
		Establish repository body on post-harvest	One functional repository body established
			Number of clients served Number of agencies collaborated
	Lack of mechanism in the transfer of technology for adoption	Establish regional R&D facilities	Number of R&D facilities established (4 per year)
	Low adoption of appropriate technology generated	Provide input assistance	Number of beneficiaries (20 per year) Number of technologies adopted (4 per year)
		Establish technology demonstration	Number of pilot-tested technologies (4 per year) Trade fairs participated (10 per year) Number of IEC materials developed Number of adaptors (50 institutions per technology)

PHYSICAL TARGETS						FINANCIAL TARGETS (P'000)						ACTORS	
2018	2019	2020	2021	2022	Total	2018	2019	2020	2021	2022	Total	LEAD	MEMBERS
											-	NFRDI	BFAR Private Sector DOST SCUs
											-	SCUs	BFAR
82	82	82	82	82	410	31,450	33,750	34,250	33,750	34,250	167,450	BFAR NFRDI	SCUs DOST
6	6	6	6	6	30	2,400	5,800	2,400	2,400	2,400	15,400	BFAR	SCUs DOST Private sector
3	3	3	3	3	15	4,000	4,045	4,045	4,045	4,045	20,180	BFAR	Private sector
											-	BFAR	Private sector
											-	NFRDI	BFAR Private Sector DOST SCUs
											-	NFRDI	BFAR SCUs
											-	SCUs	NFRDI
											-		
											-		
											-		
											-	BFAR	
4	4	4	4	4	20	6,000	6,000	6,000	6,000	6,000	30,000	BFAR	

Annex D: Increasing Capacities

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS
		Increase participation of private sectors and NGOs in the national symposia	Number of participants attended Number of symposia conducted
Improved compliance of fish processing establishments to relevant national and international regulations	Limited number of manpower to conduct inspection and quarantine	Manpower development - hiring / training of inspectors Training on catch documentation & traceability (BFAR)	Number of personnel hired Number of personnel trained
	Low compliance to post-harvest standards	Disseminate standards developed	
		Conduct of training on catch documentation & traceability (Stakeholders)	
		Conduct of training on relevant/ appropriate national & international regulations/ requirements (e.g. HACCP, GAqP, GMP and Seafood Safety Regulations)	Number of trainings conducted Number of participants trained
	Difficulty of some private sectors to comply with the requirements of standards.	Seminar/ dialogue/ consultation workshop on updated regulations and standards including compliance to third party certification	Number of seminar/dialogue/ consultation workshop conducted
		Review the Gaps, enhance the existing Philip-pine National Standards (PNS) Harmonize the Post-Harvest Standards for the Bureau to facilitate	Number of unified post-harvest standards for all fishery products harmonized
	Refusals/ rejections of Phil products from non-HACCP approved exporters	Strengthening of the Fish Inspection System in the Philippines	Number of inspectors trained Number of inspection trainings conducted for BFAR and Industry Number of inspections conducted Number of manual of operations updated
		Capacitate the processors (HACCP development and Food Safety)	Number of processors trained Number of training activities conducted Number of training modules available/ crafted
		Craft policies -All fishery establishment (processing) shall be subjected to mandatory inspection	Number of stakeholders' consultation conducted Policies crafted
	Separate location of quarantine office and one-stop-shop	Simplify processing of documents for export (one stop shop under one roof) NOTE: There is an ongoing construction of BFAR complex)	Simplified procedure developed (online & other forms, checklist of requirements) Improve efficiency in processing regulatory requirements
	Limited laboratory services	Identify the need (processors and academe) per region (Lab testing) per commodity Accredit third party laboratory to do the testing Manpower development - hiring and training of capable laboratory personnel/analyst	Number of inventory report of laboratories per region and the services conduct-ed/rendered Number of laboratories accredited # of capable personnel increased # of personnel hired # of personnel trained
	Limited participation of stakeholders during public consultation	Send invitations to stakeholders through text and through associations/organizations, LGUs, PFOs and other organizations to encourage participation in public consultation and other similar events	Number of invitations sent/ delivered Number of stakeholders participated Number of online platforms developed

PHYSICAL TARGETS						FINANCIAL TARGETS (P'000)						ACTORS	
2018	2019	2020	2021	2022	Total	2018	2019	2020	2021	2022	Total	LEAD	MEMBERS
												BFAR	ATI
												BFAR	BAFPS
												BFAR	BAFPS ATI
												BFAR	DOST FDA BAFS
												BFAR	DOST FDA
												BFAR	DOST FDA BAFS
												BFAR	
												BFAR	Private Sector SCUs NGOs CSOs

Annex D: Increasing Capacities

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS
Expand fisheries scholarship program	Scholarship for Industry Leaders is limited to chosen SCUs, COE/COD Lack of proper documentation No specific policies	Review, evaluate, and update scholarship guidelines and requirements (e.g. to include other SCUs, COE/COD in Fisheries for Industry Leaders Component, MOA between BFAR & SCUs/ BFAR & students, scholarship term, increase of stipend, award system for honor students, leave of absence)	Number of scholarship requirements reviewed and evaluated Number of SUCs, COE/COD accredited
	Limited employment opportunities Limited permanent positions in BFAR	Conduct Job Fairs in collaboration with the fisheries industry	
	Limited manpower of concerned agencies	Assess employment needs of the industry	
		Propose increase and allocation of human resource (HR) budget Execute HR budget for discussion, consideration and approval Note: this is beyond the scope of the plan	
	Decreasing number of enrollees		
	No directory of BFAR scholars	Conduct tracer studies for BFAR scholar graduates	
	No scholarship available for allied science courses and short-term courses for major aquaculture commodities Lesser number of Fishery technicians	Expand scholarship opportunities (e.g to include fisheries allied science courses such as B.S. Naval Architect, B.S. Marine Biology, B.S. Food Technology, graduate program, and short-term courses for major aquaculture commodities)	
		Establish fisheries/farm school and short courses (e.g. shrimp schools for grow-out farms and hatcheries, other commodities)	
		Prepare training modules and NCII accreditation in coordination with TESDA	
	Limited skills development program for shipbuilding and ancillary industries	Advocate policy for modernization, apprenticeship, and competency skills (e.g. welding) in the K to 12 program	
	Low wage/ benefits for shipbuilding workers	Advocate salary standards and facilities at par with international shipbuilding industry	
	Lack of collaboration with LGUs and/ or economic zones in identifying potential sites for shipbuilding facilities	Conduct dialogue with concerned LGUs Propose for the development of a concept for the establishment of maritime industrial park Conduct benchmark study on government policies vis-à-vis other competing countries	
	Need for creation of maritime industrial parks		
	No benchmark study on government policies vis-à-vis other competing countries		
	Strict safety guideline on importation of secondhand ships/vessels (i.e. seaworthiness)		

PHYSICAL TARGETS						FINANCIAL TARGETS (P'000)						ACTORS	
2018	2019	2020	2021	2022	Total	2018	2019	2020	2021	2022	Total	LEAD	MEMBERS
												BFAR	SCUs
												BFAR	Private Sector, SCUs, TESDA, DOLE, CSC, APPP (Asosasyon ng mga Propesyunal sa Pangisdaan ng Pilipinas)
												BFAR	CSC, Private Sector, PCAF
												BFAR	CSC Private sector
												BFAR	SCUs Private Sector DOST
												BFAR	SCUs Private Sector LGUs
												BFAR	TESDA
												MARINA	BFAR Private Sector
												MARINA	BFAR Private Sector
													LGUs BFAR Private Sector
												BFAR	MARINA Private Sector LGUs

Annex D: Increasing Capacities			
ACTIONS	**GAPS**	**SPECIFIC ACTIVITIES**	**OBJECTIVELY VERIFIABLE INDICATORS**
Expand fisheries scholarship program	Compliance to safety guidelines. Reduction by attrition (resource sustainability)		
	Lack of boat design for different aquaculture purposes suitable for different bodies of water	Develop prototypes of transport boats for fish and fishery products	
	Promote naval engineering opportunities	Advocate universities and colleges to offer and develop curriculum for Naval Architecture Course Program	
	Limited scope on the assessment of post-harvest losses	Expand coverage on the assessment of post-harvest losses in terms of species and areas covered	
		Promote the utilization of fish processing waste by using existing technologies	
Development of locally-made machineries and equipment relevant to the needs of the industry capture (fishing gear tagging machine, other machineries or equipment to support R&D for management)	Limited availability of locally-made machineries and equipment relevant to the needs of the industry	Inventory of local manufacturing sector - Identification of existing locally-made fisheries machineries and equipment -Assess capability/capacity of local manufacturers	
		Conduct studies on the utilization of fisheries machineries and equipment	
		Develop new technologies for optimum utilization of post-harvest machineries and equipment	
		equipment based on the results of the needs assessment	
		Staff development and application of GAqP in BFAR facilities	
	Non-competitive product in terms of non-existent country brand equity	Capacity building of MSMEs (specifically in value-adding)	
		Coordinate/ facilitate synergies among appropriate agencies on product development	
	Lack of financial support Limited capital High interest rates in small scale credit/ lending Strict credit requirements	Evaluate and assist MSMEs in their project planning and business credit application: Empower cooperatives and associations with project planning and business credit know how	
	Lack of technical-know-how of start-up MSMEs	Conduct capacity building on technical-know-how in business planning and implementation in the fisheries industry Conduct training on value-adding	
		Coordinate with DTI, DOST and other relevant agencies to conduct training (i.e. packaging and labelling, business name and registration)	
	Non-compliance of MSMEs in regulatory requirements	Provide assistance and mentoring to MSMEs in compliance to regulatory requirements: Conduct awareness program on regulatory requirements	
TOTAL			

PHYSICAL TARGETS						FINANCIAL TARGETS (P'000)						ACTORS	
2018	2019	2020	2021	2022	Total	2018	2019	2020	2021	2022	Total	LEAD	MEMBERS
												MARINA	BFAR Private Sector
												SCUs	MARINA Private Sector
												BFAR NFRDI	PFDA LGU Private Sector, Fisherfolk, SCUs
												BFAR NFRDI	PFDA LGU Private Sector, Fisherfolk, SCUs
												BFAR	BAFE, Private Sector
												BFAR NFRDI DOST	BFAR CFD
												BFAR NFRDI DOST	
												BFAR –NFRDI	BAFE, BFAR-NFRDI
												BFAR	
												BFAR	
												BFAR	DTI, DOST
												BFAR	
95	95	95	95	95	475	43,850	49,595	46,695	46,195	46,695	233,030		

Annex E: Crosscutting Concerns			
ACTIONS	**GAPS**	**SPECIFIC ACTIVITIES**	**OBJECTIVELY VERIFIABLE INDICATORS**
Policy Support			
		Revisit MOA/ MOU and other binding instruments signed between the BFAR and concerned LGUs, SCUs and other government agencies re post-harvest facilities, machineries and equipment.	Number of MOA/ MOU and other binding instruments revisited
Develop and implement fisherfolk settlement/ resettlement areas	Lack of available public lands	Review previous resettlement projects Conduct of consultation with fisherfolk and concerned housing agencies (HUDCC, NHA)	
		Develop clear guidelines (selection of beneficiaries, model community, conduct of inventory, etc.) to substantiate Rule 141.1 of RA 10654	Guidelines developed
		Conduct of inventory of suitable areas for fisherfolk settlement/resettlement areas in coordination with DENR/NAMRIA	Number of inventory conducted
		Encourage LGUs to include in their Municipal/ Provincial Housing Board the support for socialize housing of fisherfolk	Number of ordinances enacted
Harmonize policies regarding taxation and investments on aquaculture and capture fish-ery to be competitive with other countries	Non-competitive policies on aquaculture and capture fishery	Conduct benchmarking rules and regulation on how it negatively or positively impact the capture and aquaculture industries	Number of taxation rules and regulations reviewed
		Recommend necessary amendments appropriate for Philippine setting	Number of regulations/ policies formulated and approved
		Review implementation guidelines on waste management relative to all fishery activities (aquaculture and capture)	Number of implementation guidelines reviewed
		Ensure strict implementation of environment-friendly technologies, practices (GAqP, GMP, HACCP) and regular monitoring of all relevant fishery industry stakeholders	Number of monitoring conducted
		Conduct regular monitoring of water quality parameters	Number of monitoring conducted (c/o BFAR)
		Improve registration, certification, and accreditation policies to mandate compliance to existing (GAqP, GMP, SSOP, HACCP)	Number of registered and accredited farms and hatcheries
		Create registration, certification, and accreditation policies to mandate compliance to sustainable fishing	Number of registered CFVL, CFVGL and Fisherfolk Number of accredited CFVL and CFVGL
Harmonization of fisheries statistics data (transfer to Policy)	Fishery data is not reflective of the actual data	Continue dialogue with PSA to review framework, methodology, and logistics on data gathering, data validation and reporting mechanisms	Availability of data at all times

PHYSICAL TARGETS						Financial Target (P'000)						ACTORS	
18	**19**	**20**	**21**	**22**	**TOTAL**	**18**	**19**	**20**	**21**	**22**	**TOTAL**	**LEAD**	**MEMBERS**
						5,500	**4,000**	**2 ,000**	**1,500**	**1,500**	**14,500**		
						2,000	2,000				4,000	BFAR	PFDA, LGU, Private Sector, Fisherfolk, SCUs
						1,000					1,000	BFAR, NAPC	DTI-BOI, NHA, HUDCC, LGUs
1					1							BFAR, NAPC	DTI-BOI, NHA, HUDCC, LGUs
1					1							BFAR, NAPC	Interagency, LGUs
												BFAR, NAPC, DENR	LGUs, FARMC, NHA
1	1	1			3	500	500	500			1,500	DTI - BOI, DTI-Export Management Bureau, BIR	BFAR
1					1								
1					1	500					500	BFAR, DENR	LGUs, Private Sectors
16	16	16	16	16	80	500	500	500	500	500	2,500	BFAR, DENR	LGUs, Private Sectors
16	16	16	16	16	80						-	BFAR, DENR	LGUs, Private Sectors
1					1	1,000	1,000	1,000	1,000	1,000	5,000	BFAR	Private sectors
1					1							BFAR	Private sectors
											-	BFAR	NEDA-PSA, NFRDI, Private sectors

Annex E: Crosscutting Concerns

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS
Credit and Insurance			
	Limited credit window/facility for small fisherfolk, MSMEs, and commercial fisheries sector	Review financing programs and explore alternative credit window/facility for MSMEs, municipal, commercial, and aquaculture fisheries sector	Number of financing programs reviewed
			Number of alternative financing program/s considered
	Strict credit requirements	Capacitate small scale industries to enable them to access funding (e.g. preparation of business plan and proposal for funding)	Number of trainings conducted (2 per region per year) - c/o DTI
			Number of participants (50 per training) - c/o DTI
			Number of proposals funded (20 per year) - c/o DTI
		Conduct social preparation for organizational development	- c/o BFAR
		Conduct orientation-seminars and trainings for entrepreneurial development	Number of orientation-seminar and trainings conducted - c/o BFAR
		Organize fisherfolk associations into cooperatives to avail credit assistance	Number of fisherfolk associations organized into cooperatives - c/o BFAR
		Increase provision of guarantee funds to FIs for the availment by small fisherfolk and MSMEs	Number of FIs provided with guarantee fund
			Number of fisherfolk/individuals/ MSMEs benefited
		Facilitate access to credit by strengthening provision of necessary technical assistance	Number of technical assistance provided
			No. of borrowers assisted
		Coordinate with appropriate agencies Land Bank/ Development Bank of the Philippines (DBP), Agri and Commercial Attaché and Government Financing Institutions (GFIs)	No. of meetings conducted
			Number of investors
			Number of funded Fisherfolk associations
		Utilize cooperatives, associations and micro-financing institutions (MFIs) as service conduits	No. of technical assistance rendered
Develop insurance programs for fisheries (fishery products, fisherfolk, facilities, etc.)	High premium required by insurance companies	Recommend the review, evaluation and updating of existing fisheries insurance policies/programs (e.g basis on premium rate)	Number of existing insurance programs reviewed/ evaluated
			Number of comprehensive insurance policy developed
Tax and Incentive			
		Create a TWG to review, update, formulate/develop policies on relevant tax and other incentive programs, to include among others Composition of TWG: BFAR (Legal, FPED), NFARMC, Private Sector	Number of policies reviewed/ formulated
		Propose development of tax incentive system	Number of tax incentive system developed
		Develop incentive packages (e.g for tax, shipbuilding facilities, Sustainable Livelihood Program, etc.) and investment packages with government incentives	Number of policies reviewed/ formulated
			No. of investment package developed

PHYSICAL TARGETS						Financial Target (P'000)						ACTORS	
18	19	20	21	22	TOTAL	18	19	20	21	22	TOTAL	LEAD	MEMBERS
						500					**500**		
1					1	500					500	BFAR, ACPC	Land Bank, FIs, Private Sector, Other accredited microfinancing institutions
32	32	32	32	32	160							DTI, CDA	ACPC, BFAR, Land Bank, PCIC, Government Financing Institutions (GFIs), DBM-accredited micro financing institutions (e.g. ARMM)
1,600	1,600	1,600	1,600	1,600	8,000								
20	20	20	20	20	100								
												BFAR	NAPC, CDA, DSWD, DOLE, DTI, LGU
2	2	2	2	2	10							BFAR	DA, DBM
1,280					1,280								
32	32	32	32	32	160							BFAR	ACPC, Land Bank
1,600	1,600	1,600	1,600	1,600	8,000								
												BFAR	LGU, Private Sector, Land Bank, DBP, GFIs, Agri cultural and Commercial Attaché
												BFAR	
1					1							BFAR	PCIC
	1				1							BFAR	DTI-Tariff Commission, BIR, Private Sector, NFARMC, PCAF, DSWD-SLP
	1				1							BFAR	DTI-Tariff Commission, BIR, Private Sector
1					1							BFAR	DSWD, MARINA, DTI -Tariff Commission, BIR, Private Sector
1					1								

Annex E: Crosscutting Concerns

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS
	Needs of the sector are not considered due to limited representation in the BOI	Ensure classification of fishery-related business as one of the top priority projects of the government in the BOI	Number of fishery-related businesses that availed tax incentives (in %)
		Sustained sectoral representation in the drafting of Tax Reform Bill	Number of industry representative in BOI
		Provide incentives favorable to local investors (e.g. protection of local investors thru granting of long term permit to operate comparable to mining permits)	Number of domestic entities provided with incentives (in %)
		Provide incentives to BFAR registered, accredited, and GAqP-compliant aquaculture operations, and fisherfolk engaged in capture fishing	Number of beneficiaries provided with incentives
		Facilitate access to/grant of incentives (e.g. for fishery-related businesses)	No. of technical assistance rendered
Information, Education and Communication (IEC)			
		Conduct of Information, Education and Communication (IEC) Campaign on AMTEC testing and conformance to PAES	Number of IEC campaign conducted
		Conduct of IEC Campaign Sustainable Seafood Consumption, Nutritional Value of Seafood (fresh frozen as against fresh), Variety of Seafood products in the Philippines, and Seasonality of Seafood	
		Conduct massive IEC campaign on access to insurance for aquaculture and capture fisheries	Number of IEC activities conducted
	Limited scope on the assessment of post harvest losses	Promote the utilization of fish/seaweed processing waste by using existing technologies	Number of existing technologies promoted
	Need to reduce post-harvest losses	Conduct of massive IEC campaign to encourage application of best practices (e.g. GAqP) to lessen post-harvest losses; promote awareness on known processes and equipment to raise awareness on processing waste materials; and promote Philippine fish and fishery products (e.g. developed country branding)	Number of IEC produced/ disseminated
	Lack of awareness to process wastes materials prior to release to environment		Number of adaptors (in %)
			Country branding promoted (refer to Trade and Marketing)
			Increase in the type of seafood products exported
Issuance of advisory on fish food products for food safety		Coordinate with DENR regarding the issuance of fish bulletin on food safety	Bulletin released a day after issuance of Laboratory Results
		Issue fish bulletin on food safety	Number of fish bulletin on food safety issued
		Develop and disseminate/publish IECs on the impacts of closed fishing season (MPAs, Sanctuaries, etc.)	Number of IEC produced and disseminated/published (in %)
		Conduct national scientific conference to present results of studies conducted re : impacts of Closed Fishing Season	Number of conferences conducted
		Promote Philippine Journal of Fisheries (e.g. conduct of symposium)	• Number of symposia / conferences conducted (2 per year)
			• Number of attendees (100 per symposium)
			• Number of papers published (min. of 10 papers per issue)
			• Number of journal issues (2 per year)
			• Proceedings (1 per symposium)
Expand fisheries scholarship program	Limited employment opportunities	Promote business and employment opportunities in the fisheries industry	# of IEC conducted
	Decreasing number of enrollees for BSF program	Improve information dissemination/ promotion/ recruitment of Fisheries Scholarship Program	# of IEC conducted

PHYSICAL TARGETS						Financial Target (P'000)						ACTORS	
18	19	20	21	22	TOTAL	18	19	20	21	22	TOTAL	LEAD	MEMBERS
	10-20											BFAR	DTI-BOI, DTI-Tariff, Commission, BIR, Private Sector
	10-20											DTI - BOI, DTI-Export Management Bureau, DOF	BFAR
	10-20											BFAR	Private Sector
												BFAR	LGUs, Private Sector, BIR,
						2,484	**2,484**	**2,484**	**2,484**	**2,484**	**12,419**		
					0	1,000	1,000	1,000	1,000	1,000	5,000	BAFE	BFAR, PFDA, LGU, Private Sector, Fisherfolk, SCUs
					0							BFAR	DOH, NFRI,
16	16	16	16	16	80							PCIC	BFAR, Private Sector, LGUs
16	16	16	16	16	80	1,000	1,000	1,000	1,000	1,000	5,000	BFAR, NFRDI	PFDA, LGU, Private Sector, Fisherfolk, SCUs
20,000	20,000	20,000	20,000	20,000	100,000							BFAR, DENR	LGUs, Private Sector
5	10	15	20	25									
1	1	1	1	1	5								
												BFAR	DENR, LGUs
64	64	64	64	64	320								
20	20	20	20	20		50.6	50.6	50.6	50.6	50.6	253	NFRDI	BFAR
1	1	1	1	1	5	93.2	93.2	93.2	93.2	93.2	466	NFRDI	BFAR, Private sector
2	2	2	2	2	10	340	340	340	340	340	1,700	NFRDI	BFAR
200	200	200	200	200	1,000								
20	20	20	20	20	100								
2	2	2	2	2	10								
2	2	2	2	2	10								
16	16	16	16	16	80							SCUs	BFAR, Private Sector
16	16	16	16	16	80							BFAR	

Annex E: Crosscutting Concerns

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OVIs
	Non-competitive product in terms of non-existent country brand equity	Contract out to advertising and marketing firms for promotional activities for Philippine fishery products and country branding: 1. For the top 5 commodities 2. The rest of the Philippine seafood industry	No. of promotional and advertising materials developed
		Launch brand	Launch and no. of promotional activities and promotional/ advertising bursts
		Conduct continuous marketing and periodic promotion	No. of promotional activities conducted
		Participation in trade fairs, conventions, seafood conferences and exhibitions/ summits, business match making/fora	No. of trade fairs, conventions, seafood conferences and exhibitions/ summits, business match making/fora participated
		Conduct business trade missions	No. of business trade missions conducted
		Conduct promotional activity on periodic international investment fora	No. of international promotional activity and investment fora conducted
Information and Communication Technology (ICT)			
	Lack of market information limits access to markets – this deters the traceability requirements of the export market.	Create interagency working committee to identify ICT needs/requirements, policies and implementing guidelines	Inter-agency and industry TWG created
	Inadequate computer and communication facilities for market information generation and dissemination	Develop ICT software/systems and establish ICT in Fisheries (e.g. database and application on verified technologies, online platform for stakeholders interaction/ consultation/engagement, e-Catch Documentation And Traceability System or eCDTS, Philippine Rapid Alert System for Food and Feed, web and mobile applications)	ICT developed and established
	No database on generated and verified technologies		Number of technologies verified - c/o BFAR
	Limited participation of stakeholders during public consultation		Number of technologies applied - c/o BFAR
	Limited volume and species of fisheries commodities that can meet the domestic and international markets		No. of web/ mobile applications developed - c/o BFAR
	Mismatching of product and supply with the demand		
	Limited communication infrastructure facilities that link fish producers, fish ports, landing centers, and markets	Adoption of available communication technology that will link fish producers, fish ports, landing centers, and markets.	Number of communication technology adopted - c/o BFAR
	Limited market information	Establish Fisheries Industry Management Information System	Fisheries Management Information System established - c/o BFAR
		Secure and consolidate data on the fisheries industry	No. of market research and benchmarking conducted
	Fragmented data on fisheries	Conduct market research and benchmarking	- c/o BFAR

PHYSICAL TARGETS						Financial Target (P'000)						ACTORS	
18	19	20	21	22	TOTAL	18	19	20	21	22	TOTAL	LEAD	MEMBERS
REFER TO TRADE & MARKETING												BFAR	DTI, DOT, PIA
REFER TO TRADE & MARKETING												BFAR	DTI, DOT, PIA
REFER TO TRADE & MARKETING												BFAR	DTI, DOT, PIA
REFER TO TRADE & MARKETING													
REFER TO TRADE & MARKETING													
REFER TO TRADE & MARKETING												BFAR	LGU, Private Sector
						40,000	**140,000**	**20,000**			**200,000**		
1					1							BFAR	DICT, Private Sector
	1		1		2	40,000	140,000	20,000			200,000	BFAR, SCUs	DICT, Private Sector, DOST
1					1							Private Sector	PFDA, LGU, BFAR, Fisherfolk, SCUs
	1				1							BFAR	DICT, DTI, Private Sector
												BFAR	
2	2	2	2	2	10							BFAR	

Annex E: Crosscutting Concerns

ACTIONS	GAPS	SPECIFIC ACTIVITIES	OVIs
		Regular updating of fisheries information	No. of fisheries information updated on time
	Non-compliance of MSMEs in regulatory requirements	Establish comprehensive information system on MSMEs	MSME information system established - c/o BFAR
Monitoring and Evaluation			
		Establishment of monitoring and evaluation (M&E) scheme	M&E scheme established
			M&E conducted
	Consolidate success stories	List of success stories documented on fisherfolk resettlement	
GRAND TOTAL			

PHYSICAL TARGETS						Financial Target (P'000)						ACTORS	
18	19	20	21	22	TOTAL	18	19	20	21	22	TOTAL	LEAD	MEMBERS
												BFAR	
1					1							BFAR	
							1,500	**500**	**500**	**500**	**3,000**		
	1				1		1,000				1,000	BFAR	PFDA, LGU, Private Sector, Fisherfolk, SCUs
	16	16	16	16	64		500	500	500	500	2,000		
					0							HUDCC	
						48,484	**147,984**	**24,984**	**4,484**	**4,484**	**230,419**		

Annex F: Budget Allocation on Comprehensive Post-Harvest, Marketing and Ancillary Industry Plan (CPHMAIP)

NO.	THEMES	ALLOCATION (PHP '000)					
		2018	2019	2020	2021	2022	TOTAL
1	Infrastructure	304,900.00	1,830,690.00	5,158,178.00	8,924,465.00	8,758,641.00	**24,976,874.00**
2	Ancillary Support	282,050.00	889,050.00	737,550.00	737,550.00	637,550.00	**3,283,750.00**
3	Increasing Capacities	43,850.00	49,595.00	46,695.00	46,195.00	46,695.00	**233,030.00**
4	Trade and Marketing	142,724.20	142,724.20	142,724.20	142,724.20	142,724.20	**713,621.00**
5	Crosscutting Concern	48,483.80	147,983.80	24,983.80	4,483.80	4,483.80	**230,419.00**
TOTAL		**822,008.00**	**3,060,043.00**	**6,110,131.00**	**9,855,418.00**	**9,590,094.00**	**29,437,694.00**

List of Participants

PRIVATE SECTOR

A. Tung Chingco Manufacturing Corporation
Alpi Trade International
Alsons Aquaculture Corporation
Anjo Farms, Inc.
Bluefin Seafood Export, Inc.
BAFOR, Inc. Cebu Commercial Fishing
Barrio Fiesta Manufacturing Corporation
Bigfish Foods Corporation
Bulacan HJR International Corporation
Camarines Bigfin Seafoods Trading
Carm Foods Enterprises, Inc.
Celebes Canning Corporation
D and L Seafoods
Eca Cold Store Plus
E. M. Buenaventura Trading
Feedmix Specialists, Inc. II
Finfish Hatcheries, Inc.
Fisherfarms Incorporated
Fishers and Changemakers, Inc.
Fishta Seafood, Inc.
Fresh Frozen Seafood Association of the Philippines
Fri Seafood Trading
General Tuna Corporation
Global Foods Solutions, Inc.
Hoc Po Feeds Corporations
Industrial Group of Zamboanga, Inc. (IGZI)
I Corinthians 3 Food Products
Jam Seafoods, Inc.
Jarla Trading Incorporated
JN Mercado Seafood Supply
Kaizen Salted Seafoods Trading
Kai-Anya Food's Inc, Navotas City
Kim Marine Products
LV Fishing Enterprises
Mardak Global Export Corporation
Meliomar Inc
Nuevo Fresco Marine Trading Corporation
Ocean Aquamarine Products Enterprises
Ocean Canning Corporation
Orient Cold Storage
Ozean 8 Trading Corporation
Philbest Canning Corporation
Philippine Milkfish Industry Group, Inc. (PhilMIG)
Philippine Alliance of Fisheries Producers, Inc. (PAFPI)
Philippine Association of Seafood Exporters (PASE)
Philippine Tropical Fish Exporters Association,Inc.
Phil-Union Frozen Foods, Inc. (PUFFI)
Pixcel Transglobal, Inc.
PL Aguila Manufacturing, Inc. / Jam Seafoods, Inc.
Sanmar Marine Products Exporter
Santa Cruz Seafoods, Inc.
Seachamp International Export Corporation
Seaweed Industry Association of the Philippines (SIAP)
Slord Development Corporation
SOCKSARGEN Federation of Fishing and Allied Industries, Inc. (SFFAII)
Southern Philippines Deep Sea Fishing Association (SOPHIL)
Splash Nutritional Corporation
Sta. Ana Agri-Fishery Trading Center (SAAFTC)
Sustainable Fisheries Partnership (SFP)
Taal Lake Aquaculture Alliance Inc. (TLAAI)
Trans Pacific Journey Fishing, Corp

NGOs/CSOs/Other Partners

Ecosystems Improved for Sustainable Fisheries (ECOFISH) Project
NGOs for Fisheries Reform, Inc. (NFR)
Tambuyog Development Center
RARE Philippines
USAID Oceans Philippines
Environmental Defense Fund (EDF)
Food and Agriculture of the United Nations (FAO-UN) in the Philippines
OCEANA Philippines
TetraTech
World Wildlife Fund (WWF) Philippines

Research Institution

Southeast Asian Fisheries Development Center (SEAFDEC)
Southeast Asian Fisheries Development Center - Aquaculture Department (SEAFDEC-AQD)
WorldFish Center Philippines

State Universities and Colleges

Bicol University - Tabaco Campus
Cagayan State University - Aparri Campus
Central Luzon State University
Iloilo State University of Science and Technology (ISCOF) - College of Fisheries & Aquatic Sciences
Pampanga State Agricultural University
Ramon Magsaysay Technological University - Candelaria Campus, Candelaria, Zambales
University of the Philippines - Visayas
University of the Philippines - Institute of Fish Processing Technology

National Government Agencies and Councils

Agricultural Credit Policy Council (ACPC)
Bureau of Agricultural and Fisheries Engineering (BAFE)
Bureau of Fisheries and Aquatic Resources (BFAR)
Bureau of Import Services (BIS)
Biodiversity Management Bureau (BMB)
Department of Agriculture
Department of Trade and Industry
Maritime Industry Authority (MARINA)
National Anti-Poverty Commission (NAPC)
National Council on Disability Affairs (NCDA)
National Fisheries and Aquatic Resources Management Council (NFARMC)
National Fisheries Research and Development Institute (NFRDI)
Office of Civil Defense (OCD)
Philippine Council for Agriculture and Fisheries (PCAF)
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