

Food Security in the Context of Philippine Fisheries

Prof. Nathaniel C. Añasco, PhD

Institute of Marine Fisheries and Oceanology

College of Fisheries and Ocean Sciences

University of the Philippines Visayas

Miagao, Iloilo 5023 Philippines

ncanasco1@up.edu.ph



Republic Act 8550 (Fisheries Code of the Philippines)

“AN ACT PROVIDING FOR THE DEVELOPMENT, MANAGEMENT AND CONSERVATION OF THE FISHERIES AND AQUATIC RESOURCES, INTEGRATING ALL LAWS PERTINENT THERETO, AND FOR OTHER PURPOSES”

SEC. 1. Title. – This Act shall be known as - The Philippine Fisheries Code of 1998.

CHAPTER I

DECLARATION OF POLICY AND DEFINITIONS

SEC. 2. Declaration of Policy. - It is hereby declared the policy of the State:

- a. to achieve food security as the overriding consideration in the utilization, management, development, conservation and protection of fishery resources in order to provide the food needs of the population. A flexible policy towards the attainment of food security shall be adopted in response to changes in demographic trends for fish, emerging trends in the trade of fish and other aquatic products in domestic and international markets, and the law of supply and demand;



Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

45. *Food Security* - refers to any plan, policy or strategy aimed at ensuring adequate supplies of appropriate food at affordable prices. Food security may be achieved through self-sufficiency (i.e. ensuring adequate food supplies from domestic production), through self-reliance (i.e. ensuring adequate food supplies through a combination of domestic production and importation), or through pure importation

Aquatic Resources



Commercial Fishing Boat in Tubigon, Bohol

Source: BFAR RFO VII

Table 1. Marine Resources

Particulars	Area (Sq. km)
1. Total Territorial Water Area (including the EZZ)	2,200,000
a. Coastal	266,000
b. Oceanic	1,934,000
2. Shelf Area (depth 200m)	184,600
3. Coral Reef Area	27,000
	(Within the 10-20 fathoms where reef fisheries occur)
4. Coastline (length)	36,289

Table 2. Inland Resources

Particulars	Area (ha)
1. Swamplands	246,063
a. Freshwater	106,328
b. Brackishwater	139,735
2. Existing Fishpond	253,323
a. Freshwater	14,531
b. Brackishwater	239,323
3. Other Inland Resources	250,000
a. Lakes	200,000
b. Rivers	31,000
c. Reservoirs	19,000

Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

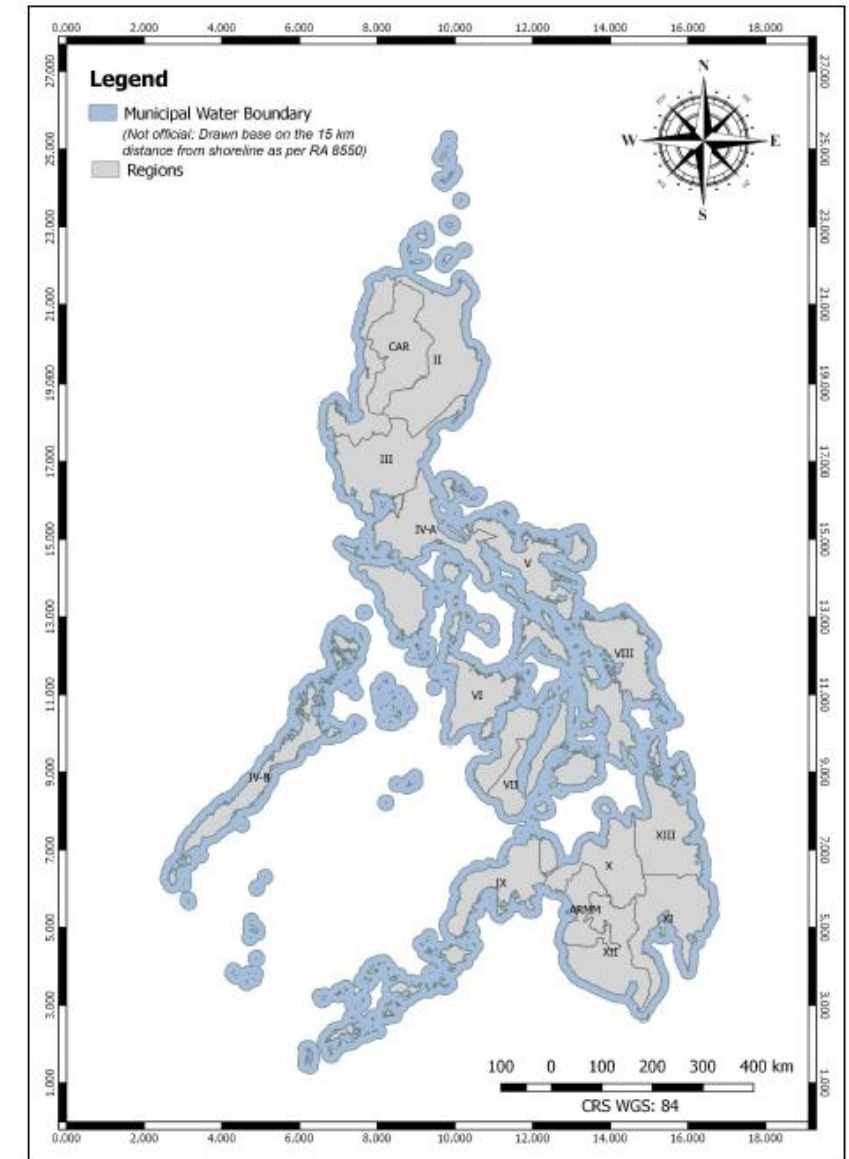
Municipal Water Boundary

Republic Act 8550 (Fisheries Code of the Philippines)

58. *Municipal waters* - include not only streams, lakes, inland bodies of water and tidal waters within the municipality which are not included within the protected areas as defined under Republic Act No. 7586 (The NIPAS Law), public forest, timber lands, forest reserves or fishery reserves, but also marine waters included between two (2) lines drawn perpendicular to the general coastline from points where the boundary lines of the municipality touch the sea at low tide and a third line parallel with the general coastline including offshore islands and fifteen (15) kilometers from such coastline. Where two (2) municipalities are so situated on opposite shores that there is less than thirty (30) kilometers of marine waters between them, the third line shall be equally distant from opposite shore of the respective municipalities.

Source: The Philippine Capture Fisheries Atlas (NFRDI, 2017)

Fig. 3. Municipal Water Boundary
(Not official map: Drawn based on the 15km distance from shoreline as per RA 8550 as amended by RA 10654)



Number of Fisherfolk Engaged in Fishing Activities

- Based on the 2021 Municipal Fisherfolk Registration System: **2.19 million municipal** fisherfolk were engaged in various fishing activities
- More than half (**50.03%**) of the registered municipal fisherfolk were involved in capture fishing while gleaning and aquaculture activities accounted for 11.59% and 11.28% of the total number, respectively
- fish processing, vending and other fisheries-related activities provided jobs to 189,562 municipal fisherfolk
- same year: there were 923 commercial fishing vessel operators based on the Fishing Vessel E-Licensing System

Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

A. Number of Registered Fisherfolk

1. Engaged in Fishing Activities

Table 3. Number of Municipal Fisherfolk by Livelihood Type (FishR)

Sector	No. of Registered Fisherfolk
Capture Fishing	1,095,774
Gleaning	253,825
Aquaculture	247,164
Fish Vending	147,038
Fish Processing	42,524
Others	404,113
TOTAL	2,190,438

In 2021, the number of registered municipal fisherfolk was 2,190,438 who were engaged in capture fishing (50.03%), gleaning (11.59%), and aquaculture (11.28%). The rest were involved either in fish vending, fish processing, and other fishery-related activities.

3. Commercial Fishing Vessel Operators

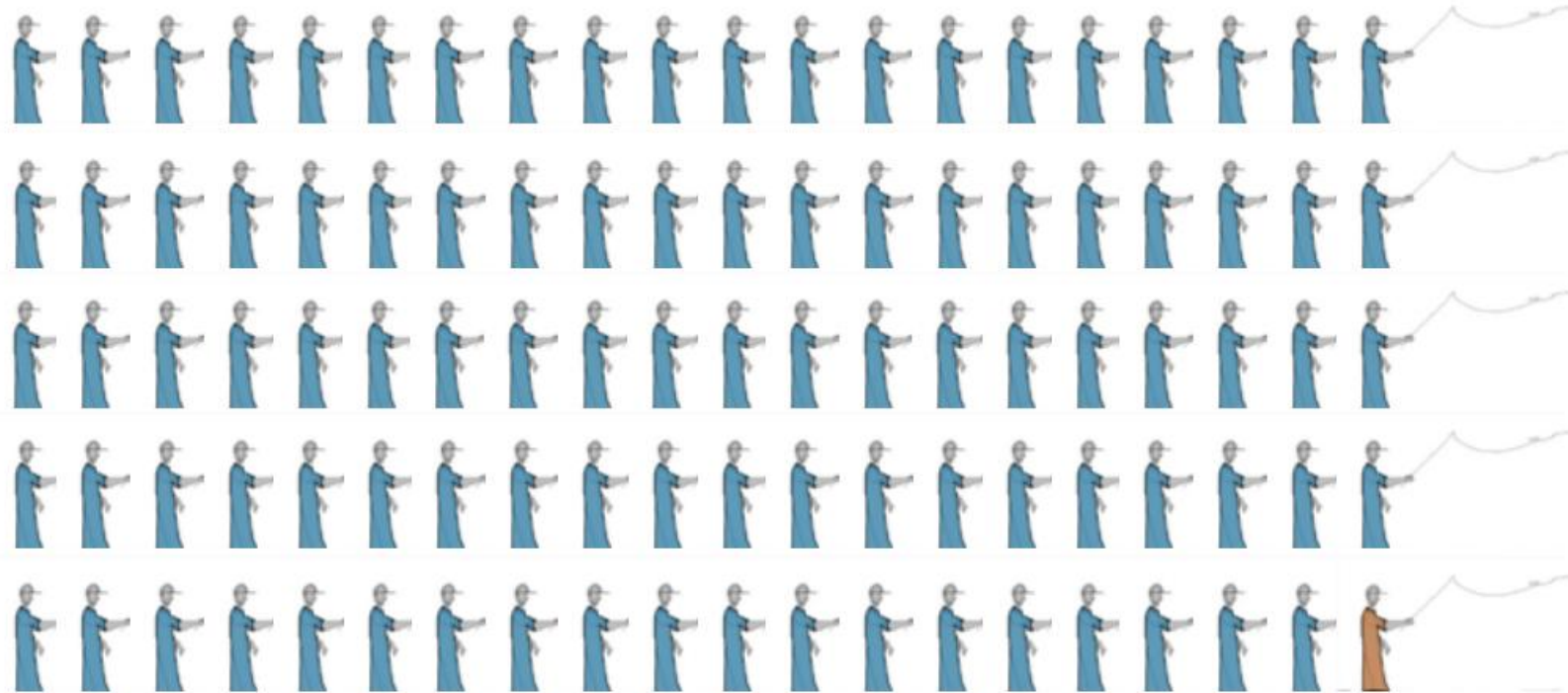
Table 5. Number of Commercial Fishing Vessel Operators as of December 31, 2021

Region	2017	2018	2019	2020	2021
NCR	575	798	284	106	203
CAR	0	0	0	0	0
I	76	69	75	73	65
II	114	118	109	73	55
III	46	23	32	39	75
IV-A	38	40	99	49	87
MIMAROPA	5	29	14	10	44
V	84	47	40	8	63
VI	63	76	83	84	34
VII	17	22	25	20	20
VIII	2	32	19	11	55
IX	62	68	97	32	56
X	22	16	13	18	14
XI	13	10	22	14	14
XII	103	108	108	155	123
XIII	10	42	5	13	15
BARMM					
TOTAL	1,230	1,498	1,025	705	923

Source: BFAR FRLD Retrieved 04 April 2022

Municipal and Commercial Fishers

99% of Filipino fishers are local, municipal fishers and they land 49% of total catch.



1.9 million municipal fishers vs **16,500 commercial fishers**

- Source: Rare analysis based on FishstatJ; FAO fisheries country profiles 2014

Performance of the Fisheries Industry

The annual fisheries performance was attributed to the production of the three (3) sub-sectors:

- **Aquaculture sub-sector** contributed 2.25 million MT (52.88%) to the total fisheries volume of production
- **Municipal capture fisheries** with 26.64% or 1.13 million MT
- **Commercial capture fisheries** with 20.48% or 0.87 million MT

Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

C. 2012-2021 Ten-Year Fish Production Trend

Table 14. Fisheries Production, by Sub-sector, 2021

Sector	Volume (MT)	% Share to Total	Value Current Prices ('000 PhP)	% Share to Total
Aquaculture	2,246,315.78	52.88	128,564,605.06	42.51
Capture	2,001,945.61	47.12	173,879,872.15	57.49
Commercial Fisheries	870,038.30	20.48	61,819,922.74	20.44
Municipal Fisheries	1,131,907.31	26.64	112,059,949.41	37.05
TOTAL FISHERIES	4,248,261.39	100.0	302,444,477.21	100.00

Source: Philippine Statistics Authority retrieved 21 April 2022

In 2021, a 3.46% decrease in total fisheries production was observed, from 4.40 million MT last year to this year's production of 4.25 million MT. The decrease in production can be attributed to the 8.51% decline of seaweed, the top contributor to fisheries production. On the other hand, yellowfin tuna, frigate tuna, and fimbriated sardines posted the highest decline with 24.16%, 21.88%, and 15.10%, respectively. Among the sub-sectors, aquaculture registered the largest contribution in terms of volume and value, with respective shares of 52.88% and 42.50%.

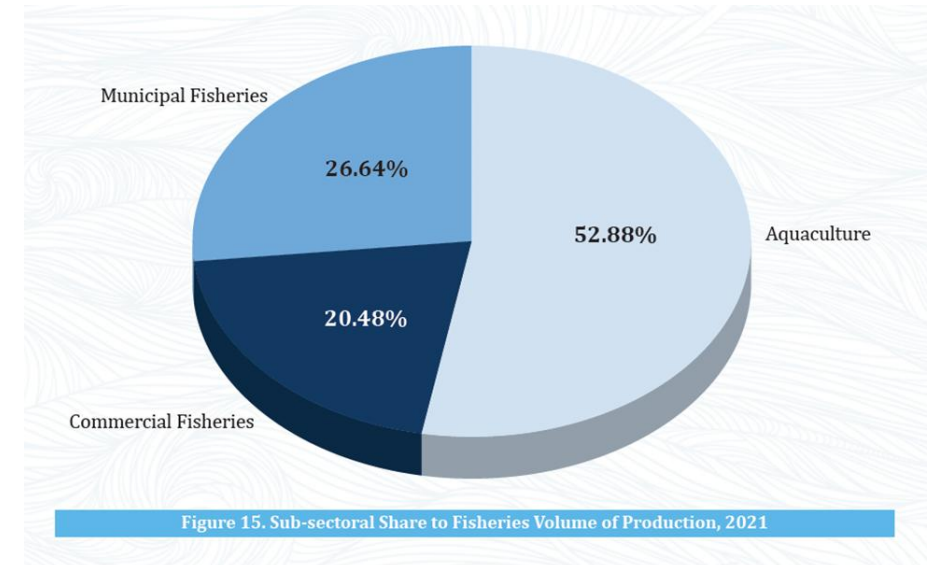
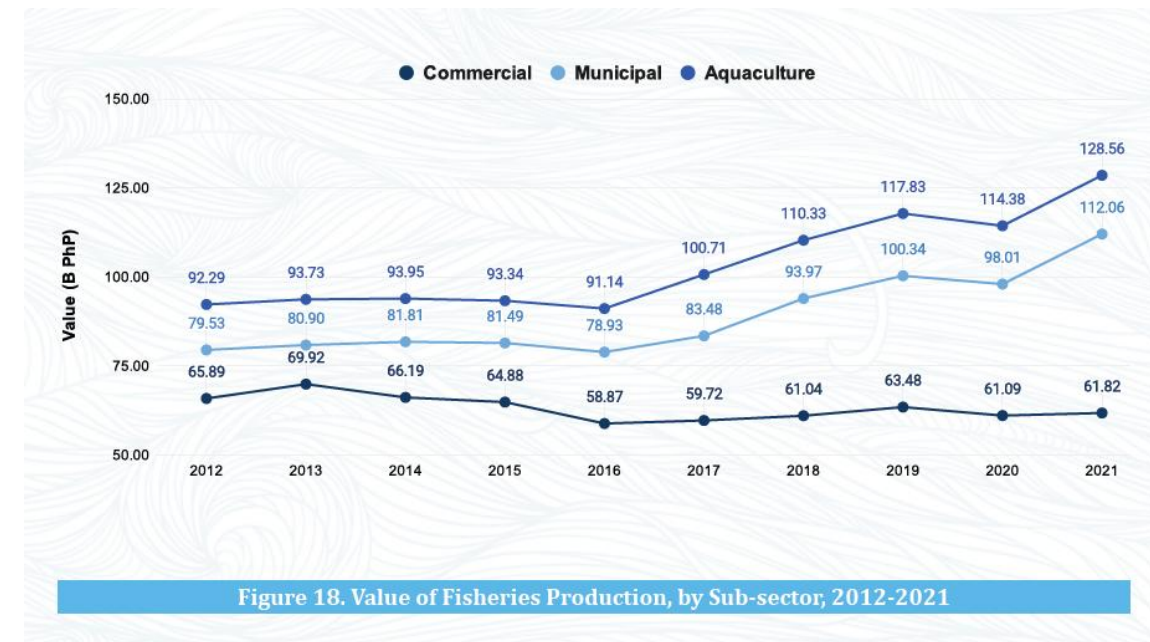
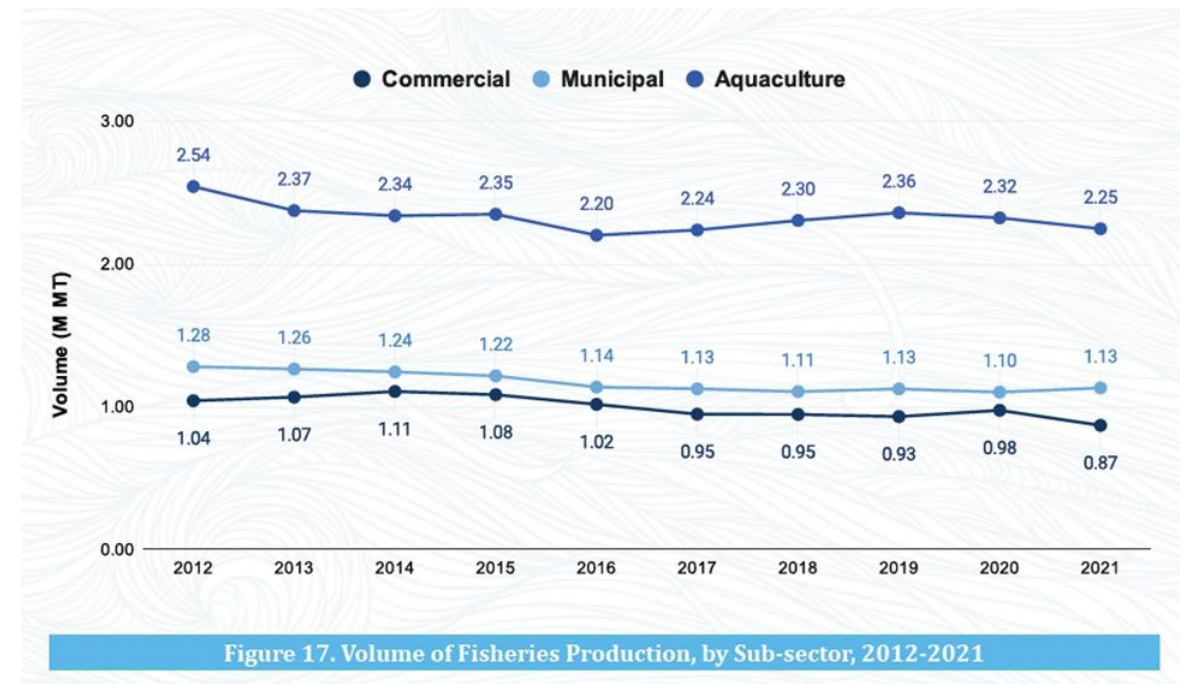
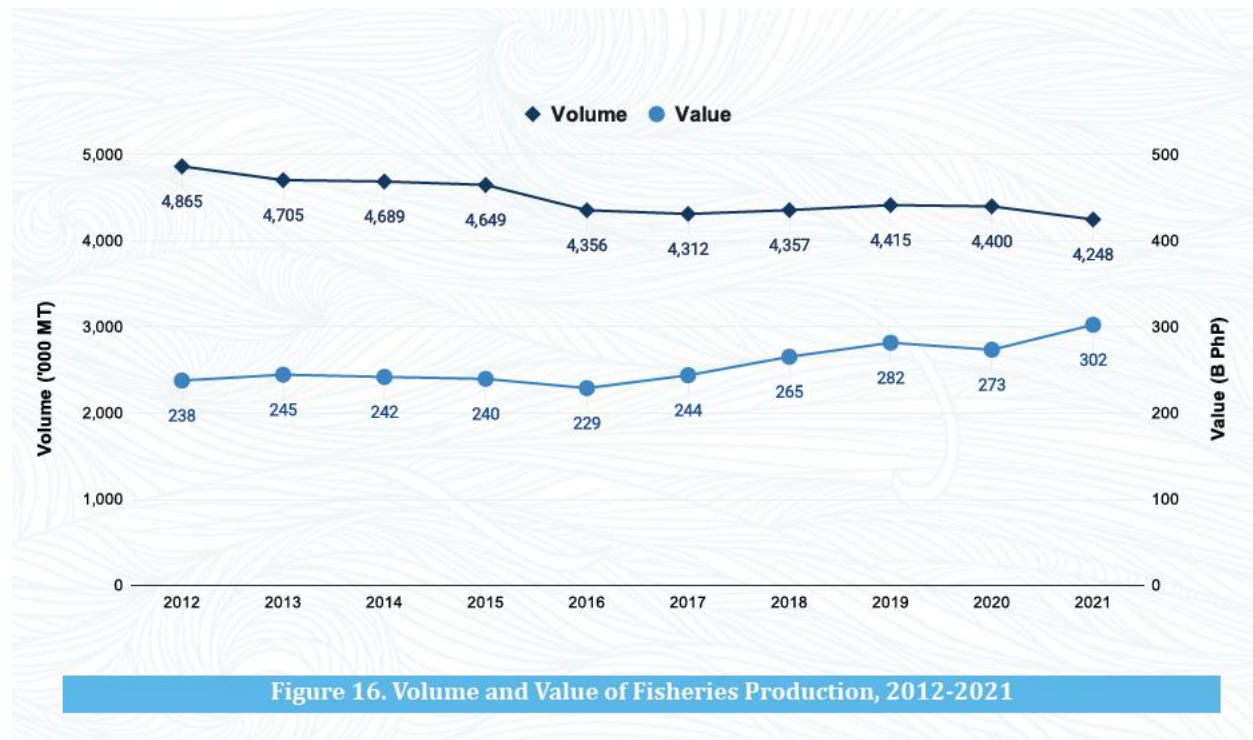


Figure 15. Sub-sectoral Share to Fisheries Volume of Production, 2021



Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

Food Consumption

- Next to rice and rice products, Filipinos consume fish and fishery products the most
- Fish and fishery products constitute 11.68% of each person's total food intake, which is equivalent to 93.90 grams/day
- 63.00% higher than meat and meat products, and 205.86% higher than poultry
- 2018-2019 DOST-FNRI survey report: each Filipino consumes an average of **34.27 kg/year** of fish and fish products
- comprising 23.36 kg of fresh fish, 2.85 kg of dried fish (as fresh fish), 4.97 kg of processed fish, and 3.10 kg of crustaceans and mollusks

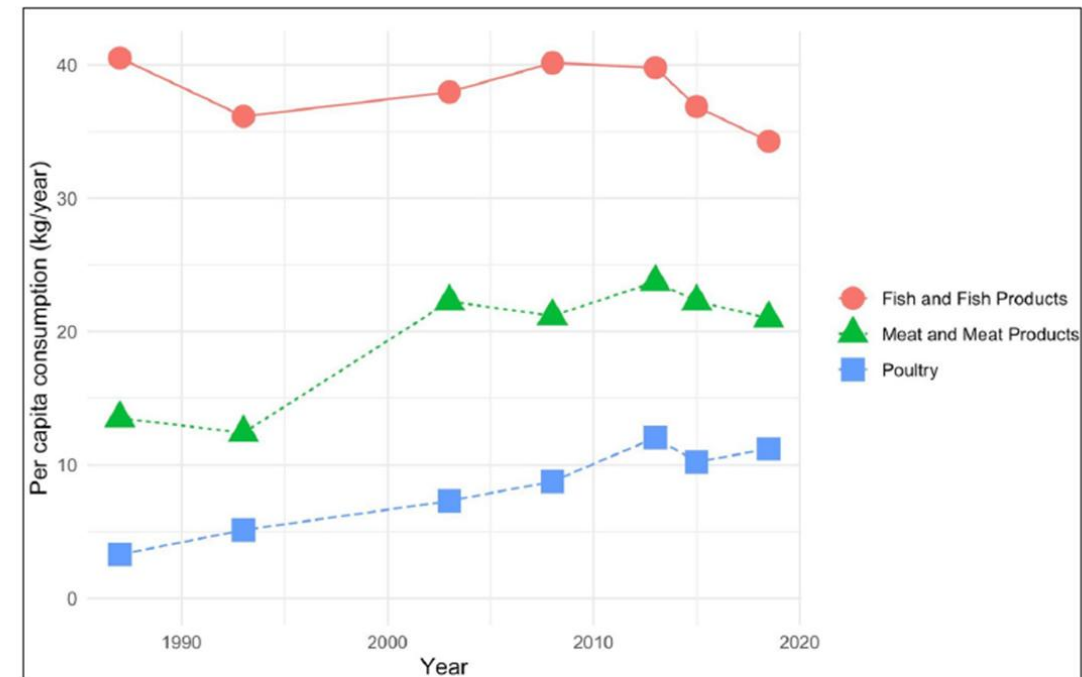


Figure 2. Mean annual per capita consumption of fish and fish products, meat and meat products, and poultry in the Philippines. Data for 1987, 1993, and 2003 from BFAR (2014); data for 2008, 2013, and 2015 from BFAR (2018); data for 2018-2019 from BFAR (2022), which was derived from the Expanded National Nutrition Survey of DOST-FNRI. We recorded the mean one-day per capita consumption values in grams per day from the BFAR reports cited above and converted them to annual per capita consumption in kg per year by multiplying the values by 365 days * 0.001 kg/gram.

(Cabral et al 2023)

(David et al, 2016)

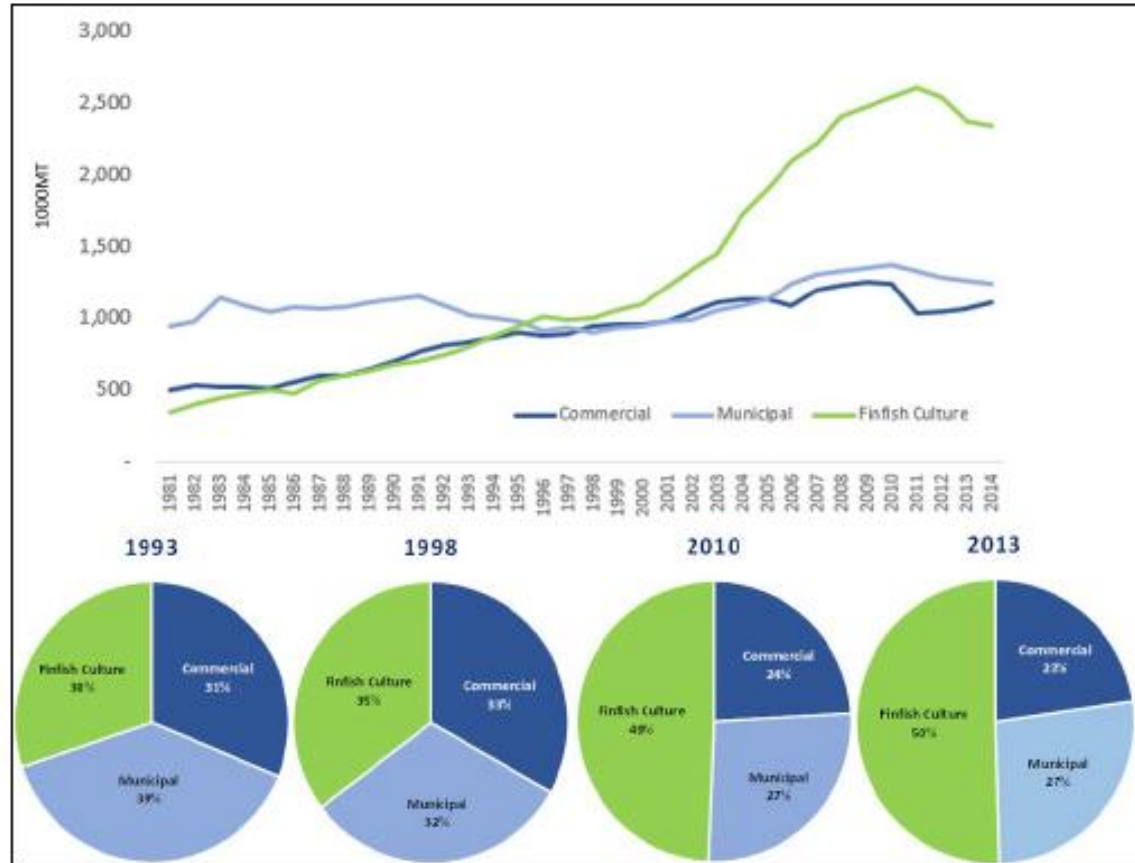


Figure 4. Food fish supply through the years (Data from BFAR).

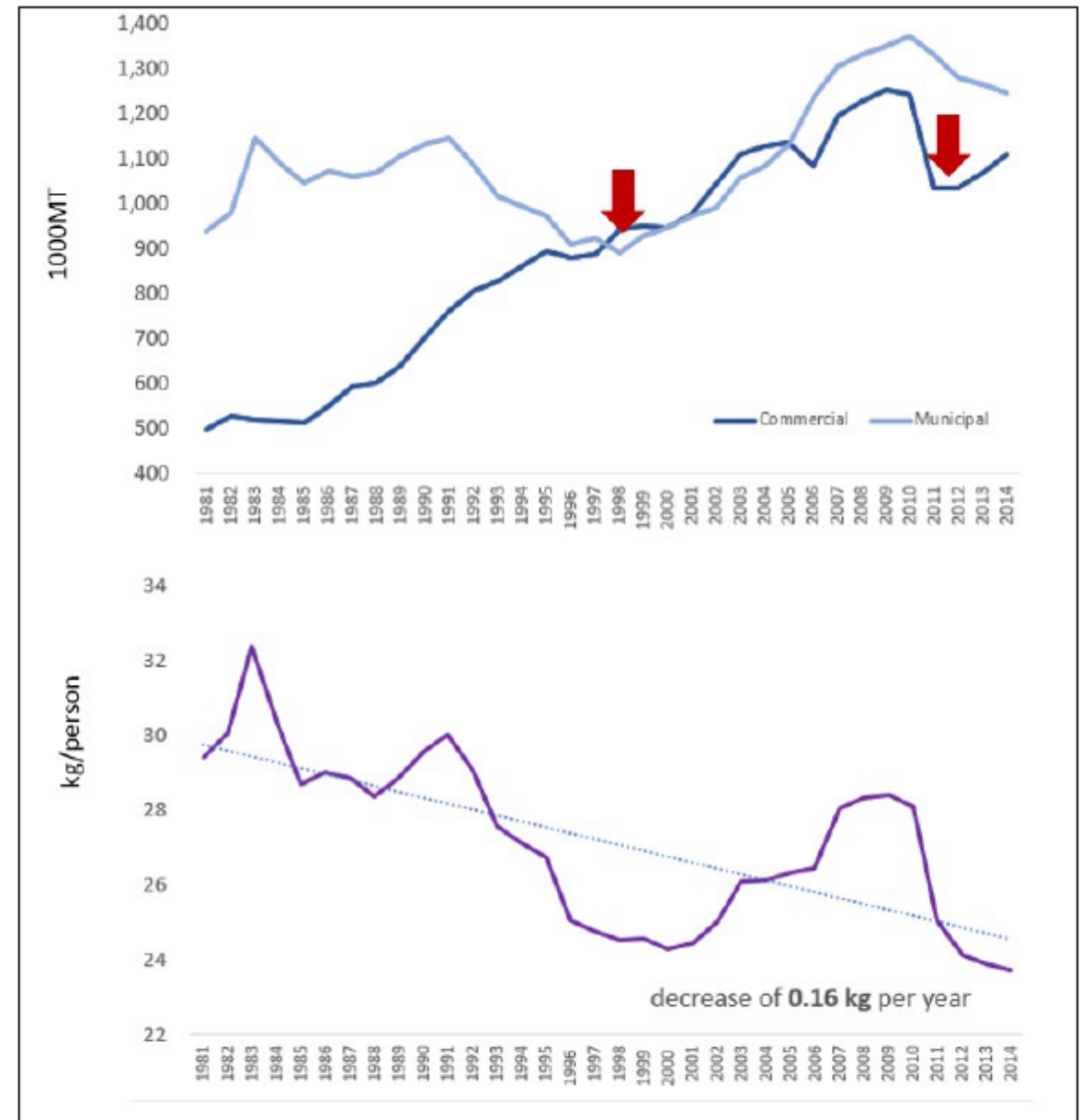


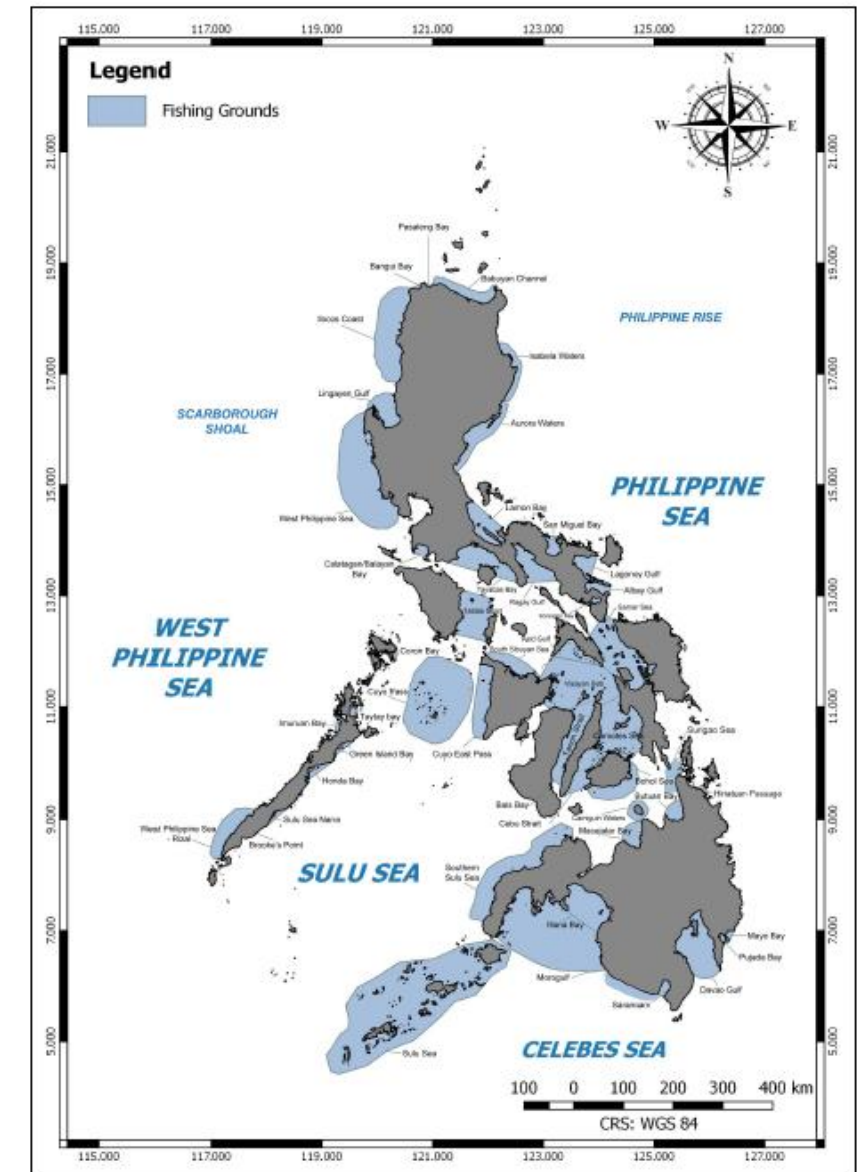
Figure 3. (a) Trend in commercial and municipal fisheries since 1980 and highlighting years on significant decrease; (b) Decrease in food fish per capita for the same period.

Fishing Grounds (monitored by NSAP, 2015)



Source: *The Philippine Capture Fisheries Atlas (NFRDI, 2017)*

Figure 2. Fishing grounds (in light blue shade) monitored by the NSAP in 2015.
Name of fishing ground indicated



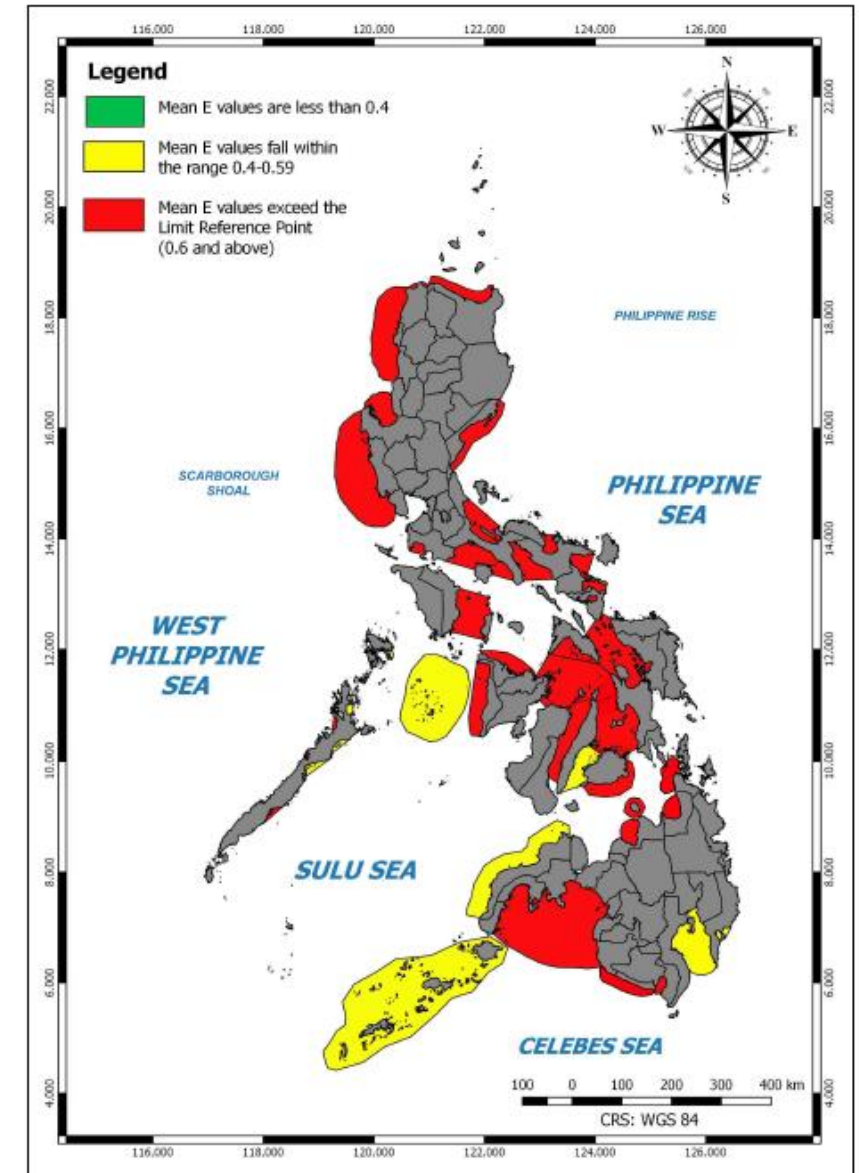
Status of Philippine Small Pelagics by Fishing Ground



© NSAP BFAR Region 13

Source: *The Philippine Capture Fisheries Atlas (NFRDI, 2017)*

Figure 3. Status of Philippine small pelagic fishes by fishing ground based on Exploitation (E) values using 2015 length frequency data. Limit Reference Point set at $E = 0.6$.



Status of Philippine Demersal Fishes by Fishing Ground

Top 3 Fishing Gears in Region 1

Commercial



Danish Seine
"Hulbot hulbot", "Bira-bira"



Purse Seine
"Pangulong", "Kubkuban"



Trawl
"Karkar"

Municipal



Scoop net
"Karwas", "Dusdus", "Salap" or "Sibit-sibit"

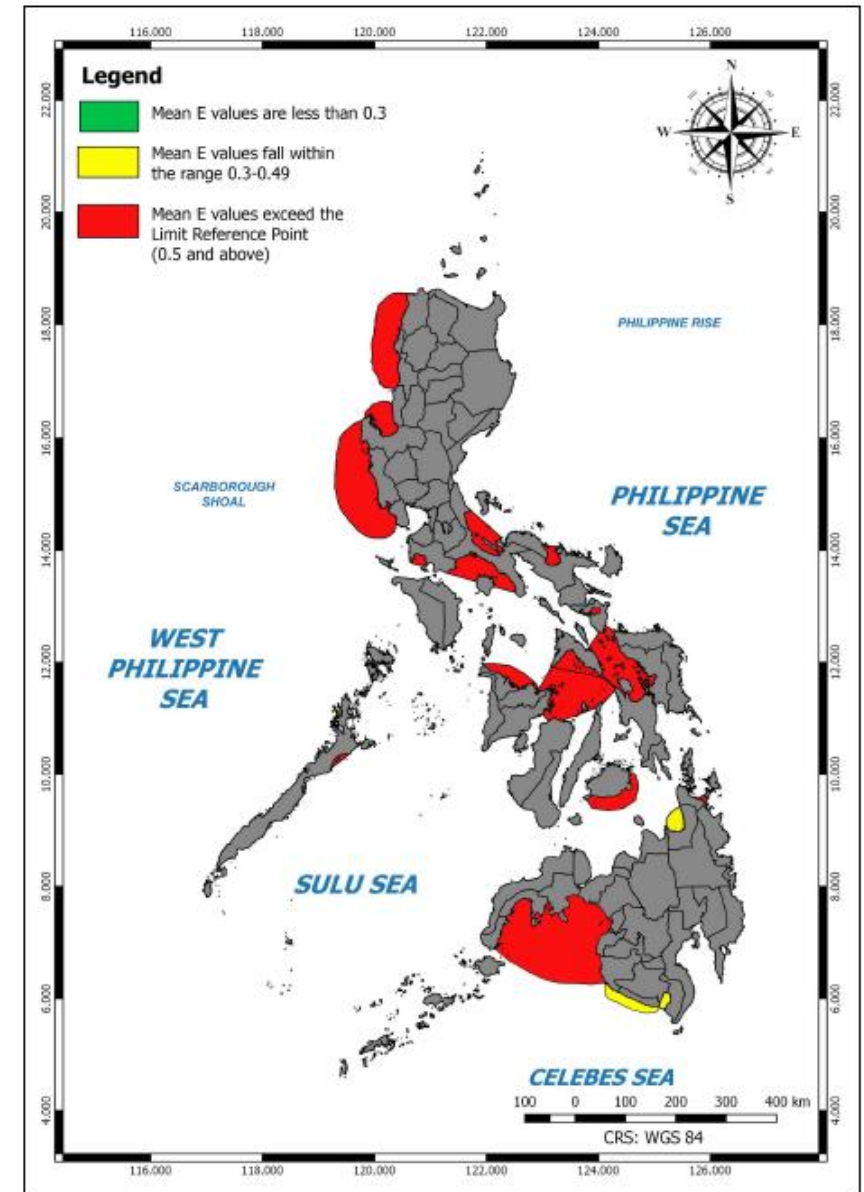


Handline
"Baniit"



Drive-in-Net
"Paaling", "abog-abog"

Figure 4. Status of Philippine demersal fishes by fishing ground based on Exploitation (E) values using 2015 length frequency data. Limit Reference Point set at $E = 0.5$.



Source: *The Philippine Capture Fisheries Atlas (NFRDI, 2017)*

Status of Philippine Neritic Tuna Fishes by Fishing Ground

Top 3 Fishing Gears in Region 2

Commercial



Drift filter net
"Banuar"



Ring Net
"Sirut"



Pair Trawl
"Saplar"

Municipal



Troll Line
"Paguyod", "Pauyas"

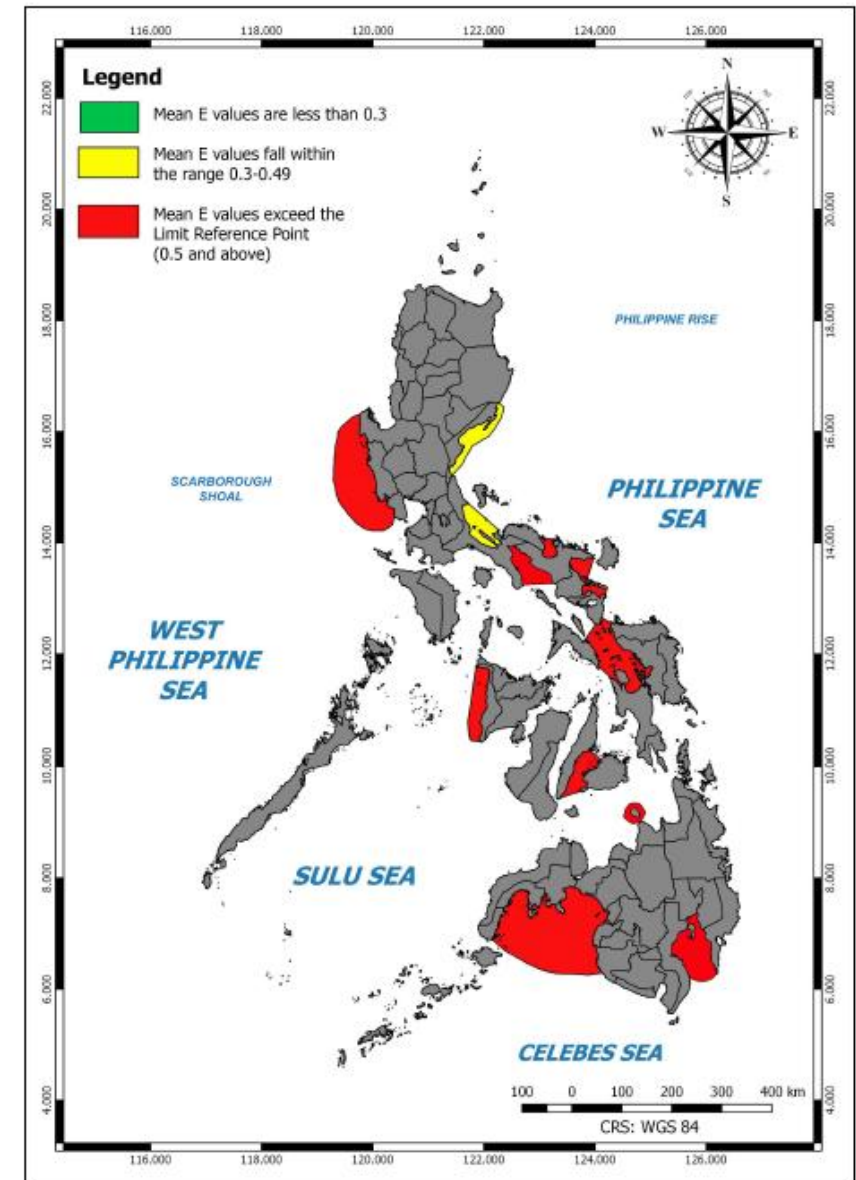


Multiple Handline
"Pasayad", "Baniit", "Kasikas",
"Panayrin", "Papasil"



Gill Net
"Sigay", "Sagap"

Figure 5. Status of Philippine neritic tuna fishes by fishing ground based on Exploitation (E) values using 2015 length frequency data. Limit Reference Point set at $E = 0.5$.



Source: *The Philippine Capture Fisheries Atlas (NFRDI, 2017)*

Status of Philippine Oceanic Tuna Fishes by Fishing Ground

Top 3 Fishing Gears in Region 3

Commercial



Purse Seine
"Pangulong"



Handline
"Loyloy", "kawil", "bira-bira"



Ringnet
"Kubkub"

Municipal



Multiple Handline
"Kitang", "Ohayan", "Rama-rama",
"Kaskas", "Og-Og"



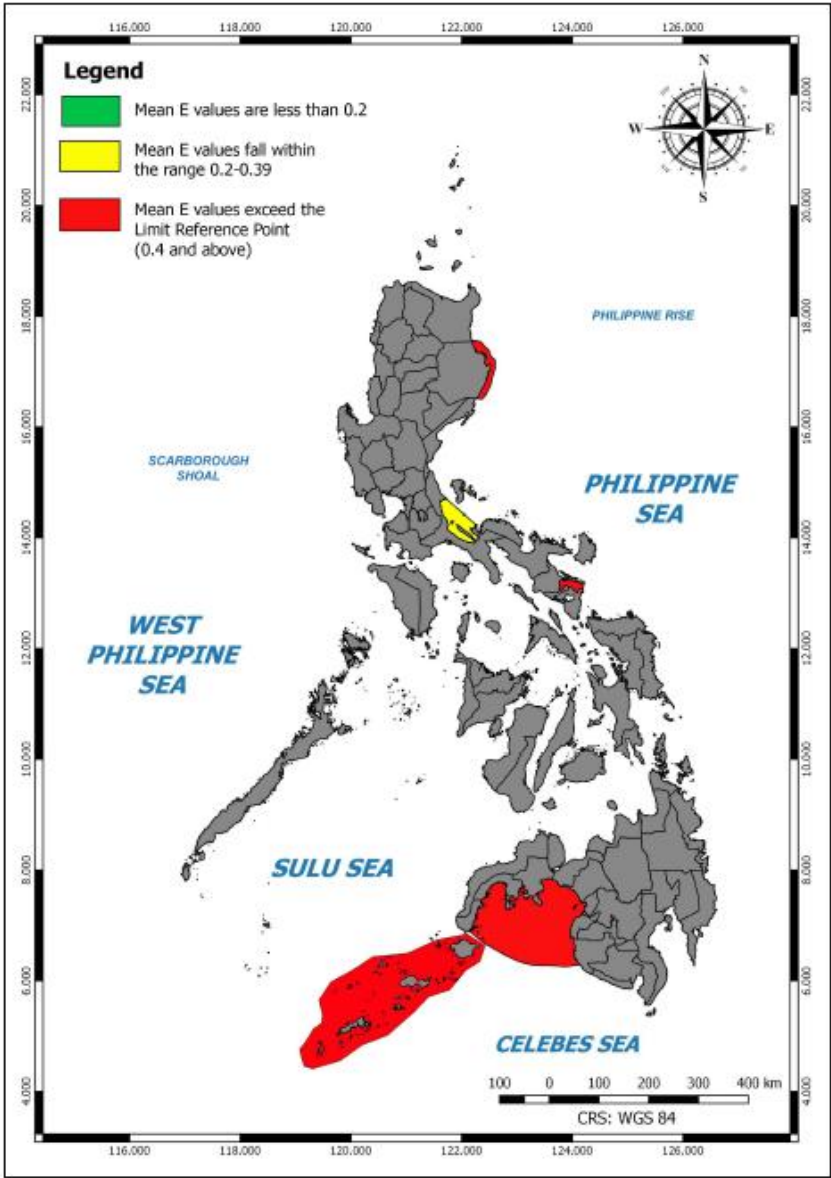
Gillnet
"Taba", "Sigay", "Panti"



Handline
"Loyloy", "Kawil", "Bira-bira"

Source: *The Philippine Capture Fisheries Atlas (NFRDI, 2017)*

Figure 6. Philippine oceanic tuna fishes by fishing ground based on Exploitation (E) values using 2015 length frequency data. Limit Reference Point set at E = 0.4.



(David et al, 2016)

Transactions National Academy of Science & Technology Philippines
ISSN 0115-8848 (print)
ISSN 2815-2042 (online)

Vol. 38 No. 2 (2016)

doi.org/10.57043/transnastphl.2016.757

Climate Change Impacts on Food Security from Marine Resources

Laura T. David^{1*}, Talna Lorena P. dela Cruz, Rhodora V. Azanza^{1,2}

¹Marine Science Institute, College of Science
University of the Philippines Diliman

²National Academy of Science and Technology Philippines

ABSTRACT

Commercial, municipal, and aquaculture fisheries, and the marine ecosystem as a whole, are expected to experience climate change impacts in the coming decades. This is alarming, as marine resources contribute a significant portion (19-36%) to the food supply of the Philippines. Projections reveal that the Philippines shall experience increases in sea surface temperature, more intense storms, locally prolonged droughts, and intense episodic rainfalls. The country is also likely to experience effects of ocean acidification, and sea level rise is projected to be higher than the global estimates for the Philippines. These impacts are additional pressure on top of the many, and mostly anthropogenic pressures which the marine ecosystem is already experiencing. Although the Philippines' high biodiversity can help reduce overall vulnerability, urgent actions are needed to build marine food resiliency.

Keywords:
climate change,
food security,
marine
resources,
biodiversity,
Philippines

Citation:
David LT, Dela Cruz TLP,
Azanza RV. 2016. Climate
change impacts on food
security from marine
resources. Transactions
NAST PHL 38(2):
doi.org/10.57043/
transnastphl.2016.757

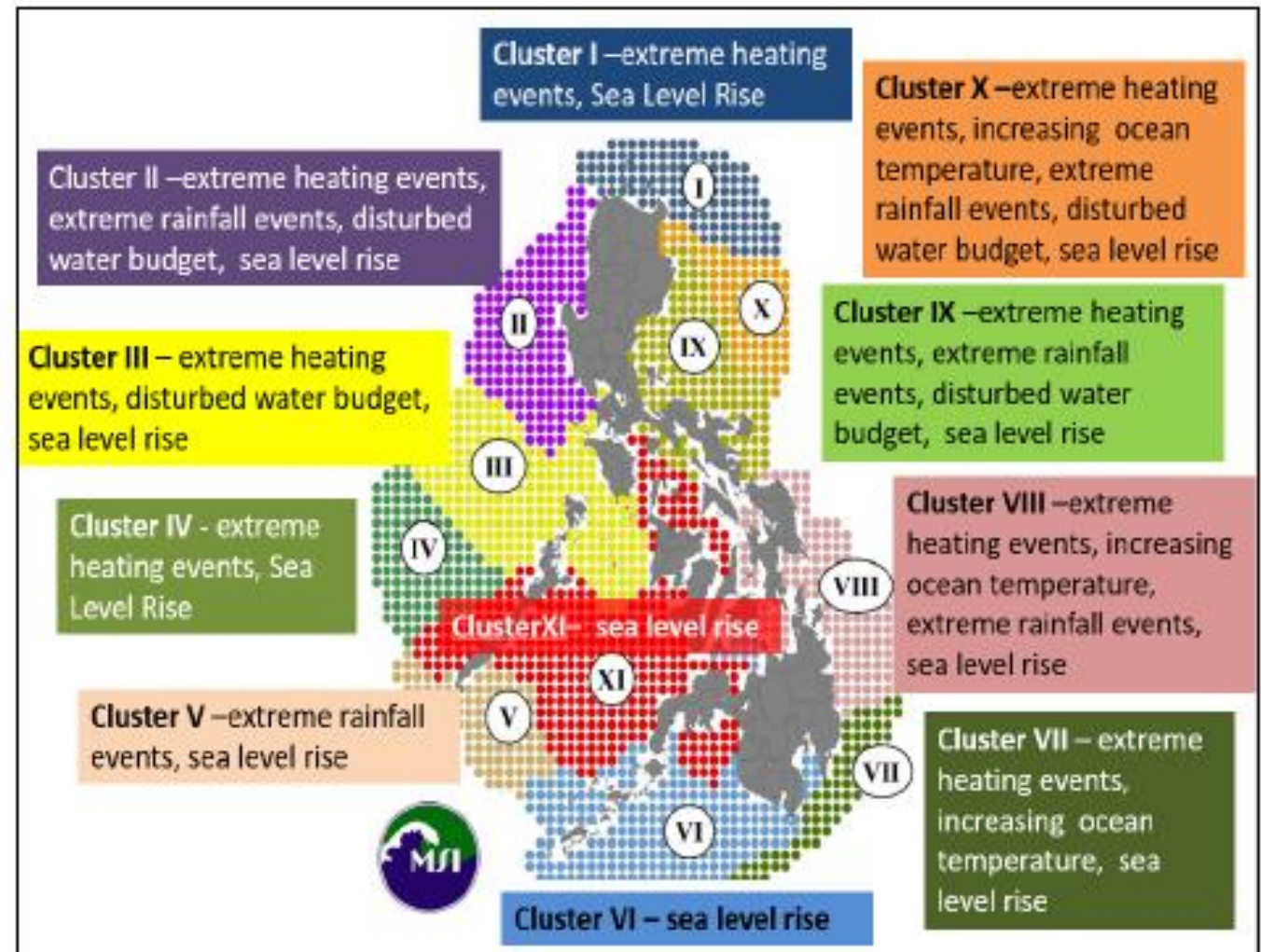


Figure 2. Hazard clusters of the Philippines using temperature, precipitation and sea-level rise from 1980-2010 (David et al. 2015).

Sustainability

ensures that food production and distribution do not compromise long-term environmental and social stability

Top 3 Fishing Gears in Region 4A - CALABARZON

Commercial



Purse seine
"Pangulong", "Kubkob"



Ring net
"Likum-likum", "Kubkub",
"Pukot"



Bagnet
"Basnig"

Municipal



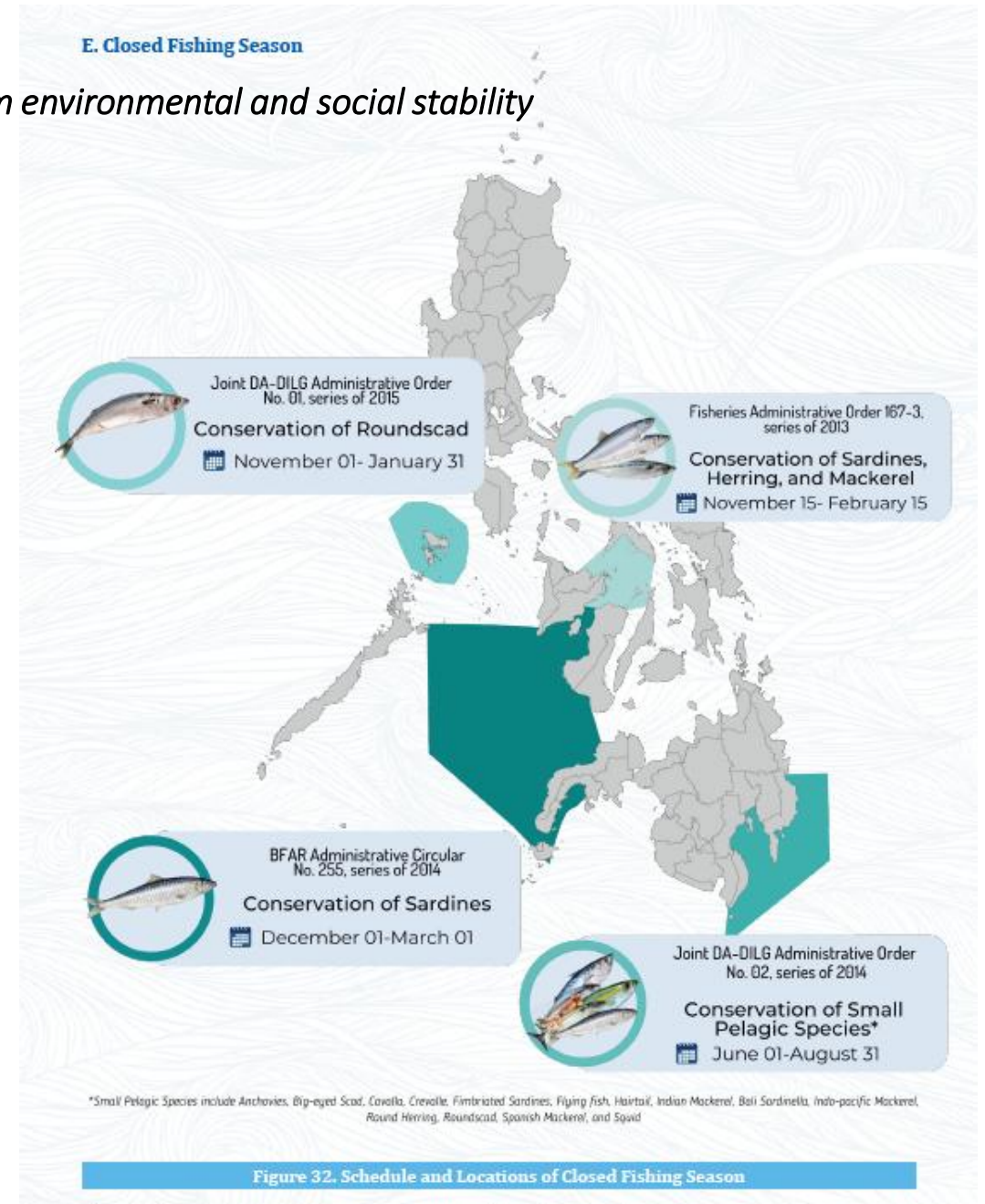
Multiple hook and line
"Og-og", "Kawil", "Ondak",
"Bira-bira"



Bottom set gillnet
"Panteng palubog"



Bottom set longline
"Kitang"



Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

Sustainability

ensures that food production and distribution do not compromise long-term environmental and social stability



© NSAP BFAR Region 1

Source: The Philippine Capture Fisheries Atlas (NFRDI, 2017)

Republic of the Philippines
Congress of the Philippines
Metro Manila

Seventeenth Congress

Second Regular Session

Begun and held in Metro Manila, on Monday, the twenty-fourth day of July, two thousand seventeen.

[REPUBLIC ACT NO. 11038]

AN ACT DECLARING PROTECTED AREAS AND PROVIDING FOR THEIR MANAGEMENT, AMENDING FOR THIS PURPOSE REPUBLIC ACT NO. 7586, OTHERWISE KNOWN AS THE "NATIONAL INTEGRATED PROTECTED AREAS SYSTEM (NIPAS) ACT OF 1992", AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. *Title.* – This Act shall be known and referred to as the "Expanded National Integrated Protected Areas System Act of 2018".

Agency

highlights the role of food producers—particularly smallholder farmers and Indigenous communities—in decision-making processes that affect agricultural policies and practices

ARTICLE II

THE FISHERIES AND AQUATIC RESOURCES MANAGEMENT COUNCILS (FARMCs)

SEC. 68. Development of Fisheries and Aquatic Resources in Municipal Waters and Bays. - Fisherfolk and their organizations residing within the geographical jurisdiction of the barangays, municipalities or cities with the concerned LGUs shall develop the fishery/aquatic resources in municipal waters and bays.

SEC. 69. Creation of Fisheries and Aquatic Resources Management Councils (FARMCs). - FARMCs shall be established in the national level and in all municipalities/cities abutting municipal waters as defined by this code. The FARMCs shall be formed by fisherfolk organizations/cooperatives and NGOs in the locality and be assisted by the LGUs and other government entities. Before organizing FARMCs, the LGUs, NGOs, fisherfolk, and other concerned POs shall undergo consultation and orientation on the formulation of FARMCs.

Republic Act 8550 (Fisheries Code of the Philippines)



Fish Port in Toril, Davao City

Source: BFAR RFO XI

Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

SEC. 70. Creation and Composition of the National Fisheries and Aquatic Resources Management Council (NFARMC). - There is hereby created a National Fisheries and Aquatic Resources management Council hereinafter referred to as NFARMC as a advisory/recommendatory body to the Department. The NFARMC shall be composed of fifteen (15) members consisting of:

- a. the Undersecretary of Agriculture, as Chairman;
- b. the Undersecretary of the Interior and Local Government;
- c. five (5) members representing the fisherfolk and fishworkers;
- d. five (5) members representing commercial fishing and aquaculture operators and the processing sectors;
- e. two (2) members from the academe; and
- f. one (1) representative of NGOs involved in fisheries.

Agency

highlights the role of food producers—particularly smallholder farmers and Indigenous communities—in decision-making processes that affect agricultural policies and practices

SEC. 73. The Municipal/City Fisheries and Aquatic Resources Management Councils (M/CFARMCs). - The M/CFARMCs shall be created in each of the municipalities and cities abutting municipal waters. However, the LGU may create the Barangay Fisheries and Aquatic Resources Management Councils (BFARMCs) and the Lakewide Fisheries and Aquatic Resources Management Councils (LFARMCs) whenever necessary. Such BFARMCs and LFARMCs shall serve in an advisory capacity to the LGUs.

SEC. 74. Functions of the M/CFARMCs. - The M/CFARMCs shall exercise the following functions:

- a. assist in the preparation of the Municipal Fishery Development Plan and submit such plan to the Municipal Development Council;
- b. recommend the enactment of municipal fishery ordinances to the sangguniang bayan/sangguniang panlungsod through its Committee on Fisheries;
- c. assist in the enforcement of fishery laws, rules and regulations in municipal waters;
- d. advise the sangguniang bayan/panlungsod on fishery matters through its Committee on Fisheries, if such has been organized; and
- e. perform such other functions which may be assigned by the sangguniang bayan/panlungsod.

Republic Act 8550 (Fisheries Code of the Philippines)



Municipal Fishing Boat in Sta. Maria, Davao Occidental

Source: BFAR RFO XI

Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

SEC. 75. Composition of the M/CFARMC. - The regular member of the M/CFARMCs shall be composed of :

- a. Municipal/City Planning Development Officer;
- b. Chairperson, Agriculture/Fishery Committee of the Sangguniang Bayan/Panlungsod
- c. representative of the Municipal/City Development Councils;
- d. representative from the accredited non-government organization;
- e. representative from the private sector;
- f. representative from the Department of Agriculture; and
- g. at least eleven(11) fisherfolk representative (seven (7) municipal fisherfolk, one (1) fishworker and three (3) commercial fishers) in each municipality/city which include representative from youth and women sector.

Agency

highlights the role of food producers—particularly smallholder farmers and Indigenous communities—in decision-making processes that affect agricultural policies and practices

E. 2020-2021 Fisheries Management Area (FMA) Production

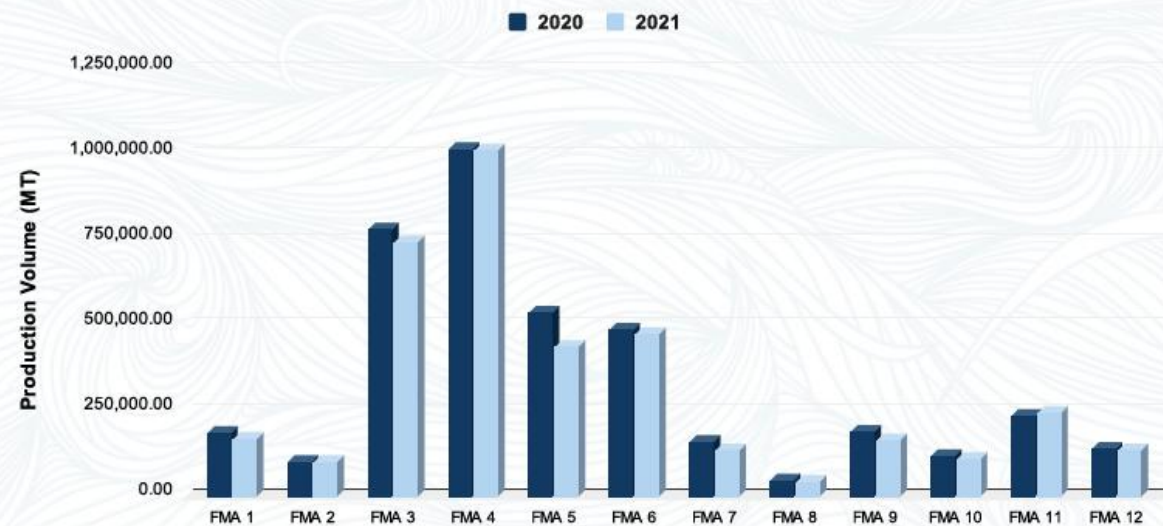


Figure 8. Fisheries Production in FMAs, 2020-2021

Source: Philippines Fisheries Profile 2021 (BFAR, 2022)

D. The 12 Fisheries Management Areas in the Philippines

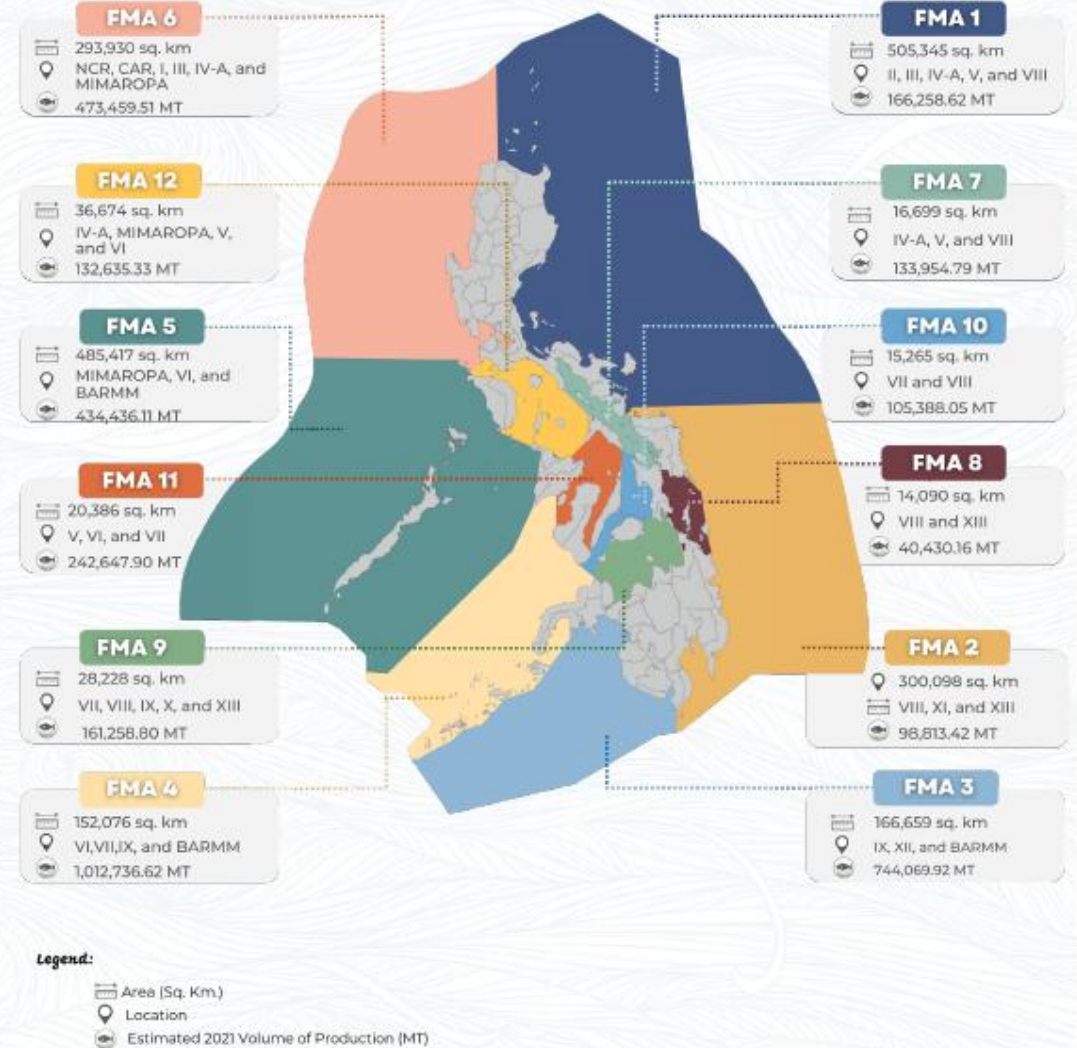


Figure 7. Area and Location of 12 Fisheries Management Areas (FMAs) in the Philippines

Under the Fisheries Administrative Order (FAO) No. 263, the Philippine Waters are clustered into 12 FMAs based on considerations of fisheries distribution, structure, and administrative divisions. The objective of the policy is to provide a science-based, participatory, and transparent governance framework to sustainably manage fisheries.

Agency

highlights the role of food producers—particularly smallholder farmers and Indigenous communities—in decision-making processes that affect agricultural policies and practices

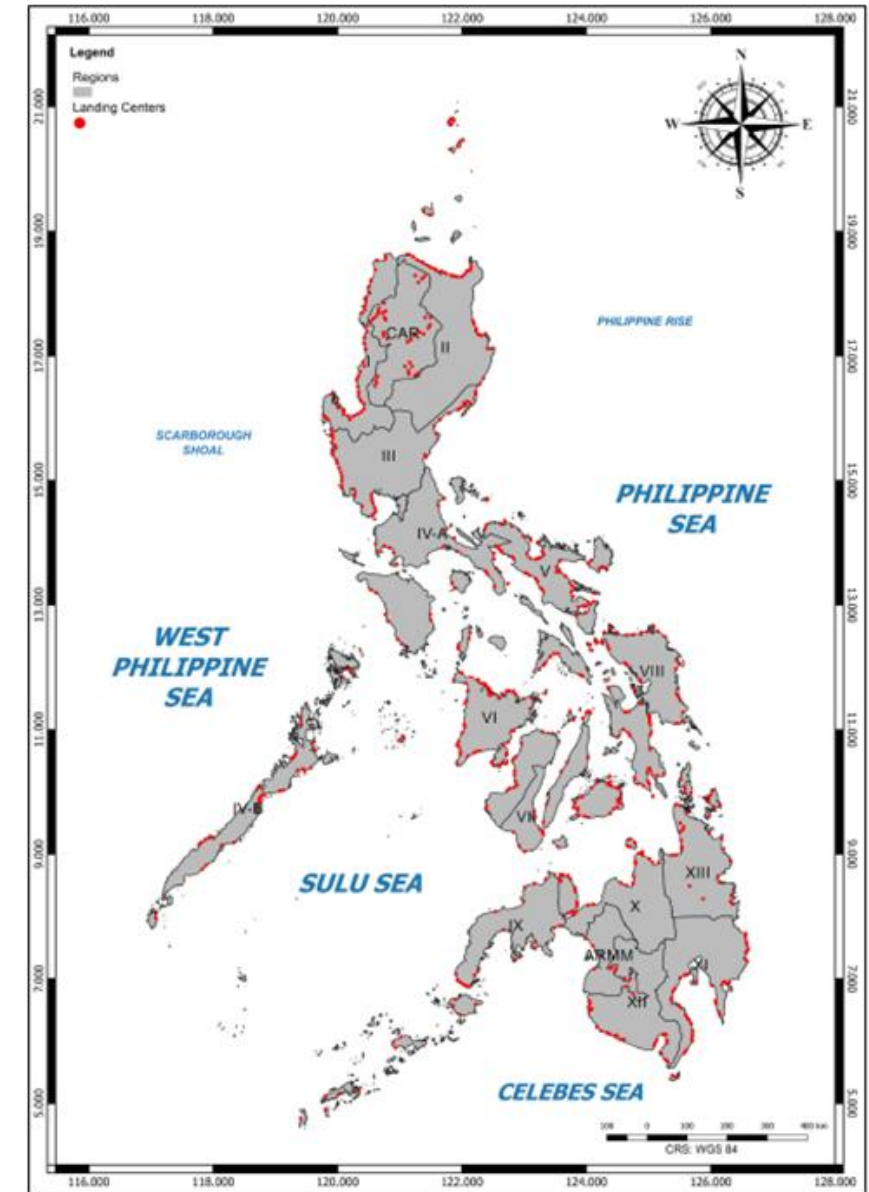


Municipal Fishing Boats in Sta. Cruz, Davao del Sur

Source: BFAR RFO XI

Source: *The Philippine Capture Fisheries Atlas (NFRDI, 2017)*

Fig. 1. Fish landing centers (in red dots) monitored by the National Stock Assessment Program in 2015.



Resilience

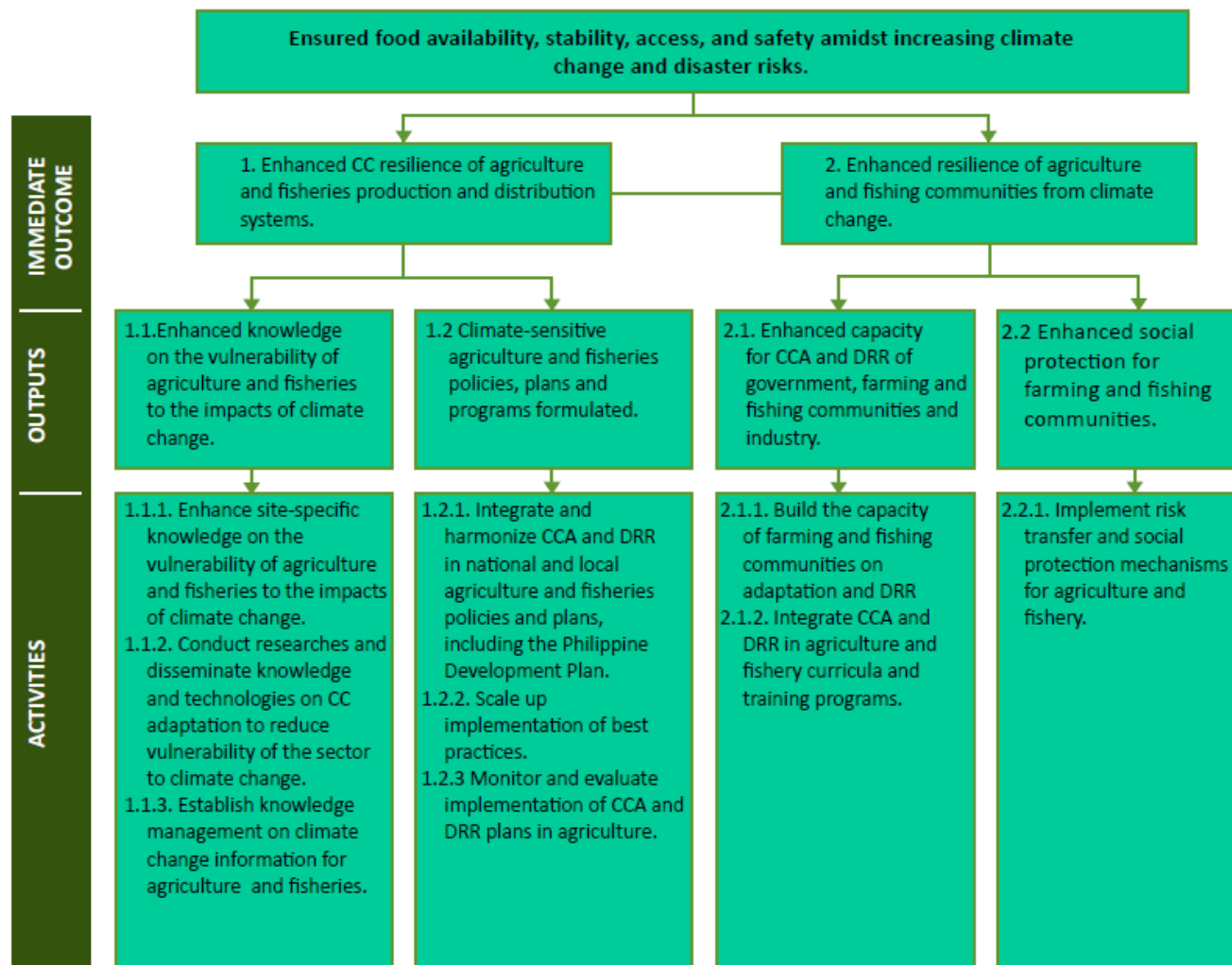
refers to the ability of food systems to anticipate, adapt to, and recover from climate shocks and economic disruptions

PRIORITIES	OUTCOMES
1. Food security	The objective of the national strategic priority on food security is to ensure availability, stability, accessibility, and affordability of safe and healthy food amidst climate change.
2. Water sufficiency	In light of climate change, however, a comprehensive review and subsequent restructuring of the entire water sector governance is required. It is important as well to assess the resilience of major water resources and infrastructures, manage supply and demand, manage water quality, and promote conservation.
3. Ecological and Environmental stability	Ecosystem resilience and environmental stability during the plan period is focused on achieving one immediate outcome: the protection and rehabilitation of critical ecosystems, and the restoration of ecological services.
4. Human security	The objective of the human security agenda is to reduce the risks of women and men to climate change and disasters.
5. Climate-friendly industries and services	NCCAP prioritizes the creation of green and eco-jobs and sustainable consumption and production. It also focuses on the development of sustainable cities and municipalities.
6. Sustainable energy	NCCAP prioritizes the promotion and expansion of energy efficiency and conservation; the development of sustainable and renewable energy; environmentally sustainable transport; and climate-proofing and rehabilitation of energy systems infrastructures.
7. Knowledge and capacity development	The priorities of the NCCAP on knowledge and capacity development are: <ul style="list-style-type: none">• Enhanced knowledge on the science of climate change;• Enhanced capacity for climate change adaptation, mitigation and disaster risk reduction at the local and community level; and• Established gendered climate change knowledge management accessible to all sectors at the national and local levels.

National Climate Change Action
Plan 2011-2028

Resilience

refers to the ability of food systems to anticipate, adapt to, and recover from climate shocks and economic disruptions



National Climate Change Action
Plan 2011-2028

Figure 3
Strategic Actions on Food Security for 2011-2028

Resilience

refers to the ability of food systems to anticipate, adapt to, and recover from climate shocks and economic disruptions

1 Food Security

Ultimate Outcome					
1.0 Enhanced adaptive capacity of communities and resilience of natural ecosystems to climate change					
Intermediate Outcome					
Ensured food availability, stability, access, and safety amidst increasing climate change and disaster risks.					
Immediate Outcome					
1. Enhanced resilience of agriculture and fisheries production and distribution systems from climate change.					
Output Area					
1.1. Enhanced knowledge on the vulnerability of agriculture and fisheries to the impacts of climate change.					
Indicators					
1100.1.1	Provincial level agriculture and fishery sector vulnerability and risk assessment conducted nationwide.				
1100.1.2	National and provincial agriculture and fisheries climate information and database established.				
1100.1.3	No. of researches conducted on agriculture and fisheries adaptation measures and technologies developed.				
1100.1.4	No. of appropriate CC adaptation technologies identified and implemented.				
Institutions Involved					
Lead Government Agencies: Department of Agriculture, LGUs Coordinating Government Agencies: DENR, DOST, CCC, DAR, DILG, DOH, DTI					
Activities		Outputs	2011-2016	2017-2022	2023-2028
1.1.1. Enhance site –specific knowledge on the vulnerability of agriculture and fisheries to the impacts of climate change.					
a. Conduct of provincial-level vulnerability and risk assessments for the agriculture and fisheries.		Provincial-level vulnerability and risk assessment studies and maps produced and disseminated.	<div></div>	<div></div>	<div></div>
b. Conduct of studies and simulation models on the impacts of climate change on major crops and livestock based on the VA and climate change scenarios.		Vulnerability of the sectors to different CC scenarios conducted.	<div></div>	<div></div>	<div></div>

Output Area				
1.2. Climate-sensitive agriculture and fisheries policies, plans and program formulated.				
Indicators				
1200.1.1	Climate change responsive agriculture and fisheries policies, plans and budgets developed and implemented.			
1200.1.2	No. of CC-responsive agriculture-fisheries policies formulated and implemented.			
1200.1.3	CLIMATE CHANGE ACTIONS-DRR Performance Monitoring Indicators developed and implemented.			
1200.1.4	No. and type of risk transfer (e.g., weather-based/index insurance) and social protection mechanisms developed for agriculture and fisheries.			
Institutions Involved				
Lead Government Agency: Department of Agriculture				
Coordinating Government Agencies: DENR, DOST, CCC, LGUs, DILG, NEDA				
Activities	Outputs	2011-2016	2017-2022	2023-2028
1.2.1. Integrate and harmonize CLIMATE CHANGE ACTIONS and DRR (Disaster Risk Reduction or Disaster Risk Management or Disaster Risk Reduction & Management) in national and local agriculture and fisheries policies and plans, including the Philippine Development Plan				
a. Review and harmonize existing policies on food production and distribution	Existing policies reviewed and harmonized. (climate-responsive PDP, AFM Plan)	<div></div>	<div></div>	<div></div>
b. Lobby for congress to enact a national land use policy	National land use bill enacted.	<div></div>	<div></div>	<div></div>
c. Conduct of annual CC adaptation planning and budgeting.	Annual CCA plans, targets and budgets for agriculture and fisheries formulated.	<div></div>	<div></div>	<div></div>
d. Complete the delineation of municipal water	Delineation of municipal waters completed	<div></div>	<div></div>	<div></div>
e. Formulate guidelines on reversion of abandoned fishponds back to mangroves	Guidelines formulated and approved.	<div></div>	<div></div>	<div></div>
f. Conduct climate sensitizing/proofing and gender-responsiveness of the Comprehensive National Fisheries Industry Development Plan	Climate- and gender-sensitizing of the CNFIDP conducted and implemented.	<div></div>	<div></div>	<div></div>
g. Harmonize climate change adaptations plans in local resource management and local fisheries development.	CC adaptation in local resource management and local fisheries development harmonized.	<div></div>	<div></div>	<div></div>
h. Regulate commodity shifting and agricultural land conversion	Policy formulated and approved.	<div></div>	<div></div>	<div></div>

National Climate
Change Action Plan
2011-2028

Resilience

refers to the ability of food systems to anticipate, adapt to, and recover from climate shocks and economic disruptions

Immediate Outcome	
2. Enhanced resilience of agriculture and fishing communities from climate change.	
Output Area	
2.1. Enhanced capacity for CCA and DRR of government, farming and fishing communities and industry.	
Indicators	
1100.2.1	No. of farmers and fisherfolk communities trained on adaptation best practices and DRR.
1100.2.2	No. and type of formal curricula and non-formal training programs developed and implemented for agriculture and fisheries.
Institutions Involved	
Lead Government Agency: Department of Agriculture Coordinating Government Agencies: DENR, DOST, CLIMATE CHANGE COMMISSION, DILG, DepEd, CHED, TESDA, Other Partners: Academic and training institutions	

b. Design and implement climate change risk transfer and social protection mechanisms for agriculture and fisheries	Social protection and risk transfer mechanisms designed and implemented			
c. Develop innovative financing mechanisms to provide seed capital for the implementation of CCA among farmers and fisherfolk organizations	Appropriate financing mechanisms developed and implemented			
d. Organize and train farmers and fisherfolk organizations on organizational development and fund management.	Farmers' and fisherfolk organizations trained.			

National Climate Change Action Plan 2011-2028

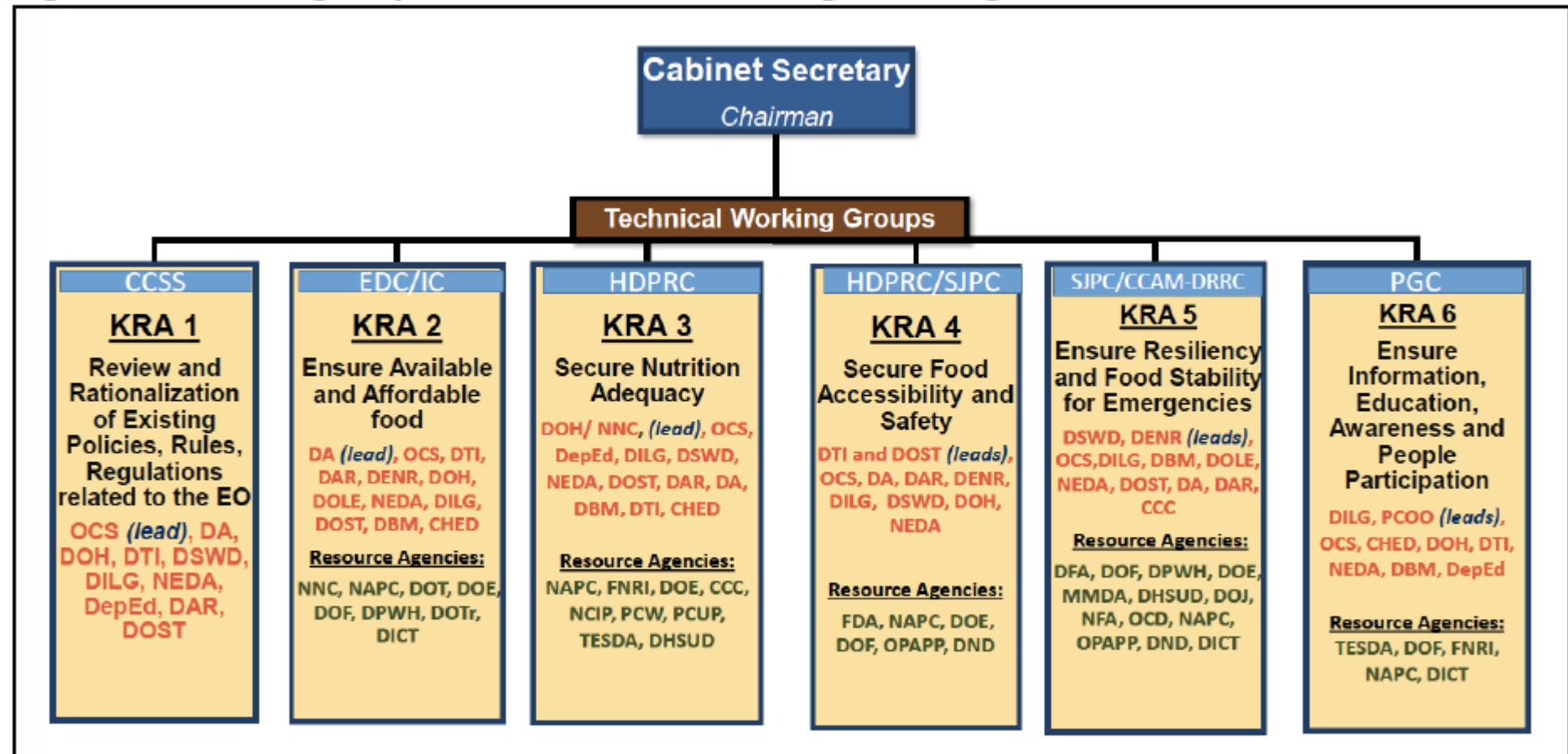
Activities	Outputs	2011-2016	2017-2022	2023-2028
2.1.1. Build the capacity of farming and fishing communities on adaptation and DRR				
a. Improve and expand extension service and agricultural support to highly climate change vulnerable communities and areas	No. of farming and fishing communities reached by extension service.			
b. Conduct CLIMATE CHANGEA and DRR training for farming and fishing communities	No. of fishing and farming communities implementing DRR and CCA			
c. Establish farmers' field school to demonstrate best adaptation practices.	No. of field schools established.			
2.1.2. Integrate CCA and DRR in agriculture and fishery curricula and training programs				
a. Review agriculture and fisheries education and develop climate change -responsive curricula	Climate change -responsive agriculture and fisheries curricula developed.			
b. Develop non-formal training programs on CCA best practices	No. of short courses and non-formal training programs developed and implemented.			

Output Area				
2.2. Enhanced social protection for farming and fishing communities.				
Indicators				
1100.1.1	No. farming and fishing communities with weather-based insurance			
1100.1.2	Increase in the no. of small farmers and fisher folk who are credit worthy.			
Institutions Involved				
Lead Government Agency: Department of Agriculture Coordinating government Agencies: DOST, DSWD, DOF-MDFO, LGUs Other partners: rural banks and financial institutions, NGOs				
Activities	Outputs	2011-2016	2017-2022	2023-2028
2.2.1. Implement risk transfer and social protection mechanisms for agriculture and fishery				
a. Conduct policy study on climate change risk transfer and social protection mechanisms for agriculture and fisheries	Policy studies conducted.			

Resilience

refers to the ability of food systems to anticipate, adapt to, and recover from climate shocks and economic disruptions

Figure 10. Inter-Agency Task Force on Zero Hunger Management Structure



Source of image: IATF-ZN presentation to the 6th National Conference of Nutrition Action Officers Webinar Series: NAOs: PPANalo sa New Normal (October 1, 2020)

Bigger issues and challenges

- Conflict of use (municipal vs commercial, no fishing zones, etc..)
- Lost fishing grounds (due to protection, developments, damaged, poaching, unsettled boundaries – local or international setting, etc..)
- Overfishing
- Pollution
- Lack of livelihood options
- Disasters (eg, climate-induced)

Recommendations

- Provide assistance to municipal fishers during closed fishing seasons, disasters, etc...
- Protect the fishing grounds and the fishery resources
- Maintain diversity of marine habitats and aquatic resources
- Safer homes (especially fishers living in small islands)
- Alternative or supplemental livelihoods
- Empowerment and capability building for fisher's cooperatives or associations
- More scholarship opportunities for fishers' children

Thank you very much!
Doomo arigatoo gozaimasu!
Maraming salamat!

