



SARDINES

FISHERIES MANAGEMENT PLAN

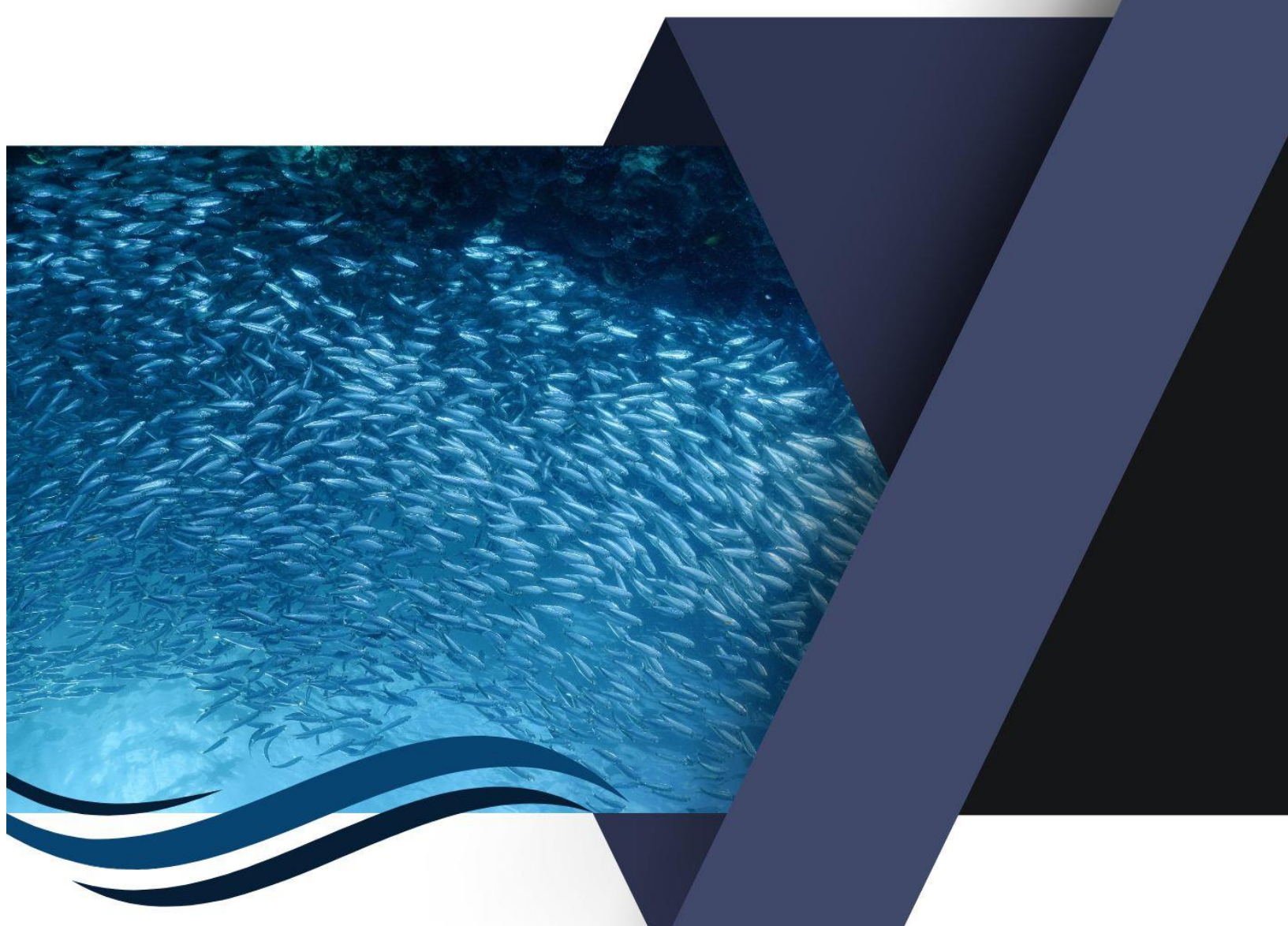


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FOREWORD

Fisheries Management Plan for Sardines in Fisheries Management Area -9 is an evidence-based action plan, developed with input from industry and other stakeholders. They set out a range of policies that detail how fishing is managed, by stock, fishery, or location it is based on the best available science, fisher experience, and policy objectives through participation of our key stakeholders. In addition, FMP identifies problems in a fishery and imposes management measures in the form of fishing regulations designed to correct the problems. The goal of the conservation and management measures is to protect, restore, and promote the long-term health and stability of the fishery.

The collaborative efforts of the Bureau of Fisheries and Aquatic Resources (BFAR), National Fisheries Research and Development Institute (NFRDI), USAID Fish Right, Fisheries Management Area (FMA)- 9 Scientific Advisory Group (SAG) members, the Management Board (MB), the Technical Working Group (TWG), the Secretariat, and the National Stock Assessment Program (NSAP) team are always commendable for this significant endeavor. These efforts ensure that FMA-9 remains true to its mission of increasing fisheries and aquaculture resiliency and production within ecological limits by adopting appropriate, science-based technologies and management systems, as well as through gender-responsive and socially inclusive policies, programs, and projects.

This Fisheries Management Plan (FMP) for sardines and other associated small pelagic species in FMA-9 will aid the decision makers in crafting and review of policies.

This Plan brings pride to our institution and our sincerest appreciation to the FMA-9 Family.

DEFINITION OF TERMS

Harvest Control Rules: The pre-agreed rules to manage the fisheries and to achieve the management objectives

Harvest Control Measures: The sets of specific actions and strategies to accomplish the HCR.

Overfished: A stock with a biomass below the biomass limit reference point.

Overfishing: A stock is experiencing too much fishing and the removal rate from the stock is unsustainable.

Performance Indicators: The pre-identified values to assess the state of individual fisheries in terms of ecological, economic and social status.

Reference Point: The benchmarks that scientists and managers use to compare the status of a stock or fishery to a desirable (or undesirable) state.

Stock: A functionally discrete population of species that is largely distinct from other populations of the same species. Such a population may be regarded as a separate entity for management or assessment purposes.

ACRONYMS

BFAR	Bureau of Fisheries and Aquatic Resources
NFRDI	National Fisheries Research and Development Institute
SAG	Scientific Advisory Group
TWG	Technical Working Group
NSAP	National Stock Assessment Program
FMA	Fisheries Management Area
RP	Reference Point
PI	Performance Indicator
HCR	Harvest Control Rule
HCM	Harvest Control Measure
HS	Harvest Strategy
BN	Bagnet
RN	Ring net
PS	Purse seine
BS	Beach seine
BSGN	Bottom set gillnet
DGN	Drift gillnet
SGN	Surface gillnet
MHL	Multiple Hook and Line
SHL	Single Hook and Line
SESA	Strategic Environmental and Social Assessment
LRP	Limit Reference Point
TRiP	Trigger Reference Point
TRP	Target Reference Point
PSA	Philippine Statistics Authority
MT	Metric Tons

SARDINE FISHERIES PROFILE

Biology

Sardines are schooling fish in the Clupeidae family, found in both the Atlantic and Pacific Oceans, as well as the Mediterranean and Indian Oceans. They typically grow to 15-23 cm in length and have a streamlined, silver-colored body. They are known to be microplanktivores but have species specific food habits that they exhibit. Sardines also employ 2 feeding modes, filter-feeding to capture smaller prey and particulate feeding to ingest larger prey items (Nikolioudakis et al., 2012; Rumolo et al., 2016) depending on the prevailing prey size on their environment.

Ecology and Habitat

In the Western Central Pacific there are a total 37 species of Clupeids, 17 of these can be found in Philippines waters (Labaria et. al., 2021). Sardines in the Philippines form shoals in coastal waters over the continental shelf where depth is less than 200 m (Bognot et.al., 2011). Sardines have an estimated trophic level of 2.55 to 2.74 depending on life-stage, positioning them just above primary producers, which they graze on (Metillo et.al., 2018).

In the marine system, sardines are located at the base of food webs that supports pelagic tuna and mackerel, as well as numerous seabirds and marine mammals. Philippine sardine biodiversity is among the highest in the world and includes the only known freshwater sardine species (Willette, 2014) and recently discovered species endemic to the Philippines (Hata et.al., 2019).

It has been observed that in areas of the Philippines where there is high landing of sardines, there is also a high rate of primary productivity suggesting that there are numerous suitable sardine-supporting habitats in the country (Bognot, et.al., 2011). In Bohol Sea, a high primary productivity has been observed in Northern Mindanao (Villanoy et.al., 2011) and is coincidentally one of the major fishing grounds for sardines (Campos et.al., 2017).

Major *Sardinella lemuru* fisheries in Northern Mindanao are divided in 2 regions namely Northern Zamboanga Peninsula and Northern Mindanao Region. Recent studies in the genetic variation of *S. lemuru* have shown that populations in both major regions, although exhibiting distinct local adaptive variation, have high gene flow and likely demographic connectivity among *S. lemuru* populations (Labrador et.al., 2022).

Status of sardine stock

In the Philippines, many of the nation's fishing grounds are overfished as evident from decreasing CPUE despite expanding fishing fleets and effort (FAO 2010, Olano et.al., 2009a, Olano et al. 2009b, Rueca et.al., 2009) and the fact that mean standard length of several species is less than that at first maturity (Guanco et.al., 2009). Fishing pressure exceeded sustainable levels for the resource as early as the 1970s (Pauly, 2004) and stock assessments have had bold recommendations to reduce fishing pressure by half to maintain the viability of small pelagic fisheries (Zaragoza et.al., 2004). Based on data from NSAP, sardines in FMA-9 have been reported to be under heavy fishing pressure with stocks of *S. gibbosa* and *S. lemuru*. Evidence of over-exploitation is derived from Performance Indicators (PIs): the percentage of matured individuals and the current biomass relative to virgin biomass (Bc/Bo). The total length data of captured sardines indicate that 95% of the catch were currently below the first maturity, meaning most of the fish being caught are juveniles. In

addition, analysis using updated data tools shows that the current biomass of the species is at 0.05%, breaching the Limit Reference Points (LRP). With this, the current biological status of our sardines come from increased fishing pressure in the Bohol Sea. This issue can be addressed by focusing on identifying natural variance levels and assessing the extent of variance attributable to anthropogenic pressures, particularly overfishing.

At present, it is determined by the NSAP researchers that sardine stocks are gradually declining from the past years in FMA-9. The risk that such a decline might pose to the sustainability of the sardine fishery has led to a recommendation for reduction in fishing effort and, therefore, of fishing mortality.

Fishing ground and Sardines Contribution

The FMA-9 is one of the leading FMAs in sardine fisheries production, contributing 51% to the capture fisheries sector (NSAP, 2023) (*Figure 1*). The sardine industry, according to the Philippine Statistics Authority (PSA), consistently yields an average volume of 355 metric tons (MT), with a corresponding value of 10.45 billion pesos. Due to the affordability and abundance of sardines, this industry plays a significant role in advancing food security goals in the fisheries sector.

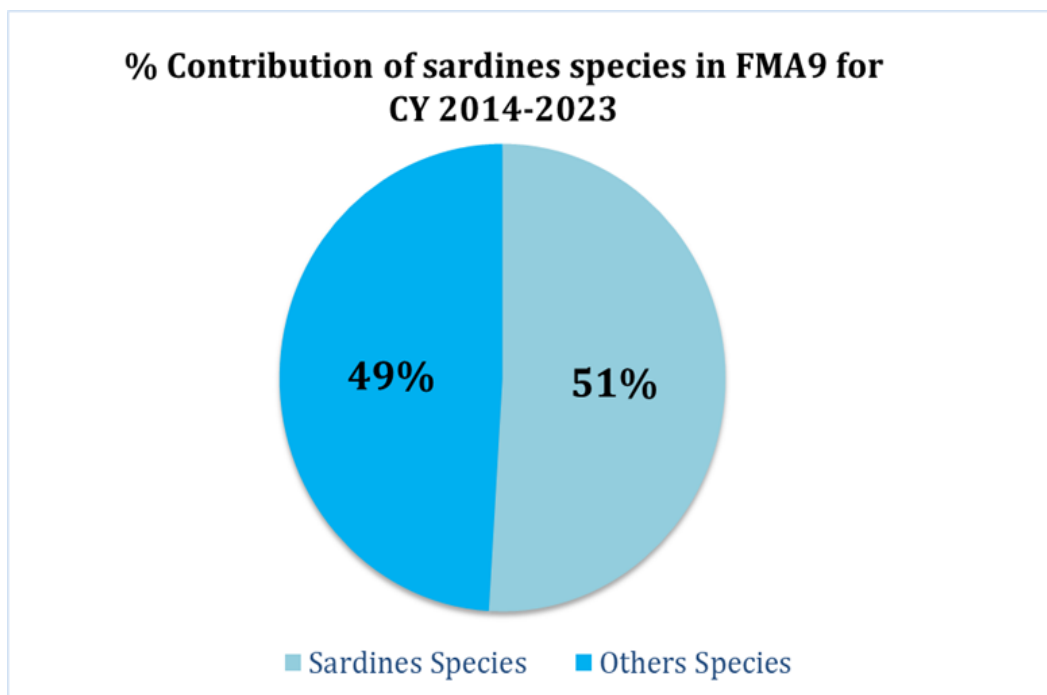


Figure 1. Percent contribution of sardine species in FMA-9 for CY 2014-2023.

Bohol Sea is a deep-water fishing ground that is characterized by five (5) regions with eleven (11) provinces, bordered by sixteen (16) bays, and comprises x coastal barangays (*Figure 2*). Among these coastal barangays there are x landing centers wherein 67 of these landing centers are monitored and identified to have sardine species catch (*Figure 3*) by the NSAP.

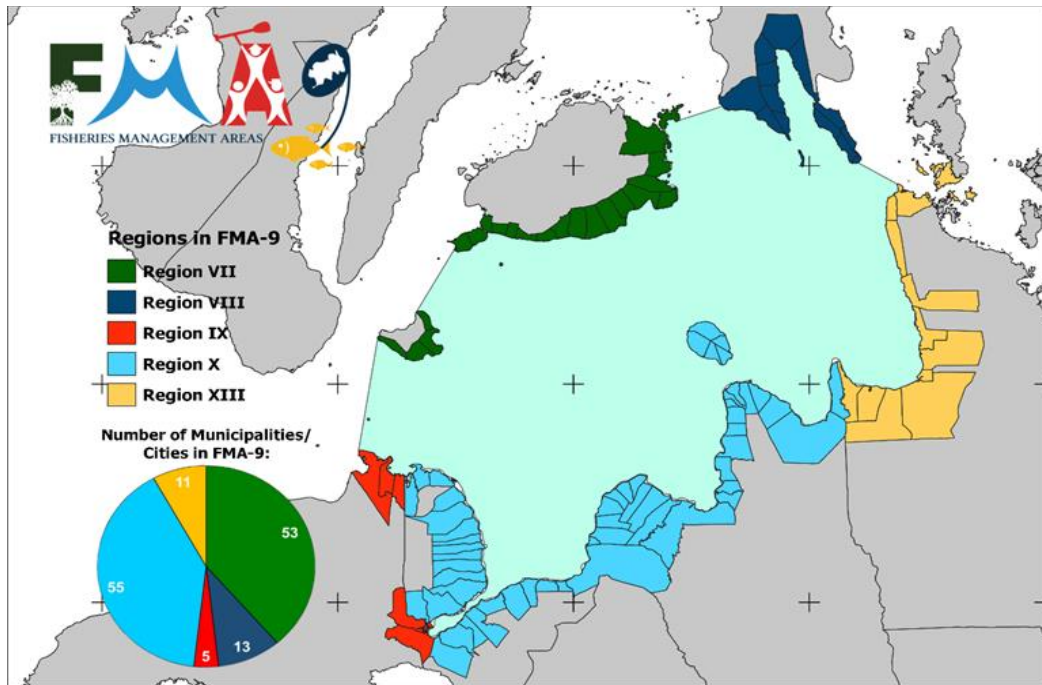


Figure 2. The Fisheries Management Area (FMA)- 9.

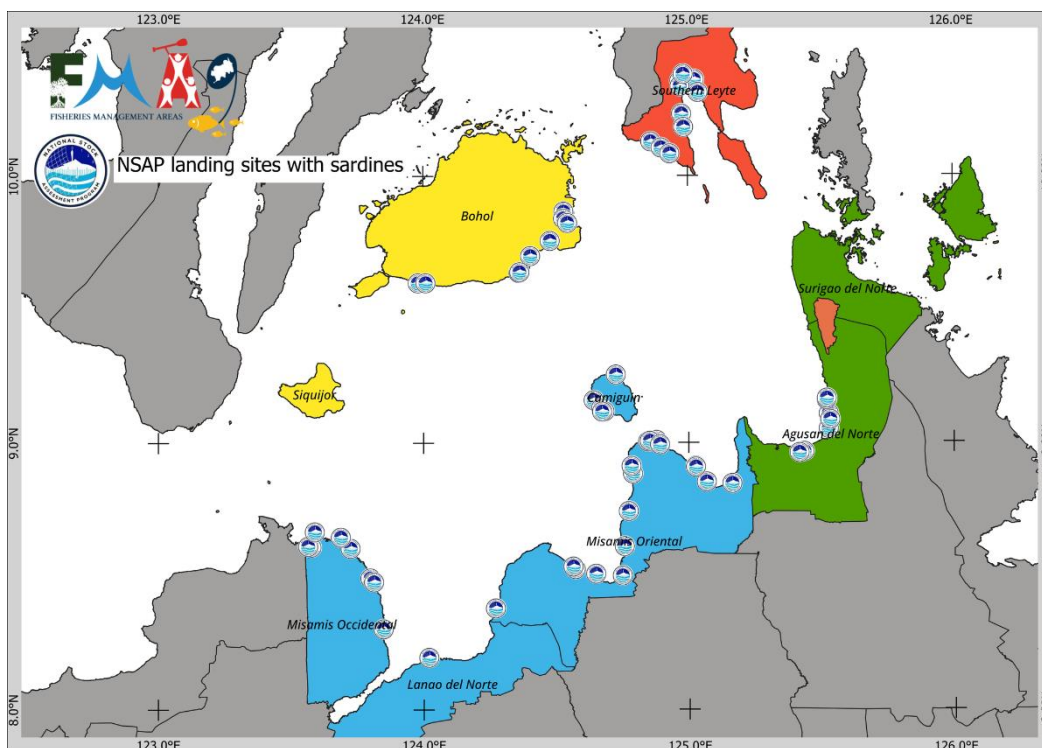


Figure 3. NSAP landing centers with sardine species in FMA-9.

As the key government program to monitor Philippine fisheries, the NSAP recognize that there are six (6) species of sardines in FMA-9 (**Table 1**) wherein two (2) major sardine species dominates the highest capture was recorded, namely *Sardinella lemuru* or locally known as “Tamban” and *Sardinella gibbosa* or locally known as “Tamban-tuloy” (*Figure 4*).

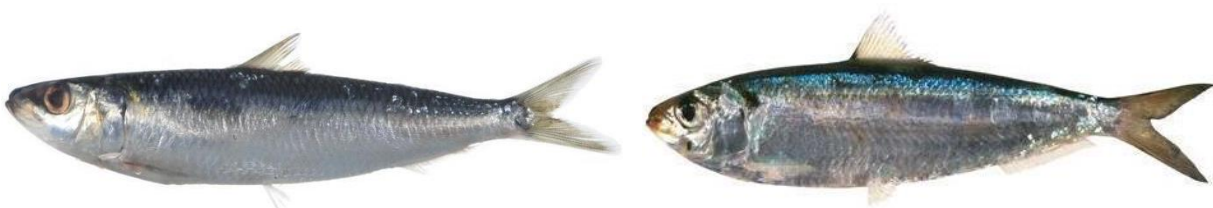


Figure 4. *Sardinella lemuru* (Bali Sardine, Tamban-tuloy the main species in the catch) and *Sardinella gibbosa* (Goldstriped Sardine, Tamban-tunsoy).

In addition, Bagnet and Ring net gears contributed the highest catch of sardine's species with 277,658,443.35 Kg and 33,008,234.51 Kg landed catch for the past five (5) years was recorded, respectively.

According to Regional Licensing Section (RLS) of BFAR there are **x** registered commercial boats in the entirety of FMA-9 in CY 2023, in which sixty-nine (69) units of Bagnet and one hundred thirty-six (136) units of Ring net where accounted (*Figure 5*). However, there are **x** of Illegal, unreported and unregulated (IUU) fishing practices identified that can weaken efforts to manage fisheries sustainably and threatens food and livelihood security in coastal communities.

Fishing Sector

FMA-9's sardines fisheries capture sector consist of two (2) main types of fishing fleets, the municipal and commercial. 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. Commercial fishing is the taking of fishery species by passive or active gear for trade, business or profit beyond subsistence or sports fishing, classified as follows in Republic Act 10654:

- Small scale commercial fishing – fishing with passive or active gear utilizing fishing vessels of 3.1 gross tons (GT) up to twenty (20) GT;
- Medium scale commercial fishing – fishing utilizing active gears and vessels of 20.1 GT up to one hundred fifty (150) GT; and 3
- Large scale commercial fishing – fishing utilizing active gears and vessels of more than one hundred fifty (150) GT.

Bagnet (BN) and Ring net (RN) gears are identified as the commercial fishing gears, while Drift gillnet as the top municipal gears that captures sardine species (*Figure 5* and *6*). The productivity of FMA-9's sardine fisheries is contributed mainly by the commercial fishing sector with 81% from Bagnet (BN) gears and 9% from Ring net (RN) gears, while municipal gear like Drift gillnet (DGN) contributes 6% and 3% from other municipal gears such as Encircling gillnet (EGN), Surface gillnet (SGN), Multiple hook and line (MHL), etc (*Figure 7*).

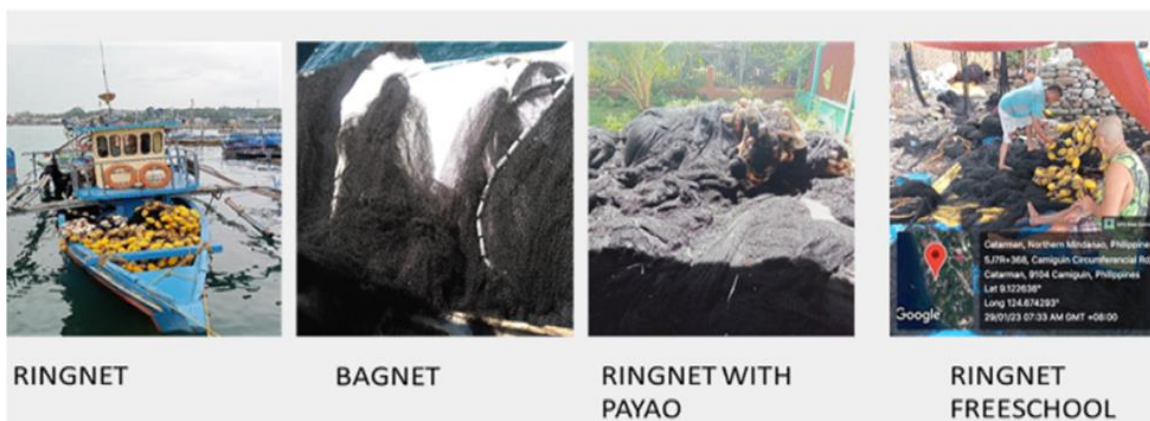


Figure 5. Commercial fishing gears that capture sardine species in FMA-9



Figure 6. Municipal fishing gears that captures sardines species in FMA-9.

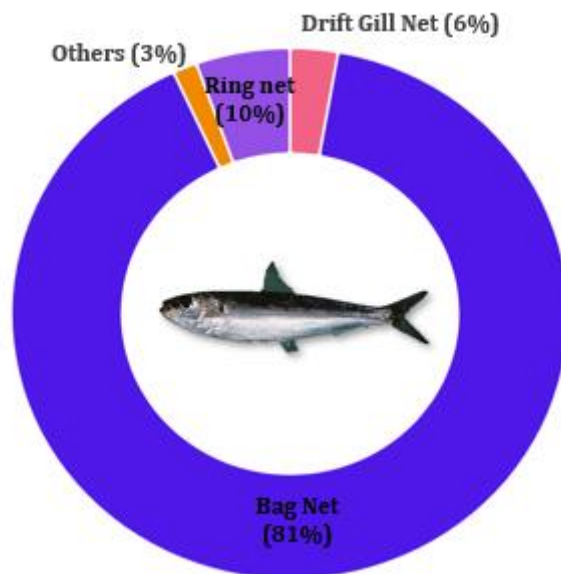


Figure 7. Percent contribution of commercial and municipal fishing gears.

Table 1. Sardine species of in FMA-9







Common Name	Species Name	
Bali sardinella	<i>Sardinella lemuru</i>	
Goldstripe sardinella	<i>Sardinella gibbosa</i>	
Fringescale sardinella	<i>Sardinella pacifica</i>	
White sardinella	<i>Sardinella albella</i>	
Spotted sardinella	<i>Amblygaster sirm</i>	
Rainbow sardine	<i>Dussumieria acuta</i>	

Table 2. Summary of Sardines Fishery and other associated Small Pelagic Species

Gear Type	Region	Province	Major LGUs	No. of Vessels/Boat	Estimated no. of fishers per vessel/ boat	Estimated total no. of fishers	Estimated total no. of fisher (maximum)
Bagnet	CARAGA, Region 7, Region 10	Misamis Oriental Agusan del Norte Bohol	Jasaan, Magallanes Baybayon, Mabini, Bohol Cogtong, Candijay, Bohol Panas, Candija, Bohol	58	8-25	464-1,450	1,450
Ring net	CARAGA, Region 7, Region 8, Region 10	Agusan del Norte, Surigao del Norte SOUTHERN LEYTE Misamis Oriental, Camiguin, Misamis Occidental Bohol	MACROHON MAASIN, SOGOD, MACROHON Opol, El Salvador, Plaridel, Oroquieta, Guinsiliban, Catarman, Baybayon, Mabini, Bohol Canhaway, Guindulman Catulayan, Siquijor, Siquijor Poblacion Ubos Loay	100	15-30	1, 500-3,000	3,000

Encircling Gillnet	CARAGA, Region 7, Region 8, Region 10	Southern Leyte Lanao del Norte Agusan del Norte, Surigao del Norte Bohol	Baroy and Tubod Lanao del Norte Cabadbaran City, Carmen, Jabonga, Magallanes, Tubay, Malimono Alegria Sur, Loay, Bohol Bunga Mar, Jagna Guindulma, Bohol Can-Opao Jagna, Poblacion Ubos Loay Cogtong, Candijay, Bohol	129	2-6	258-774	774
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Drift Gillnet	CARAGA, Region 7, Region 8, Region 10	Agusan del Norte, Surigao del Norte, Lanao del Norte, Misamis Oriental, Misamis Occidental SOUTHERN LEYTE, Bohol	Buenavista, Cabadbaran City, Carmen, Jabonga, Magallanes, Nasipit, Tubay, Malimono, San Francisco, Surigao City Baroy, Lanao del Norte, Balingoan, Sapang Dalaga, Salay, Gingoog City, Opo, Balingasag, Tubod LDN, Talisayan MACROHON and MALITBOG Alegria Sur, Loay, Bohol Poblacion Siquijor Baybayon, Mabini, Bohol Panas, Candijay, Bohol Bunga Mar, Jagna Duero, Bohol Cogtong, Candijay, Bohol Poblacion Ubos Loay	1,119	2-3	2,238-3,357	3,357
Scoop net	CARAGA, Region 7, Region 8	Agusan del Norte, Surigao del Norte SOUTHERN LEYTE, Bohol	Carmen, Jabonga, Magallanes, San Francisco, MACROHON and MALITBOG Alegria Sur, Loay, Bohol Canhaway, Guindulman Duero, Bohol Cogtong, Candijay, Bohol Catulayan, Siquijor, Siquijor Panas, Candijay, Bohol	215	13-15	2,795-3,225	3,225

KEY ISSUES AND CHALLENGES

Ecological

1. Declining fish biomass at 5% for *Sardinella lemuru* and 6% for *Sardinella gibbosa*;
2. 95% of sardine species caught were Juveniles;
3. Lack of baseline data to support the establishment of protected sardine spawning and nursery grounds;
4. Degraded marine ecosystem (siltation, water pollution/declining water quality/microplastics); and
5. Climate change-related hazards.

Human well-being

1. IUU fishing (e.g. indiscriminate harvesting of juvenile sardines, use of obnoxious chemical/ substances in fishing);
2. Low income (Low catch/ Inconsistent fish catch);
3. Loss of income from fishing;
4. Limited access to alternative livelihood;
5. Lack/limited available post-harvest facilities not only for sardines but to other commodities;
6. Lack/limited incentives/ subsidy for sustainable fishing practices (e.g. shift from IUUF to sustainable fishing);
7. Limited access to financial institutions for the affected fisherfolk;
8. Lack/weak presence of Fisherfolk Cooperative;
9. Lack/Limited skills (marketing);
10. Fish loss and wastage; and
11. Fisherfolk vulnerable to Climate change-related hazards.

Governance

1. Lack of political will;
2. Lack of support to fishery community and sector;
3. Inadequate and inconsistent fisheries policies;
4. Weak institutionalized partnerships;
5. Inefficient CLE (RA10654);
6. IUU fishing;
7. Lack of water assets;
8. Lack of public database for the registration of boat (Commercial and Municipal);
9. Lack of Fisheries-focused personnel in the LGUs;
10. Lack of sustained IEC at the LGUs;
11. Weak enforcement of management plans in MPAs;
12. Insufficient knowledge of fisheries policies among law enforcers;
13. Corruption/bribery;
14. Conflict between stakeholders (Commercial and Municipal);
15. Fisheries program given less priority among LGUS; and
16. Insufficient funds allocated to fisheries.

LEGAL AND GOVERNANCE FRAMEWORK

The fisheries management in the Philippines is anchored through the implementation of the Ecosystem Approach to Fisheries Management (EAFM) that seeks to balance ecological and socio-economic concerns through good governance. In the past, fisheries management was focused primarily on maintaining biological sustainability to ensure that the maximum harvest could be extracted in the most economically efficient manner possible (Anderson and Seijo, 2011; Finley, 2011; Giron-Nava et al., 2018; Munro and Scott, 1985; Punt and Smith, 2001). Currently, governments, civil society organizations, community-based groups, and institutions are actively working together to create and manage fisheries that aim to both support ecological sustainability and improve ecological and human well-being outcomes (Anderson et al., 2015; Hobday et al., 2016; Kittinger et al., 2017; Stephenson et al., 2018).

The BFAR has explicit national fisheries policies, fisheries management strategies and developed management plans to address the ecological and socio-economic or human well-being objectives and is undertaking management measures anchored through EAFM. Pursuant to the Philippines Fisheries Code of 1998, RA 8550 as amended by RA 10654, Section 4 (54) emphasizes the creation of Harvest Control Rules (HCRs) as actions or set of actions to be taken to achieve a medium- or long-term Target Reference Point (TRP) while avoiding reaching or breaching a Limit Reference Point (LRP). Also, the Fisheries Administrative Order (FAO) no. 263 that highlights the establishment of Fisheries Management Areas (FMA) in the country to provide science-based, participatory and transparent governance framework and mechanism to sustainably manage the fisheries in such areas. Lastly, the National Sardines Management Plan (NSMP) that aims for a sustainable and equitably shared sardine fishery that enhances food security and income. It intends to provide guidance for the coordinated management of sardines in different FMAs, incorporating reference points, harvest control rules, and appropriate measures in accordance with the Amended Fisheries Code.

In the FMA - 9 an FMP of sardines is being formulated to address the issues and challenges of the sardine fisheries and fishers in the area. This will be the science-based policy basis for guiding the authorities as well as stakeholders in sustainable management of the sardine fisheries and shall be cited as “Rules and Regulation on the Conservation and Management of Sardines in Fisheries Management Area (FMA) – 9”.

Fishery to which the plan applies

The NSAP serves as the primary science data provider of FMA-9 wherein it was identified that the Bagnet and Ring net fisheries contribute 81% and 9% respectively of the sardines landed catch. In addition, the FMP of sardines applies to the class of commercial fisheries identified as sardine fishers in Bohol Sea (FMA-9 areas) that uses the Bagnet and Ring net gears. Additionally, the plan primarily targets the two (2) sardine species in FMA-9: *S.lemuru* and *S.gibbosa*.

Term of plan

The FMP for Sardines applies from October of CY 2024 for a period of 15 years. A comprehensive review of this fisheries management plan will be undertaken as soon as practicable after the fifth anniversary of the commencement of this plan to determine whether it should be amended, replaced or reinstated without amendment.

VISION

A sustainable, resilient and equitably-shared sardine fishery in FMA-9 that contributes to food security and socio-economic upliftment through responsible management.

MANAGEMENT GOALS

Ecological well-being/Pang kina-iyahan: (2035)

- Improved ecosystem resilience that supports sustainability of sardine fishery.

Human well-being/Pang kataw-han: (2035)

- Develop/enhance positive behavioral and psychosocial well-being among fishers and increase economic benefits of fishing households.

Governance/Panga-gamhanan: (2035)

- Science-based and dynamic sardine fishery governance that is transparent, accountable, equitable, participatory, inclusive and holistic.

MANAGEMENT OBJECTIVES

Ecological/Pang kina-iyahan: (2035)

1. Increase current biomass of sardines to 10% by 2030;
2. Increase current percent mature of sardines to 50% by 2030;
3. Identify and protect sardine nursery and spawning grounds by 2030;
4. Fifty percent (50%) of managed stocks (small pelagic species) moving towards the target RPs by 2029;

Human well-being/Pang kataw-han: (2035)

1. To increase CPUE by 50% in 5 years;
2. To provide fishers with sustainable alternative livelihoods, including non-fishing livelihoods within the next 5 years (particularly affected sardines fishers by the 2-3 months sardines closed fishing season);
3. To empower sardine stakeholders to sustainable fisheries management by 2030.
4. To increase household income of the sardines and other associated small pelagic species fishers by 3% annually starting in 2025.

Governance/Panga-gamhanan: (2035)

1. Implement management actions based on agreed Harvest Control Rules to meet the reference points and management objectives;
2. Increase holistic participation in governance of sardine stakeholders;
3. Emphasize roles and responsibilities of Local Government Units (LGUs) in the implementation of FMP;
4. Develop capacity of sardine stakeholders in ecosystem-based governance.

MANAGEMENT ACTIONS, IMPLEMENTATION ARRANGEMENTS, AND SOCIAL AND ENVIRONMENTAL RISK MEASURES

<u>MANAGEMENT ACTION/S</u>		<u>ACTIVITIES</u>	<u>RESPONSIBLE PERSON / AGENCY</u>	<u>TIMELINE</u>	<u>E&S RISKS/IMPACTS</u>	<u>RISK CATEGORY</u>	<u>MITIGATING MEASURES</u>	<u>RESIDUAL RISK CATEGORY</u>
<u>POLICY DEVELOPMENT</u>	Moratorium of new commercial fishing vessels	1. MB approval and adoption of the FMP 2. Drafting of the FAO with consolidated management measures 3. Consultation of the draft FAO 4. Approval of the FAO and publication 5. Adoption of the relevant provisions of the FMP and FAO in the LGU ordinances, CRM, and other local plans	TWG - PPPF	Q4 / 2024	Failure of FMP implementation due to politically inclined decision making considering the possible change of local leadership after election.	12	BFAR to intensify its public awareness and education through IEC: conduct of awareness campaigns, stakeholders' engagement consultations, and public education about the importance of consistent implementation of fisheries regulations.	6
					LGUs may not abide to the moratorium policy	6	BFAR to lobby to the municipal council to support the implementation of the moratorium policy	4

						facing the IUU fishing.	
						Establish Inter-Agency Coordination, ensure strong coordination mechanisms among various government agencies and levels of government to confirm aligned and unified enforcement of regulations.	
				Potential loss of Revenue: Possible Local Government Units (LGUs), NGAs and the like, could experience a loss of revenue from taxes,	6	Concerned LGUs/BFAR should create revenue diversification and encouraged investment in developing alternative industries, such	3

				licenses, and fees associated with commercial fishing activities.		as eco-tourism, agribusiness.	
				Loss of Job Opportunities : The moratorium could lead to loss of job opportunities in sectors directly or indirectly linked to fishing activities.	9	Introduce alternative livelihood programs, provide trainings and other income-generating activities such as aquaculture, handicrafts, or eco-tourism.	6
						Creating temporary jobs in conservation projects, habitat restoration, or community services during the closed season.	

	Closed fishing season	<p>1. MB approval and adoption of the FMP 2. Drafting of the FAO with consolidated management measures 3. Consultation of the draft FAO 4. Approval of the FAO and publication 5. Adoption of the relevant provisions of the FMP and FAO in the LGU ordinances, CRM, and other local plans</p>	TWG - PPPF	Q4 / 2024	Possible price fluctuations, shortages, and increased costs of commodities among consumers.	6	LGUs/BFAR to explore other alternative protein sources. Promotes the consumption of alternative protein sources to reduce the demand for seafood and stabilize prices.	3
						6	BFAR and LGU to explore more land-based alternative livelihood/enterprise.	
					<i>Interference of Supply Chains:</i> Potential disruption of existing seafood supply chains, particularly in areas/ Municipalities where they are heavily reliant on fishing activities.	6	LGUs/BFAR should promote aquaculture and encourage the development and expansion of aquaculture farms to provide an alternative source of seafood during the closed season.	

						6	BFAR to create linkages among alternative livelihoods, existing enterprises and fisheries infrastructures towards effective implementation of the Aqua-industrial Business Corridor (ABC). This will serve as support to the affected fisherfolks and other beneficiaries.	
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				<p>Potential loss of Revenue: Possible Local Government Units (LGUs), NGAs and the like, could experience a loss of revenue from taxes, licenses, and fees associated with commercial fishing activities.(This will directly affect the economic/income generation of crews and the individual fisherfolks who will be directly affected by the closed fishing season).</p>	6	<p>Concerned LGUs/BFAR should create revenue diversification and encouraged investment in developing alternative industries, such as eco-tourism, agribusiness.</p>	3
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						of the close season policy.	
					Stakeholders/fisherfolk and potential commercial operators may not abide the close season policy.	BFAR to conduct a series of stakeholders consultation (provincial <i>Talakayan</i> and other community consultation activities).	6
						LGU to strictly implement the adapted ordinance on close season policy of new fishing vessel registration.	
				Possible fisherfolk social tension resulting to mass demonstrations, grievances, and even resorting to increase in IUU fishing		LGUs/BFAR should complement and harmonize its regulations. Working towards harmonizing national, regional, and	3

							<p>local ordinances to create a consistent legal framework for facing the IUU fishing.</p>	
							<p>Establish Inter-Agency Coordination, ensure strong coordination mechanisms among various government agencies and levels of government to confirm aligned and unified enforcement of regulations.</p>	
							<p>BFAR/LGU to conduct values formation seminar for affected fisherfolks re;organization diagnosis, management operation.</p>	

							BFAR to intensify its public awareness and education through IEC: conduct of awareness campaigns, stakeholders engagement consultations, and public education about the importance of consistent regulation implementation and the negative impacts of IUU fishing.	
Reduced Fishing Days	<ol style="list-style-type: none"> 1. MB approval and adoption of the FMP 2. Drafting of the FAO with consolidated management measures 3. Consultation of the draft FAO 4. Approval of the FAO and publication 5. Adoption of the 	TWG - PPPF	Q1 / 2025	Possible price fluctuations, shortages, and increased costs of commodities among consumers.	6	LGUs/BFAR to explore other alternative protein sources. Promotes the consumption of alternative protein sources to reduce the demand for seafood and stabilize prices.	3	

	<p>relevant provisions of the FMP and FAO in the LGU ordinances, CRM, and other local plans</p>					<p>BFAR and LGU to explore more land-based alternative livelihood/enterprise.</p>	
				<p><i>Interference of Supply Chains:</i> Potential disruption of existing seafood supply chains, particularly in areas/ Municipalities where they are heavily reliant on fishing activities.</p>	9	<p>LGUs/BFAR should promote aquaculture and encourage the development and expansion of aquaculture farms to provide an alternative source of seafood during the closed season.</p>	6
						<p>BFAR to create linkages among alternative livelihoods, existing enterprises and fisheries infrastructures towards effective implementation of the Aqua-industrial Business</p>	

				affected by the closed fishing season).		
				Conflict and Tension: This could intensify within existing conflict and tensions between fishing communities, particularly in Municipalities with overlapping claims or limited resources.	9	LGUs/BFAR should emplaced the FishCORE Grievance Redress System (GRS) by establishing the local committees or mediation groups to address disputes and ensure fair access to resources.
						6

						LGU to strictly implement the adapted ordinance on close season policy of new fishing vessel registration.	
				Possible fisherfolk social tension resulting to mass demonstrations, grievances, and even resorting to increase in IUU fishing	6	LGUs/BFAR should complement and harmonize its regulations. Working towards harmonizing national, regional, and local ordinances to create a consistent legal framework for facing the IUU fishing.	3
						Establish Inter-Agency Coordination, ensure strong coordination mechanisms among various government agencies and	

						<p>levels of government to confirm aligned and unified enforcement of regulations.</p> <p>BFAR to intensify its public awareness and education through IEC: conduct of awareness campaigns, stakeholders engagement consultations, and public education about the importance of consistent regulation. implementation and the negative impacts of IUU fishing.</p>	
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Elimination of IUU	<ol style="list-style-type: none"> 1. MB approval and adoption of the FMP 2. Drafting of the FAO with consolidated management measures 3. Consultation of the draft FAO 4. Approval of the FAO and publication 5. Adoption of the relevant provisions of the FMP and FAO in the LGU ordinances, CRM, and other local plans 	TWG - PPPF	Q1 / 2025	<p>Conflict and Tension: This could intensify within existing conflict and tensions between fishing communities, particularly in Municipalities with overlapping claims or limited resources.</p>	9	<p>LGUs/BFAR should emplaced the FishCORE Grievance Redress System (GRS) by establishing the local committees or mediation groups to address disputes and ensure fair access to resources.</p>	6
						<p>Community engagement and education, conducting awareness campaigns to explain the benefits of the closed season and how it helps in the long-term sustainability of fish stocks.</p>	
					<p>LGUs may not abide policies and regulations relating to IUU elimination.</p>	6	<p>BFAR to lobby to the municipal council to support the implementation</p>

						of policies and regulations relating to IUU elimination.	
				Stakeholders/fisherfolk and potential commercial operators may not abide policies and regulations relating to IUU elimination.	6	BFAR to conduct a series of stakeholders consultation (provincial <i>Talakayan</i> and other community consultation activities).	3
			LGU to strictly implement the adapted ordinance on close season policy of new fishing vessel registration.				
			LGUs/BFAR should complement and harmonize its regulations. Working towards harmonizing national, regional, and				

						BFAR to intensify its public awareness and education through IEC: conduct of awareness campaigns, stakeholders engagement consultations, and public education about the importance of consistent regulation implementation and the negative impacts of IUU fishing.	
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<u>LIVELIHOOD INTERVENTION</u>	Closed fishing season	<p>Achieve Sustainable livelihood Assessment:</p> <p>a. Identify sardine fishers</p> <p>b. Deposit gear / surrender gear in exchange for cash for gear/ cash for work</p> <p>c. Household affected will receive incentives</p> <p>d. Nature based solutions</p> <p>e. Provide Food Stub / Food packs during closed season for sardine fishers</p> <p>f. Strengthen CSO through Capacity Building</p> <p>g. Basic accounting, bookkeeping for non accountant</p> <p>h. Create manual of operation as guide for implementation</p> <p>Value formation :</p>	<p>BFAR RPIU9/FCUs/ TWG</p>	<p>Q1 / 2025</p>		<p>6</p>	<p>LGU/ BFAR to ensure direct guidance among POs and conduct capacity building and training sessions to help individuals develop new skills that can be utilized in other sectors. Provision of alternative Livelihood Programs, trainings and other income-generating activities such as aquaculture, handicrafts, or eco-tourism.</p>	<p>3</p>

	<p>a. Organization Diagnosis b. Management Operation c. Mainstreaming management plan to conduct regular capacity building d. Commercial fish workers/crew introduce to TUPAD and other government assistance</p>		<p>affected fisherfolks/bene ficiaries.</p>		<p>BFAR to lobby among LGUs the prioritization of directly affected fisherfolks/bene ficiaries in terms of provision of alternative livelihoods/ente rprises and other intended projects/suppor t.</p>	
			<p>Labor displacement, fisherfolks who previously engaged in fishing activities will seek alternative livelihoods. This will create income losses, and possible job restriction which will create high competition for jobs in other sectors.</p>	<p>9</p>	<p>Encouraging fisherfolk to deposit gear/surrender gear in exchange for cash for gear/cash for work. LGUs/ BFAR to link with DOLE in creating temporary employment (TUPAD) opportunities, such as community services during the closed</p>	<p>6</p>

						season.	
						LGUs/ BFAR must provide financial assistance and other support services thru livelihood projects, that will help cope their temporary loss of income.	
						LGU/BFAR to identify and provide alternative livelihood opporutnities with binding agreement such as post harvest related	

					<p>livelihood, shell crafting (ie not listed to CITES and IUCN red list), eco-tourism, aqua farming, cash for work (coastal clean-up, mangrove planting etc).</p> <p>Strengthen affected fisherfolk through capacity building (basic accounting, book keeping, etc)</p> <p>LGU to provide of food stub food packs during close season among affected sardine fishers.</p> <p>LGU/BFAR to link with TESDA for skills training (Technical Vocational) to capacitate unskilled</p>	
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					fisherfolk beneficiaries.	
					LGUs/BFAR to link further support with other NGAs that promote Social Safety Nets such as PANTAWID PAMILYA PROGRAM, Sustainable Livelihood Programs, and scholarship programs for affected fisherfolk families.	
				<i>Interference of Supply Chains:</i> Potential disruption of existing seafood supply chains, particularly in areas/ Municipalities where they are heavily reliant	3	2

					<p>on fishing activities which may result to high demand and price of commodity which becomes unaffordable/un accessible to low income household.</p>		<p>the closed season.</p> <p>BFAR to create linkages among alternative livelihoods, existing enterprises and fisheries infrastructures towards effective implementation of the Aqua-industrial Business Corridor (ABC). This will serve as support to the affected fisherfolks and other beneficiaries.</p>	
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	<p style="text-align: center;">Reduced Fishing Days</p>	<p>Provision and identification of alternative livelihood opportunities (with binding agreement) <i>Provide the following:</i></p> <ul style="list-style-type: none"> a. Post Harvest Training b. Shell-crafting (IE not listed to CITES and IUCN Red List) c. Cash for work (coastal clean-up, mangrove planting) d. Training on Tourism and Aquafarming e. Scholarship Programs f. Provision of food packs, cash for work and financial assistance as immediate response during the Reduced Fishing Days 				
			<p>Lack of guidance and involvement of LGUs/BFAR among fisherfolks organization with reference to the formulation of their policy and by-laws, social preparedness and others.</p>	3	<p>LGUs/ BFAR to ensure direct guidance among POs and conduct capacity building and training sessions to help individuals develop new skills that can be utilized in other sectors. Provision of alternative Livelihood Programs, trainings and other income-generating activities such as aquaculture, handicrafts, or eco-tourism.</p>	2
			<p>Favoring indirect beneficiaries over directly</p>	3	<p>BFAR/LGU to identify sardine fishers and other fisherfolk.</p>	2

	<p><i>Conduc the following:</i></p> <p>a. Focused Group Discussions</p> <p>b. Identify support activities (social preparation, financial literacy program, capacity building) c.</p> <p>Establishment of storage of surplus catch (using cold storage) for identified municipalities</p>
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affected fisherfolks/beneficiaries.		BFAR to lobby among LGUs the prioritization of directly affected fisherfolks/beneficiaries in terms of provision of alternative livelihoods/enterprises and other intended projects/support.	
Labor displacement, fisherfolks who previously engaged in fishing activities will seek alternative livelihoods. This will create income losses, and possible job restriction which will create high competition for jobs in other sectors.	6	Encouraging fisherfolk to deposit gear/surrender gear in exchange for cash for gear/cash for work. LGUs/ BFAR to link with DOLE in creating temporary employment (TUPAD) opportunities, such as community services during the closed	3

					season.	
					LGUs/ BFAR must provide financial assistance and other support services thru livelihood projects, that will help cope their temporary loss of income.	
					LGU/BFAR to identify and provide alternative livelihood opporutnities with binding agreement such as post harvest related	

					<p>livelihood, shell crafting (ie not listed to CITES and IUCN red list), eco-tourism, aqua farming, cash for work (coastal clean-up, mangrove planting etc).</p> <p>Strengthen affected fisherfolk through capacity building (basic accounting, book keeping, etc)</p> <p>LGU to provide of food stub food packs during close season among affected sardine fishers.</p> <p>LGU/BFAR to link with TESDA for skills training (Technical Vocational) to capacitate unskilled</p>	
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					fisherfolk beneficiaries.	
					LGUs/BFAR to link further support with other NGAs that promote Social Safety Nets such as PANTAWID PAMILYA PROGRAM, Sustainable Livelihood Programs, and scholarship programs for affected fisherfolk families.	
				<i>Interference of Supply Chains:</i> Potential disruption of existing seafood supply chains, particularly in areas/ Municipalities where they are heavily reliant	3	2

				<p>on fishing activities which may result to high demand and price of commodity which becomes unaffordable/un accessible to low income household.</p>		<p>the closed season.</p> <p>BFAR to create linkages among alternative livelihoods, existing enterprises and fisheries infrastructures towards effective implementation of the Aqua-industrial Business Corridor (ABC). This will serve as support to the affected fisherfolks and other beneficiaries.</p>	
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	Elimination of the IUU		BFAR RPIU9/FCUs/ TWG	Q1-2025 Favoring fishers who have direct relationship with government officials	6	BFAR to lobby among LGUs the prioritization of law-abiding fisherfolks/beneficiaries in terms of provision of alternative livelihoods/enterprises and other intended projects/support. Encouraging fisherfolk to deposit gear/surrender gear in exchange for cash for gear/cash for work. LGUs/ BFAR to link with DOLE in creating temporary employment (TUPAD) opportunities, such as community services during the closed	3
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						season.	
						LGUs/ BFAR must provide financial assistance and other support services thru livelihood projects, that will help cope their temporary loss of income.	
						LGU/BFAR to identify and provide alternative livelihood opporutnities with binding agreement such as post harvest related livelihood, shell	

							LGUs/BFAR to link further support with other NGAs that promote Social Safety Nets such as PANTAWID PAMILYA PROGRAM, Sustainable Livelihood Programs, and scholarship programs for affected fisherfolk families.	
Enforcement	Closed fishing season	<p>a. Synchronize conduct of monitoring, control, and surveillance/joint seaborne operations & market landing and checkpoint (i.e., IFLET)</p> <p>b. Deputation of integrated fisheries law enforcement team (IFLET)</p> <p>c. Continuous strengthening of</p>	BFAR RPIU9/FCUs/ TWG	Q1-2025	<i>Enforcement Challenges:</i> Insufficient financial/resources to maintain and sustain effective law enforcement.	9	LGUs/BFAR must initiate collaboration and partnerships, partnering with non-governmental organizations, other national law enforcement agencies, and to the neighboring Municipalities to share resources,	6

		<p>ordinance to support enforcement</p> <p>g. Collection of funds through alliances</p> <p>Operational Plan</p> <p>h. Create Manual of Operation for Alliances</p> <ul style="list-style-type: none"> -Supported by 5 years operational plan -Role in managing the resources -Consider as sub FMA for harmonize fmp <p>i. Issuance of mission order by bay wide through synchronize law enforcement</p> <p>j. Incorporating the provision on granting of honorarium of bantay dagat</p> <p>k. Giving of commendation during fish conservation month</p>			<p>Inability of BFAR/LGUs and other law enforcement agencies (PCG, MARINA, Maritime etc) to enforce close fishing season.</p>	<p>6</p>	<p>Affected implementors to:</p> <ul style="list-style-type: none"> a. Synchronize conduct of monitoring, control, and surveillance/joint seaborne operations & market landing and checkpoint (i.e., IFLET) b. Deputation of integrated fisheries law enforcement team (IFLET) c. Continuous strengthening of interlocal cooperation d. Infusing logistic support or regular budget related to enforcement e. Operationalize management body per alliances for support 	<p>3</p>
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		<p>to deserving law enforcement agencies/team</p> <p>l. Creation of team to conduct enforcement efforts (Bantay Dagat, PCG, Maritime, FARMC, BFAR)</p> <p>m. Include national water for enforcement</p> <p>n. Intensify Conduct of Seaborne Patrol, Landing and Market Denial, Mobile Fisheries, Checkpoint for Juvenile Sardines.</p>					<p>f. Harmonize ordinance to support enforcement</p> <p>g. Collection of funds through alliances</p>	
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						<p>Affected implementors to create manual for alliances supported by 5 years operational plan, with stated roles and responsibilities in managing the resources and harmonized into the FMP for FMA implementation; Issuance of mission order by bay wide through synchronize law enforcement Incorporating the provision on granting of honorarium of bantay dagat; Giving of commendation during fish conservation month to deserving law enforcement</p>	
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							<p>agencies/team; Creation of team to conduct enforcement efforts (Bantay Dagat, PCG, Maritime, FARMC, BFAR); Include national water for enforcement; and Intensify Conduct of Seaborne Patrol, Landing and Market Denial, Mobile Fisheries, Checkpoint for Juvenile Sardines.</p>	
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						<p>Other mitigating measures include:</p> <ol style="list-style-type: none"> 1. Implement coding and numbering system for municipal fishing boats. 2. Inventory of registered fisherfolks/gears/vessels/(baseline) and other auxiliary, fishing practices. 3. Deputization of fisherfolk as Bantay-Dagat. 4. Conduct of monitoring, control, and surveillance/joint seaborne operations & market landing and checkpoint. 5. Provincial resolution/ordinance to ban sardines anchoring in the region 	
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	<p>Reduced Fishing Days</p>	<ol style="list-style-type: none"> 1. Implement coding and numbering system for municipal fishing boats. 2. Inventory of registered fisherfolks/gears/vessels /(baseline) and other auxiliary, fishing practices. 3. Deputization of fisherfolk as Bantay-Dagat. 4. Conduct of monitoring, control, and surveillance/joint seaborne operations & market landing and 	<p>BFAR RPIU9/FCUs/ TWG</p>	<p>Q1-2025</p>	<p><i>Enforcement Challenges:</i> Insufficient financial/resources to maintain and sustain effective law enforcement.</p>	<p>6</p>	<p>LGUs/BFAR must initiate collaboration and partnerships, partnering with non-governmental organizations, other national law enforcement agencies, and to the neighboring Municipalities to share resources, information, and best practices for monitoring and enforcement.</p>	<p>3</p>
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		<p>checkpoint. 5. Provincial resolution/ordinance to ban sardines anchoring in the region</p>			<p>Inability of BFAR/LGUs and other law enforcement agencies (PCG, MARINA, Maritime etc) to enforce close fishing season.</p>	<p>6</p>	<p>Affected implementors to:</p> <ul style="list-style-type: none"> a. Synchronize conduct of monitoring, control, and surveillance/joint seaborne operations & market landing and checkpoint (i.e., IFLET) b. Deputation of integrated fisheries law enforcement team (IFLET) c. Continuous strengthening of interlocal cooperation d. Infusing logistic support or regular budget related to enforcement e. Operationalize management body per alliances for support 	<p>3</p>
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					<p>Affected implementors to create manual for alliances supported by 5 years operational plan, with stated roles and responsibilities in managing the resources and harmonized into the FMP for FMA implementation; Issuance of mission order by bay wide through synchronize law enforcement Incorporating the provision on granting of honorarium of bantay dagat; Giving of commendation during fish conservation month to deserving law enforcement</p>	
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					<p>agencies/team; Creation of team to conduct enforcement efforts (Bantay Dagat, PCG, Maritime, FARMC, BFAR); Include national water for enforcement; and Intensify Conduct of Seaborne Patrol, Landing and Market Denial, Mobile Fisheries, Checkpoint for Juvenile Sardines.</p>	
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					<p>Other mitigating measures include:</p> <ol style="list-style-type: none"> 1. Implement coding and numbering system for municipal fishing boats. 2. Inventory of registered fisherfolks/gears/vessels/(baseline) and other auxiliary, fishing practices. 3. Deputization of fisherfolk as Bantay-Dagat. 4. Conduct of monitoring, control, and surveillance/joint seaborne operations & market landing and checkpoint. 5. Provincial resolution/ordinance to ban sardines anchoring in the region 	
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	<p>Elimination of the IUU</p>	<p><i>Municipal fishing vessels:</i> a. Create harmonized manual of operation in LGU, included in ordinance b. Inventory of fishing vessels (municipal), fishing gears and fisherfolk. c. Inventory the status of all FLETS d. Reorganize/establish FLETs. e. Creating of Municipal ordinance and Creation of Municipal Fishery Officers (to lead the Municipal Fishery</p>	<p>BFAR RPIU9/FCUs/ TWG</p>	<p>Q1-2025</p>	<p>Inadequate system/resources to maintain and sustain the effective law enforcement against IUU fishing.</p>	<p>6</p>	<p>LGUs/ BFAR to engage community involvement, engaging local communities (Bantay dagat) in monitoring and reporting IUU fishing activities through community watch programs and possible introduction of incentive schemes. Involvement of FARMC in all fisheries enforcement activities</p>	<p>3</p>
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	<p>Law Enforcer Team (FLET).</p> <p>f. Grant of honoraria, insurance for the DFW.</p> <p>g. Provision of MCS Equipment.</p> <p>h. Strengthen capacity of coastal law enforcement and existing policy implementation (CLE Training, Deputation Training, paralegal on apprehensions, fish examiner, Fish ID, FISHSIELDS, etc)</p> <p>i. Formulation and adoption of Law Enforcement Plan (include ManOps).</p> <p>j. Conduct I-FIT Assessment</p> <p>k. Adoption of Harmonized comprehensive MFO.</p> <p>l. Compliance to Catch Documentation.</p>		<p>Ineffective law enforcement implementation:</p>	<p>6</p>	<p>Mitigating measure should include the following:</p> <p>Municipal fishing vessels:</p> <p>a. Create harmonized manual of operation in LGU, included in ordinance</p> <p>b. Inventory of fishing vessels (municipal), fishing gears and fisherfolk.</p> <p>c. Inventory the status of all FLETS</p> <p>d. Reorganize/establish FLETs.</p> <p>e. Creating of Municipal ordinance and Creation of Municipal Fishery Officers (to lead the Municipal Fishery Law</p>	<p>3</p>
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	<p>(Section 38 of RA No. 10654).</p> <p>m. Strict implementation of FAO 266 on vessel monitoring system/measures.</p> <p>n. Strengthen motorized banca registration: -Intensify registration of gears sec 29 RA 10654</p> <p>o. Establish an MCS station</p> <p>p. Strict implementation of FAO 198-on commercial fishing vessel license.</p> <p>q. Specify Net Size Strict Implementation of FAO 155-1 (bolinaw, uyap, padas, guno) Commercial fishing vessels:</p> <p>a. Review and Develop organizational structure related to enforcement</p>				<p>Enforcer Team (FLET).</p> <p>f. Grant of honoraria, insurance for the DFW.</p> <p>g. Provision of MCS Equipment.</p> <p>h. Strengthen capacity of coastal law enforcement and existing policy implementation (CLE Training, Deputation Training, paralegal on apprehensions, fish examiner, Fish ID, FISHSIELDS, etc)</p> <p>i. Formulation and adoption of Law Enforcement Plan (include ManOps).</p> <p>j. Conduct I-FIT Assessment</p> <p>k. Adoption of Harmonized</p>	
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		<p>designed for FMA-9</p> <p>b. For commercial create seed fund for operations</p> <p>c. Corporate social responsibilities for commercial fishers</p> <p>d. Compliance with MARINA certificate or permits (registration, ship safety certificate).</p> <p>e. Strict implementation of pre-departure inspection (PDI).</p> <p>f. Inventory of fishing vessels (commercial), fishing gears and fisherfolk.</p> <p>g. Joint conduct of seaborne operations with other regulatory agencies/regions.</p> <p>h. Engaged law enforcement alliances (CLEC 6,7, and 8 and CLEAR 7)</p> <p>i. FLET operations: -confiscation illegal and unregistered</p>			<p>comprehensive MFO.</p> <p>l. Compliance to Catch Documentation. (Section 38 of RA No. 10654).</p> <p>m. Strict implementation of FAO 266 on vessel monitoring system/measures.</p> <p>n. Strengthen motorized banca registration: -Intensify registration of gears sec 29 RA 10654</p> <p>o. Establish an MCS station</p> <p>p. Strict implementation of FAO 198-on commercial fishing vessel license.</p> <p>q. Specify Net Size Strict Implementation of FAO 155-1</p>	
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<p>fishing gears -file cases and penalize habitual violators -establish an impounding area</p>		
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	<p>(bolinaw, uyap, padas, guno) Commercial fishing vessels: a. Review and Develop organizational structure related to enforcement designed for FMA-9 b. For commercial create seed fund for operations c. Corporate social responsibilities for commercial fishers d. Compliance with MARINA certificate or permits (registration, ship safety certificate). e. Strict implementation of pre-departure inspection (PDI). f. Inventory of fishing vessels</p>	
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	<p>(commercial), fishing gears and fisherfolk.</p> <p>g. Joint conduct of seaborne operations with other regulatory agencies/regions.</p> <p>h. Engaged law enforcement alliances (CLEC 6,7, and 8 and CLEAR 7)</p> <p>i. FLET operations:</p> <ul style="list-style-type: none"> -confiscation illegal and unregistered fishing gears -file cases and penalize habitual violators -establish an impounding area 	
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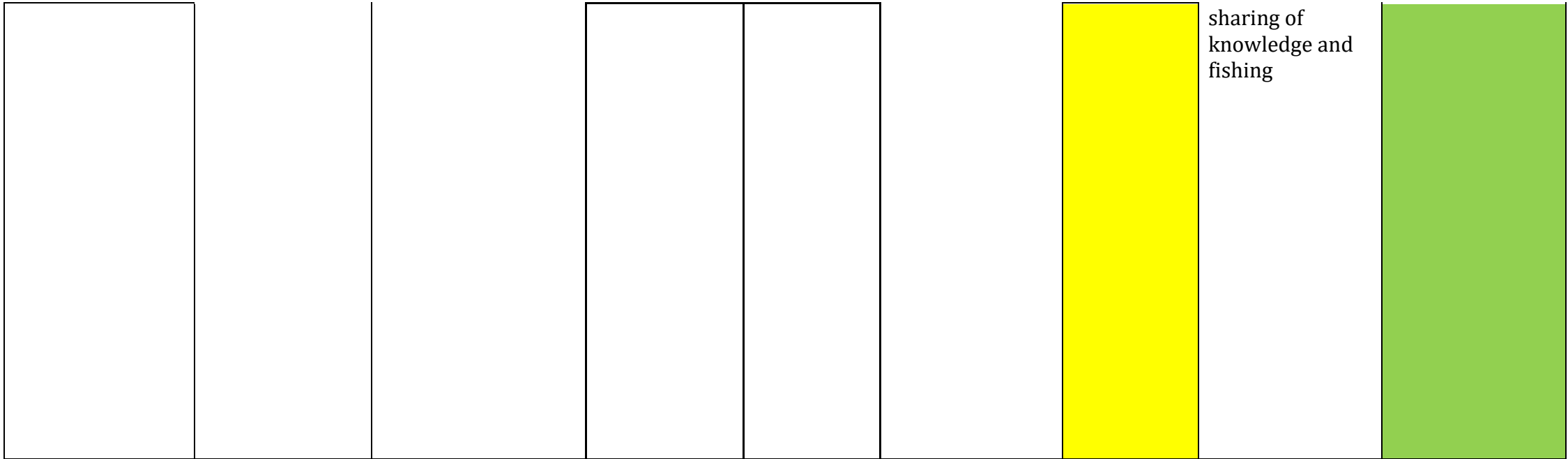
							Initiate stakeholders engagement involving all relevant stakeholders, including local communities, fisherfolks, and academe in the decision-making process to build consensus and address differing priorities.	
<u>Monitoring & Evaluation</u>	2. Closed fishing season	Create a systematized/harmonized assessment process	BFAR/LGU	Q1-2025	Lack of systematized/harmonized assessment process	6	Create a systematized/harmonized assessment process	3
		Identify the fishing activities/gears that are allowed to go fishing during the Close season.					Identify the fishing activities/gears that are allowed to go fishing during the Close season and during Reduced Fishing Days	

		Conduct stock assessment study to identify the location of fish stocks/spawning grounds, nesting grounds. determine spawning period				Conduct stock assessment study to identify the location of fish stocks/spawning grounds, nesting grounds. determine spawning period	
	3. Reduced Fishing Days	Conduct evaluation and monitoring of the study on the effectiveness of implementing reduced fishing days on target areas.				Conduct evaluation and monitoring of the study on the effectiveness of implementing reduced fishing days and close season on target areas.	
		Identification and monitoring of sardine fishing vessels.				Identification and monitoring of sardine fishing vessels.	

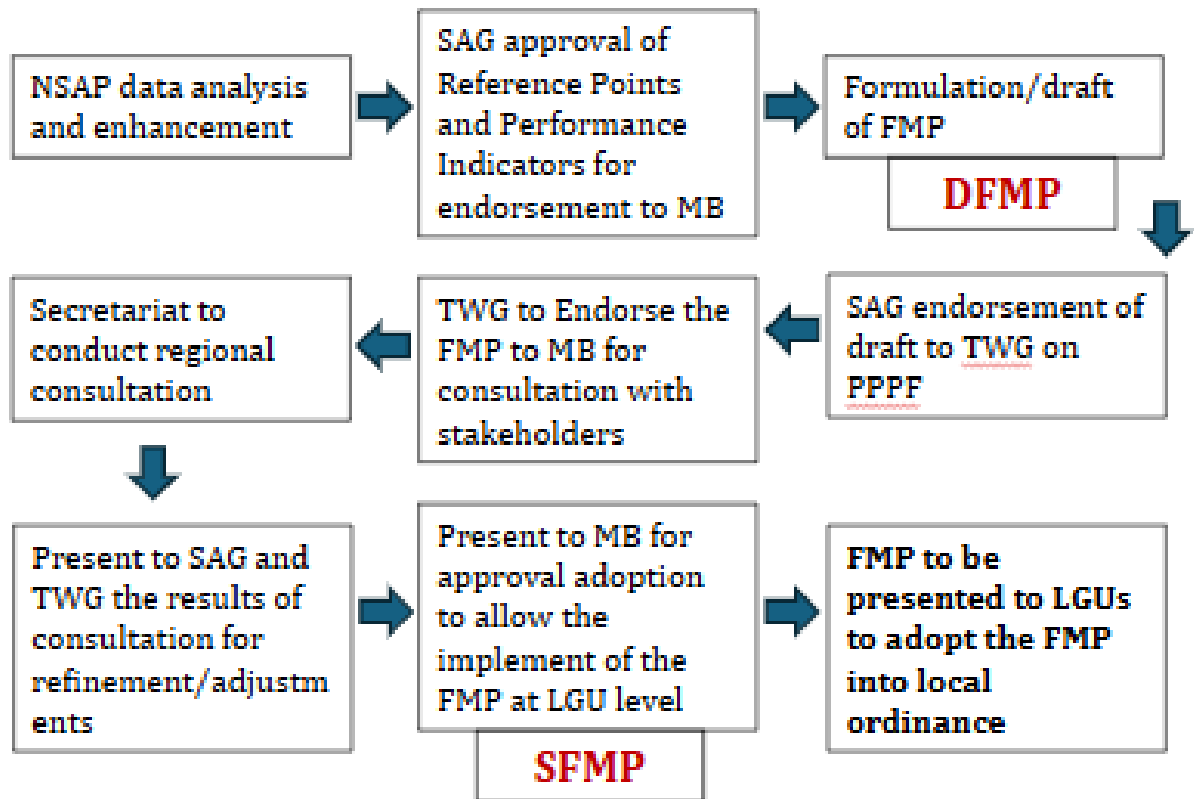
INFORMATION AND EDUCATION CAMPAIGN	1. Moratorium of new commercial fishing vessels	Massive Information Education Campaign (IEC) through production of the following materials: a. Fishing Calendar b. Reading Materials/Visuals Aids c. Flyers d. Orientation upon registration	Lead by BFAR 10 IEC & FishCoRe DevCom Specialist, co-designed with PIA & BFAR IOs from RFOs 7,8,9, & Caraga & TWG-IEC members; in coordination with FMRED, NSAP, LGUs	Q1-2025	Lack of IEC implementation to implement the following: Moratorium of new commercial fishing vessels, Closed fishing season, Reduced Fishing Days, and the Elimination of the IUU	6	BFAR/LGUs and other affected NGAs/stakeholders to jointly implement the following: a. Fishing Calendar b. Reading Materials/Visuals Aids c. Flyers d. Orientation upon registration	3
	2. Closed fishing season	Conduct of community-based IEC activities on sardines' management: a. Posting in social media. b. Barangay assembly. c. Distribution of flyers (translated to local dialect). d. Features, life cycle of sardines, etc.	Massive Information Education Campaign (IEC) through production of the following materials: a. Fishing Calendar b. Reading Materials/Visuals Aids					

	3. Reduced Fishing Days	<p>Massive Information Education Campaign (IEC) through production of the following materials:</p> <ul style="list-style-type: none"> a. Fishing Calendar b. Reading Materials/Visuals Aids c. Flyers d. Instalaltion of signages in the affected area. 					<ul style="list-style-type: none"> c. Flyers d. Instalaltion of signages in the affected area. 	
	4. Elimination of the IUU	<ul style="list-style-type: none"> • Assist the fisherfolks thru One-stop-shop registration of boat and operator in BoatR, FishR, and RSBSA, and gear in LGU as well as the license • Conduct of community-based IEC activities from the grassroots --the importance of marine resources • Introduction of FishSHIELDS • Adoption and 					<p>Conduct of community-based IEC activities on sardines' management:</p> <ul style="list-style-type: none"> a. Posting in social media. b. Barangay assembly. c. Distribution of flyers (translated to local dialect). d. Features, life cycle of sardines, etc. <ul style="list-style-type: none"> • Assist the fisherfolks thru One-stop-shop registration of boat and operator in BoatR, FishR, and RSBSA, and gear in LGU as 	

		<p>operationalization of Community Mobile Reporting App with aid from academe.</p> <ul style="list-style-type: none"> • Intensify IEC on IUUF for fisherfolks (per brgy.) thru PA system. • Conduct monitoring and Evaluation of MCS* • Regular meeting/ sharing of knowledge and fishing 					<p>well as the license</p> <ul style="list-style-type: none"> • Conduct of community-based IEC activities from the grassroots -- the importance of marine resources • Introduction of FishSHIELDS • Adoption and operationalization of Community Mobile Reporting App with aid from academe. • Intensify IEC on IUUF for fisherfolks (per brgy.) thru PA system. • Conduct monitoring and Evaluation of MCS* • Regular meeting/ 	
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PROCESS FLOW



ANNEX I

HARVEST STRATEGY FOR SARDINES SPECIES

PERFORMANCE (BIOLOGICAL) INDICATORS

Pauly in 2004 stated that the fishing pressure exceeded sustainable levels for the resource as early as the 1970s. Evidently, Guanco et al., (2009), stated that the mean standard length of several species of Sardines is less than that at first maturity, although Zaragoza et al, recommended to reduce fishing effort pressure by half to maintain the viability of small pelagic fisheries, there has been a continued decline in the catch of sardine in the nation. Spawning Potential Ratio (SPR), Fishing Mortality (F/M), % Mature, + - 10% Lopt, % Megaspawner, Bcurrent/B0 are the performance indicators monitored by the NSAP together with the SAG in collaboration with USAID and EDF Consultants. The results showed almost all indicators breaches the Limit Reference Points (LRP), local and global pressures threaten Philippine sardine fisheries, of these the most concerning is overfishing and the prospect of collapsing sardine stocks. The decline of Clupeidae fisheries have previously been documented in the temperate waters of California, Chile/Peru, Namibia and the Korean peninsula (Radovich 1982, Kawasaki 1992, Bakun and Weeks 2006).

Table X. Performance Indicators (PIs) and Reference Points (RPs) of *Sardinella gibbosa* and *Sardinella lemuru*

Species	Performance Indicator (PIs)	Reference Points (RPs)			Status Result
		Limit	Trigger	Target	
<i>Sardinella gibbosa</i>	Spawning Potential Ratio (SPR)	20%	30%	40%	15%
	Fishing Mortality (F/M)	2	1	0.5	3.95
	% Mature	50% and less	51-89%	90-100%	18.62%
	+ - 10% Lopt	80% and less	81-99%	100%	53.3 %
	% Megaspawner	20%	21-29%	30-40%	11.55%
	Bcurrent/B0	.25	.35	.5	.06
<i>Sardinella lemuru</i>	Spawning Potential Ratio (SPR)	20%	30%	40%	13%
	Fishing Mortality (F/M)	2	1	0.5	2.37
	% Mature	50% and less	51-89%	90-100%	4.82%
	% Megaspawner	20%	21-29%	30-40%	7.81%
	+-% Lopt	80% and less	81-99%	100%	48.21%
	B current/B0	0.25	0.35	0.5	0.05

REFERENCE POINTS

Reference points are the pre-determined level of a given *indicator* that corresponds to a particular state of the stock that management either seeks to achieve or avoid. e.g. $B_{\text{current}}/B_{\text{MSY}} = 1$.

The three (3) level of reference points will serve as the basis standard for evaluation, assessment and comparison of the status of sardine fisheries in FMA-9. There are 3 levels of RPs. In addition, Reference Points (RPs) can be “targets”, values aim to hit or stay near for sustainable fisheries, or “limits”, levels aim to avoid breaching or hitting, but in either case the RP will serves as guidance on taking management actions that can be generated from existing literatures and stakeholder-generated based on agreed-upon goals or values.

The Reference Points in FMA-9 can be summarized as follows:

Table 2. Reference Points (RP) of *Sardinella gibbosa* and *Sardinella lemuru*.

Performance Indicators	Target Reference Points (TRP)	Trigger Reference Points (TriRP)	Limit Reference Points (LRP)
Spawning Potential Ratio	40%	30%	20%
Fishing Mortality (F/M)	0.5	1	2
Catch Per Unit Effort (CPUE)	Dependent on the analyzed CPUE value from 3 years upon current year status (assumption: proportional to population biomass wherein it can be decreasing or increasing)		
Percent Mature	90-100%	51-89%	50% and less
Percent mega spawner	30-40%	21-29%	20%
Exploitation rate	0.1	0.3	0.5 and above
Percent (+-10% Lopt)	100%	81-99%	80% and less

Three simple fisheries indicators are presented: (i) percentage of mature fish in catch, with 100% as target; (ii) percent of specimens with optimum length in catch, with 100% as target; and (iii) percentage of ‘mega-spawners’ in catch, with 0% as target, and 30–40% as representative of reasonable stock structure if no upper size limit exists. (Froese, 2024).

FMA -9 is aiming to move Limit Reference Point to Target Reference Point by 2030, for all indicators that presently breaches LRP.

HARVEST CONTROL RULES

Indicator: $B_{current}/B_0$

The result of this indicator shows that FMA-9 is currently breaching LRP at 0.05% (*S. lemuru*) and 0.06 (*S.gibbosa*), the rule indicates to reduce fishing effort by 50% in license issuance and number of boats per day, etc.

- **If** fish biomass is low ($0 < B/B_0 < 0.25$), **then** reduce fishing effort by 50% in licenses, # of boat-days, etc.)
- **If** fish biomass is medium ($0.25 \leq B/B_0 < 0.35$), **then** no change in regulations
- **If** fish biomass is high ($0.35 \leq B/B_0$), **then** may increase fishing effort

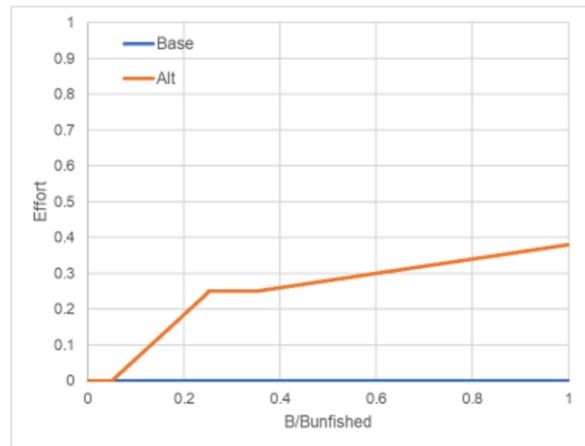


Figure 6. Harvest Control Rule of *Sardinella lemuru* and *Sardinella gibbosa*.

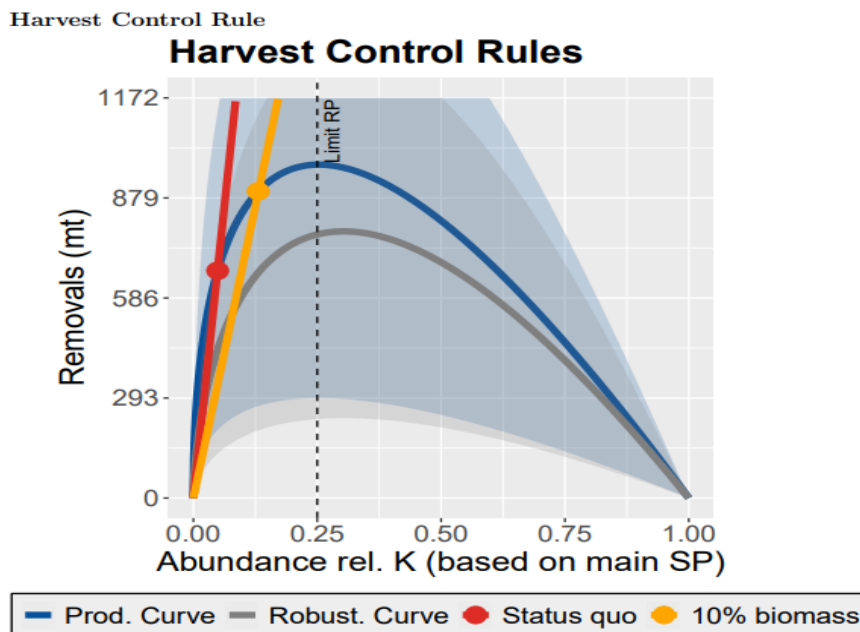


Figure 7. *Sardinella lemuru*: 10% increase biomass on a 50% effort reduction for 5 years

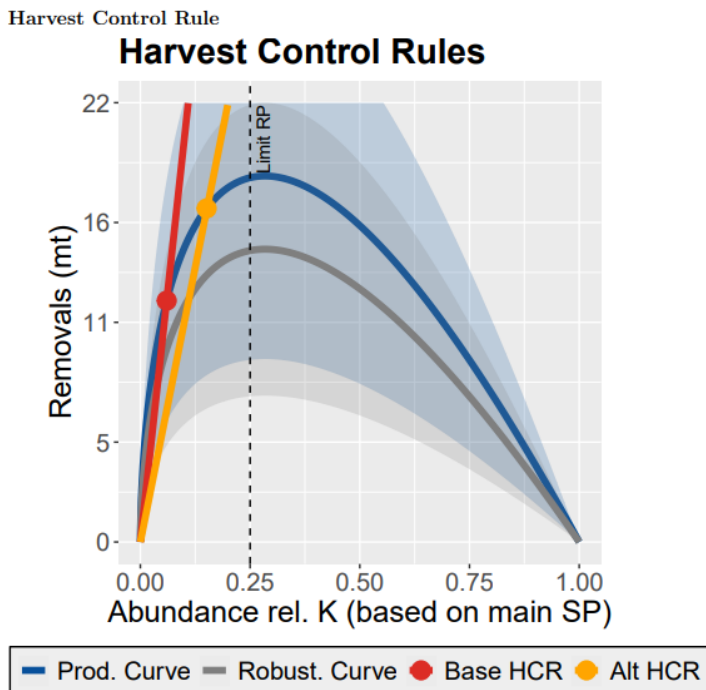


Figure 8. *Sardinella gibbosa*: 15% increase biomass on 50% effort reduction for 5 years.

Indicator: Percent Mature

IF percent mature is less than or equal to 50% (LRP) **THEN** reduce juvenile catch of 10% for municipal and 20% for commercial vessels for ten (10) years.

IF percent mature is less than or equal to 51-89% (TriRP) **THEN** reduce juvenile catch of 5% for municipal and 10% for commercial vessels for ten (10) years.

IF percent mature is less than or equal to 90-100% (TRP) **THEN** status quo.

The FMA-9 result for this indicator shows 18.62 (*S.gibbosa*) and 4.82 (*S.lemuru*) the rule says that if percent mature is at LRP then we can reduce juvenile catches of 10% for municipal and 20% for commercial vessels for ten (10) years.

ADDITIONAL MANAGEMENT ACTIONS AND ARRANGEMENT FOR THE KEY ISSUES AND CHALLENGES

Ecological

PRIORITIZED ISSUES AND CONCERNS	GOALS	OBJECTIVE	MANAGEMENT ACTION	ACTIVITIES	RESPONSIBLE PERSON/AGENCY	TIMELINE
Overfishing/dwindling of fish stocks	Improved ecosystem resilience that supports sustainability of sardine fishery	<p>Increase current biomass to 10% by 2030</p> <p>Increase current percent mature sardine to 50% by 2030</p>	<p>Reduce fishing effort in sardine fisheries by 50%</p> <p>fishing of the top 3 gears (Bagnet, Ring net and gillnet) and no. of fishing day</p>	<p>Establish seasonal closure to allow sardines spawning from November – January*</p> <p>Implement Boat and Gear Inventory for commercial and municipal fisheries</p> <p>Regular updating of list of fisherfolks, fishing vessels, and gears</p> <p>Limit the issuance of permits and licenses to maintain optimal fishing effort</p>	BFAR, NFRDI, LGUs, DILG, Academe	2030

			<p>Protect spawning and nursery grounds for sardine fisheries</p> <p>Regulate the mesh size of all net gears catching sardines</p>	<p>Banning of Bagnet and ring net in municipal water and commercial water during the peak season (December, January, February) of juvenile sardines</p> <p>Conduct series of stakeholder's consultations for the formulation and approval of FAO/ordinance</p> <p>Capacity building of LGU for ordinance implementation.</p> <p>Conduct Reproductive Biology of sardines.</p> <p>Conduct size selectivity study (To determine of the optimum mesh size for all net gears, not below 14 cm of sardine size).</p> <p>Recommend/Propose amendment(s) of FAO 155, 155-1</p> <p>Conduct IEC activities on importance of protecting Juvenile sardines.</p>	<p>BFAR, NFRDI, LGUs, DILG, Academe, DENR, PCG, PNP-Maritime</p>	<p>2030</p>
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			<p>Reduce catch of Juvenile</p> <p>Strict implementation of NO ENTRY POLICY for commercial fishing in municipal waters.</p>	<p>Strict enforcement and market denial especially during peak season of juveniles</p> <p>LGUs permitting commercial fishing within 10.1 km (provided that 10.1-15 km is present within the municipal water delineation) are advised to revise/amend/update their ordinance to ensure compliance with existing laws and regulations.</p> <p>For LGUs that currently prohibit commercial fishing within 10.1-15 km, are encouraged to uphold or maintain their prohibitions.</p>		
Lack of baseline data to support the establishment of protected sardine spawning and nursery grounds.		Identify and protect sardine spawning and nursery grounds by 2030	<p>Conduct Stock Assessment and Ecological Assessment</p> <p>Strict implementation of existing regulatory measures</p>	<p>Support ongoing stock assessment of NSAP</p> <p>Conduct vulnerability and assessment studies</p>	BFAR, NFRDI, Academe, DILG, LGUs, PCG, PNP-Maritime	2030

Degraded marine ecosystem (siltation & water pollution/ declining water quality)		Improve marine habitat quality by 2030.	Establish baseline condition of marine habitat	Conduct of Marine Habitats Assessment Conduct water quality assessments	BFAR, NFRDI, Academe, DENR, EMB	2030
Climate change-related hazards		Reduce of impact of climate change associated conditions in the marine environment (i.e. extreme weather events and sea surface temperature)	IEC on impacts on climate change and disasters Implement sustainable and ecosystem-based mangrove and other critical habitats rehabilitation and protection programs	Conduct community forums and provide flyers and leaflets Conduct climate risk, vulnerability, and suitability assessment and studies Formulation and updating of LCCAP	BFAR, NFRDI, Academe, DRRMC, LGUs, DILG, CCC, DOST-PAGASA, PhilSA, DSWD	2030

Human Well-being

PRIORITIZED ISSUES AND CONCERNS	GOALS	OBJECTIVE	MANAGEMENT ACTION	ACTIVITIES	RESPONSIBLE PERSON/AGENCY	TIMELINE
<p>IUU fishing (e.g. Indiscriminate harvesting of juvenile sardines, Use of obnoxious chemical/substances in fishing)</p> <p>Low catch/ Inconsistent fish catch</p> <p>Low income</p>	<p>Develop/enhance positive behavioral and psychosocial well-being among fishers and increase economic benefits of fishing households.</p>	<p>To increase CPUE by 50% in 5 years</p>	<p>Public consultation initiatives and intensification of information drive</p>	<p>Conduct IEC activities and community immersion especially for the affected stakeholders</p>	<p>Beneficiary, P/C/M/BLGU, BFAR, DSWD</p>	
			<p>Elimination of IUU through enhancement of fishing technology and practices (for the identified 9% IUUF)</p>	<p>Inventory of fishing gear, boat/vessels and fishing location (either municipal waters or beyond).</p>	<p>Beneficiary, P/C/M/BLGU, BFAR, PNP</p>	
				<p>Intensify fisherfolk, boat and gear registration.</p>	<p>Beneficiary, P/C/M/BLGU, BFAR</p>	
				<p>Implementation of gear swapping or buyout of illegal fishing gear (modified lift net, scoop net, beach seines).</p>	<p>Beneficiary, P/C/M/BLGU, BFAR</p>	
				<p>Upskilling in sustainable fishing technologies and practices.</p>	<p>Beneficiary, P/C/M/BLGU, BFAR, TESDA, DOST, Academe, DSWD</p>	

				Adoption of sustainable fishing technology and practices.	Beneficiary, P/C/M/BLGU, BFAR		
			Engaging local communities in effective coastal resource management. (e.g. enhancement, conservation, protection)	Conduct IEC activities, community-based sessions, and capacity building	Beneficiary, P/C/M/BLGU, BFAR, DSWD		
				Conduct resource enhancement activities (e.g. mangrove rehabilitation, proper solid wastes management, etc)	Beneficiary, P/C/M/BLGU, BFAR, DENR, DSWD, Academe, DOLE		
Loss of income from fishing		To provide fishers with sustainable alternative livelihoods, including non-fishing livelihoods within the next 5 years <i>(particularly affected sardines fishers by the 2-3months sardines)</i>	Identification of affected fishers and conduct of needs assessment	Conduct fisherfolk profiling	Beneficiary, P/C/M/BLGU, BFAR, Academe		
Low income				Conduct consultation and beneficiary needs-based assessment	Beneficiary, P/C/M/BLGU, BFAR		
Limited access to alternative livelihood				Implementation of effective Awareness Campaign	Develop effective IEC materials and utilize strategic platform	Beneficiary, P/C/M/BLGU, BFAR	
					Conduct of IEC activities to target stakeholders	Beneficiary, P/C/M/BLGU, BFAR, DSWD	
				Development/implementation of alternative sustainable livelihood	Establish collaboration/linkages with other agencies to provide livelihood assistance (e.g. DSWD, TESDA, DOLE, DTI etc.)	P/C/M/BLGU, BFAR	

		<i>closed fishing season)</i>		Develop effective IEC materials and utilize strategic platform	P/C/M/BLGU, BFAR	
				Conduct of IEC activities	Beneficiary, P/C/M/BLGU, BFAR, DSWD	
				Conduct of financial literacy training	Beneficiary, P/C/M/BLGU, BFAR, CDA,ATI	

				<p>For fish workers affected by the elimination of IUUF</p> <p>Provision of technical-vocational training and alternative livelihood programs to diversify income and support daily subsistence. Create skills-based job opportunities to affected fisherfolk.</p> <p>Livelihood such as but not limited to</p> <ol style="list-style-type: none"> 1. Provision of food packs through food-for-work scheme 2. Aquaculture 3. Ecotourism activities 4. Livestock 5. Cash-for-work (coastal clean-up) 	Beneficiary, P/C/M/BLGU, BFAR	
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				<p>For 3-month sardines closed fishing season affected fisherfolk (20%)</p> <p>Provision of technical-vocational training and alternative livelihood programs to diversify income and support daily subsistence. Create skills-based job opportunities (seasonal) to affected fisherfolk.</p> <p>Livelihood such as but not limited to:</p> <ol style="list-style-type: none"> 1. Provision of food packs through food-for-work scheme 2. Aquaculture 3. Ecotourism activities 4. Livestock 5. Cash-for-work (coastal clean-up) 	Beneficiary, P/C/M/BLGU, BFAR	
				<p>Fisherfolk affected by the reduced fishing activities/ days (21%)</p> <p>Provision of technical-vocational training and alternative livelihood programs to diversify income and support daily subsistence. Create skills-based job opportunities to affected fisherfolk.</p> <ol style="list-style-type: none"> 1. Provision of food packs through food-for-work scheme 2. Cash-for-work (coastal clean-up) 	Beneficiary, P/C/M/BLGU, BFAR	

				<p>For ancillary industries</p> <ol style="list-style-type: none"> 1. Assist sardine ancillary industries in aligning their repair and maintenance schedules during the closed fishing season. 2. Encourage processing plants to engage in the processing of other aquaculture commodities during the closed fishing season of sardines which would help in diversifying their income sources 	P/C/M/BLGU, BFAR, Private entities	
				<p>For the ancillary industry workers, women and other vulnerable sectors involved/indirectly affected by the policy:</p> <p>Provision of alternative livelihood interventions to diversify income and skills development training</p>	Beneficiary, P/C/M/BLGU, BFAR	
Lack/Limited available post-harvest facilities not only for sardines but to other commodities		To empower sardine stakeholders to sustainable fisheries management by 2030.	Facilitate access of fishers to financial support and credit financing	Link with other agencies for the conduct of financial literacy and orientation	P/C/M/BLGU, BFAR	
				Conduct capacity building on financial literacy and orientation on credit/loan programs	Beneficiary, P/C/M/BLGU, BFAR	

<p>Lack/limited incentives/subsidy for sustainable fishing practices (e.g. shift from IUUF to sustainable fishing)</p> <p>Limited access to financial institutions for the affected fisherfolk</p> <p>Lack/weak presence of Fisherfolk Cooperative</p> <p>high cost of inputs</p> <p>Lack/Limited skills (marketing)</p> <p>High post-harvest losses</p>			Upgrading of fisherfolk organizations into fisherfolk cooperative	Link with CDA for the conduct of capacity building activities	P/C/M/BLGU, BFAR	
				Capacity building (organization development, financial literacy entrepreneurship, marketing)	Beneficiary, P/C/M/BLGU, BFAR, CDA, ATI	
			Establishment of post-harvest facilities and provision of equipment	Inventory of existing PH facilities and equipment	Beneficiary, P/C/M/BLGU, BFAR	
				Conduct review/update of Sardines VCA and feasibility study of proposed facilities	Beneficiary, P/C/M/BLGU, BFAR, Academe	
				Establishment of PH facilities (e.g. cannery, ice plant, transport vehicle/reefer van, solar dryer etc) and provision of equipment for sardines and other commodities	Beneficiary, P/C/M/BLGU, BFAR	
				Conduct capacity building on fish processing (to include product development/food innovation, value-addition), and other trainings to improve seafood product and expand market channels	Beneficiary, P/C/M/BLGU, BFAR, ATI	
			Market Assistance to fisherfolk organization/SMEs to access/expand potential markets	Conduct business-to-business network/market linkages, aqua fairs and exhibits	Beneficiary, P/C/M/BLGU, BFAR, DTI	
				Conduct capacity building on online and other platform for marketing of fishery products	Beneficiary, P/C/M/BLGU BFAR, DTI, ATI	

Fish loss and wastage Fisherfolk vulnerable to Climate change-related hazards			Promotion of sustainable fishing technology and practices (environment-friendly and climate resilient e.g. FRP "bangka ko gawa ko" and HDPE cages, use of solar powered lights)	Capacity building and IEC activities Increase/Advocate social protection programs. Provide safety gear for fishers/Conduct training on safety at sea .	Beneficiary, P/C/M/BLGU, BFAR, DSWD	
			Develop/promote climate resilient livelihoods	Conduct of technology demonstration	Beneficiary, P/C/M/BLGU, BFAR	
				Adoption of sustainable fishing technology and practices	Beneficiary, P/C/M/BLGU, BFAR	
				Provision of incentive mechanisms (e.g. recognition) for fisherfolk engaging in sustainable fishing practices	Beneficiary, P/C/M/BLGU, BFAR	
			Empowerment of consumers through awareness of sustainable seafood.	Capacity building and IEC activities on sustainable seafood certification and eco-labeling and promote sustainable consumption	Beneficiary, P/C/M/BLGU, BFAR, DTI	

Governance

PRIORITIZED ISSUES AND CONCERNS	GOALS	OBJECTIVE	MANAGEMENT ACTION	ACTIVITIES	RESPONSIBLE PERSON/AGENCY	TIMELINE
Lack of Political Will	Science-based and dynamic sardine fishery governance that is transparent, accountable, equitable, participatory, inclusive and holistic.	1. Implement management actions based on agreed Harvest Control Rules to meet the reference points and management objectives in 5 years.	reorientation of moral values among resource managers (LCEs, barangay captains/councils, FARMCs, POs)	formulation of training designs for moral values formation	DILG, DENR, BFAR, DOLE, DSWD, TESDA, PNP-MG, PCG, MARINA, POs, CSOs/NGOs, Alliance, Academe	5 years
			capacity building on resource management/stakeholders	ICM planning and role clarification among stakeholders		
		2. Increase holistic participation in governance of sardine stakeholders in 5 years.	mainstreaming into annual investment plan (municipal dev't plans)	regular involvement of FARMCs in all activities		
			3. Emphasize roles and responsibilities of Local Government Units (LGUs) in the implementation of FMP in 5 years.	massive and sustainable public awareness program/IEC		
		4. Develop capacity of sardine stakeholders in ecosystem-based governance in 5 years.		fund sourcing		
			networking and linkaging between MPAs	preparing and formulation of implementation plan		

			unified and harmonized fisheries ordinances (appropriate fishery ordinances)	consultations with stakeholders and concerned LGUs; passage of policies for the support/adoption of ordinances for respective LGUs		
			diversification of livelihood programs and enterprise development according to needs (alternative livelihood)	consultations with stakeholders regarding needs; identification of felt-need alternative livelihoods		
Lack of support to fishery community and sector			massive and sustainable public awareness program/IEC	formation of public information officers' team; dissemination of knowledge product/IEC materials through radio, social media, etc. (in local languages/dialects)		5 years
			networking and linking between MPAs	preparing and formulation of implementation plan		
			fund sourcing	conceptualization and packaging of project proposals; linking of common interests/biases; collaboration and donors' forum.		

Inadequate and inconsistent fisheries policies			strengthening of FARMCs	bay wide/alliance level reorientation and restructuring activities; capacity building; IEC of fishery laws		5 years
			formulation of science-based policies and ordinances with supporting resolutions from alliance level	consultation with fishing communities; IEC and public forum on policies; establishment of moratorium; establishment of closed season; bay wide synchronized CLE on the effects of moratorium; assessment and monitoring of effects		
Weak institutionalized partnerships			strengthening of partnerships with other stakeholders/funding institutions	conceptualization and packaging of project proposals; linkaging of common interests/biases; collaboration and donors' forum		5 years
			values reorientation and formation (moral values)	formulation of training designs for moral values formation		
			strengthening of CLE	area profiling/gathering data; revisiting of plans, policies, and ordinances; reorientation and retraining of enforcers e.g. value formation component		

Inefficient CLE (RA10654)			bay wide law enforcement group with legal counsel support e.g. alliances	capacity building on bay wide law enforcement group/creation of fleet; installation of legal counsel/adjudication committee		5 years
IUU Fishing			regulation of registration of fishing vessels	coordination among LGUs' respective agriculture offices		
			values reorientation and formation (moral values)	formulation of training designs for moral values formation		
			strengthening of CLE	area profiling/gathering data; revisiting of plans, policies, and ordinances; reorientation and retraining of enforcers e.g. value formation component		
			bay wide law enforcement group with legal counsel support e.g. alliances	capacity building on bay wide law enforcement group/creation of fleet; installation of legal counsel/adjudication committee		
regulation of registration of fishing vessels	coordination among LGUs' respective agriculture offices					

Lack of water assets			coordination and collaboration with NGAs and stakeholders on law enforcement	packaging of proposals; conducting donors' fora		
Lack of public database for the registration of boat (Com & Mun)			coordination and collaboration with NGAs, alliances, and stakeholders on law enforcement	communication with enforcement agencies dealing with registration of fishing vessels		
Lack of Fisheries-focused personnel in the LGUs			coordination with PLGU, congressional offices to deploy technical staff to LGUs charged to their offices	endorsing during alliance-level management board meetings		
Lack of sustained IEC at the LGUs			capacity building on IEC; operationalization of PIOs at a bay wide level; fund generation	conduct of training on various IEC; dissemination of IEC materials		
Weak enforcement of Mngt plans in MPAs			MPAN operationalization through synchronized operation	quarterly reorientation and continuous training of resource managers		
Insufficient knowledge of fisheries policies among law enforcers			MPAN operationalization through synchronized operation	quarterly reorientation and continuous training of resource managers		

Corruption/bribery			MPAN operationalization through synchronized operation	quarterly reorientation and continuous training of resource managers; monitoring, evaluation, assessment, and feedbacking		
Conflict between stakeholders (com and Mun)			paradigm shift	conduct of reorientation of resource managers		
Fisheries program given less priority among LGUS			paradigm shift among management; active participation during planning and budgeting processes	active participation of fisheries sector in planning and budgeting processes		
Insufficient funds allocated to fisheries			fund generation; packaging of proposals	active participation and visibility from the fisheries sector during planning, policy formation, and budgeting processes; put in place/operationalize implementation of corporate social responsibility among industries		

SESA (Risk assessment)

A. ECOLOGICAL

ANTICIPATED E&S RISKS AND IMPACTS OF ACTIVITIES				MONITORING SCHEMES		
RISK MITIGATION AND MANAGEMENT MEASURES	TIMING/FREQUENCY OF MITIGATION	RESPONSIBILITY	MONITORING PARAMETER	TIMING/FREQUENCY OF MONITORING	RESPONSIBILITY	COST
1. PRE- IMPLEMENTATION STAGE						
1.1 Plan Formulation						
Key stakeholders are not well represented	<p>Ensure that invitations are received by the targeted stakeholders.</p> <p>Constant follow-up invitation and communication of key stakeholders.</p> <p>Explore other communication channels such as social media platforms.</p>	<p>One month prior to the activity.</p> <p>Follow-up at least twice a week.</p> <p>One month prior to the activity. Confirmation slip</p>	FMA-9 Secretariat, FishCoRe Technical Staff/FishCRRM	<p>Copies of communication letters</p> <p>Copies of reply slip.</p>	A week after the invitation letter was sent.	FMA-9 Secretariat, FishCoRe Technical Staff/FishCRRM

Incomplete or unreliable data source	Widened data mining and literature search. Validate data sources.	3 months before the activity	FMA-9 Secretariat and NSAP.	Hard copies and E-copies of relevant data.	A month before the planning stage.	FMA-9 Secretariat and NSAP.	
<i>1.2 Plan Adoption Process</i>							
Low acceptance from the stakeholders							
Unwillingness to support the Plan	Seek Support from FMA-9 co-chair. Seek audience and support with the SB Chair for Agri&Fisheries. Presentation of the Plan to the SB.	Two weeks before the appointment with the SB Committee Chair on Agriculture and Fisheries. During the SB Regular Session.	FMA-9 co-chair, FMA-9 Head and Deputy Secretariat; and committee Chair on Agriculture and Fisheries.	SB minutes of the meetings.	By appointment.	FMA-9 Head and Deputy Secretariat; FishCoRe Technical Support Staff FishCRRM; and SB Secretary.	
2. Plan Implementation Stage							
<i>2.1 Presentation of Plans to Stakeholders</i>							

Low acceptance from the stakeholders	More community forum and broader IEC of stakeholders.	As the need arises	FMA-9 Secretariat; TWG-IEC	Minutes of meeting; communications; and IEC materials with local terms.	As the need arises.	FMA-9 Secretariat; TWG-IEC	
Uncooperative sardine stakeholders	IEC materials are appropriate and popularized in local dialects.						
Lack of support from LGUs	Constant coordination with LCEs that are not supportive.						
<i>2.2 Information Drive</i>							
Delayed procurement of IEC materials.	Strictly observe the procurement guidelines of the funding agency and of the BAC. Practice the early procurement process.	Regularly Last quarter of the year	FMA-9 Secretariat; FishCoRe component heads; BAC; and End Users	Vouchers; PRs; and Document Tracking System	All the time. Last Quarter of the year.	FMA-9 Secretariat; FishCoRe component heads; BAC; and End Users	

Delays in fund downloads	Timely submission of required documents. Progress monitoring by the recipient agency.	As scheduled.	BFAR and FishCoRe	Acknowledgement receipts; allotment notices	As needed.	BFAR and FishCoRe	
<i>2.3 Policy Development in relation to FMP</i>							
Slow process of policy development and issuances. Potential conflicts between local and national policies (e.g. gear modification).	Provide Legal and Technical assistance to the LGUs in crafting ordinances.	Immediately after the adoption of Plan	BFAR-Legal Office; FishCoRe; NFRDI-NSAP; Academe; FARMC; and Stakeholders representatives.	Minutes of meeting; resolutions;	As needed.	BFAR-Legal Office; FishCoRe; NFRDI-NSAP; Academe; FARMC; and Stakeholders representatives.	
<i>2.4 Approval and Implementation of Policy Developed from FMP</i>							
Political conflicts may delay the approval of FMP	Consult/Seek audience with champion LCEs and SBs (SB on Agri &	As needed	BFAR/FishCoRe Officials	Documentations	As needed	BFAR/FishCoRe Officials	

	Fisheries) to promote the Plan						
3. POST IMPLEMENTATION STAGE							
3.1 Monitoring and Evaluation of Plan Implementation							
Consistency with the monitoring tools and parameters.	Standardize monitoring tools and parameters.	Once	M&E Officers; Planning officers; FishCRRM component head and staff	Monitoring reports.	Annual	M&E Officers; Planning officers; FishCRRM component head and staff	
3.2 Monitoring and Evaluation of Policies Developed from FMP							
Unenforced policies.	Compliance audit by the oversight agencies. Provide incentives and awards to compliant LGUs	Annual	DILG; BFAR; and FMA-9 MBs	Compliance certificates and awards.	Annual	DILG; BFAR; and FMA-9 MBs	

B. Human Well-being

MANAGEMENT ACTIONS/ACTIVITIES	RISK	MITIGATING MEASURES	RISK MITIGATION AND MANAGEMENT MEASURES	TIMING/FREQUENCY OF MITIGATION	RESPONSIBILITY	MONITORING PARAMETER	TIMING/FREQUENCY OF MONITORING	RESPONSIBILITY	COST
1. PRE- IMPLEMENTATION STAGE									
1.1. Public Consultation Initiatives and intensification of information drive									
Conduct IEC activities and community immersion especially for the affected fisherfolk	Ineffective channel of communication which would lead to miscommunication, misinformation Uncooperative, low attendance and participation of fisherfolk	Utilize strategic and effective communication channels or platforms (e.g. social media platforms etc) Provide incentives	Provide necessary assistance (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR	Post Activity Report, List of Attendees	Monthly & Quarterly	LGU, BFAR	To be Determined
2. Plan Implementation Stage									
2.1. Elimination of IUU through enhancement of fishing technology and practices (for the identified 9% IUUF)									
Inventory of fishing gear, boat/vessels and fishing location (either municipal waters or beyond)	Security risk faced by enumerators Underreported, non-total disclosure of fishing activities	Close coordination with local authorities Conduct data validation (FGD & KII)	Secure necessary permits prior to the conduct of activities Report must be validated by LGU & BFAR	Throughout the implementation	LGU, BFAR	Inventory report	Monthly & Quarterly	LGU, BFAR	To be Determined

Intensify fisherfolk, boat and gear registration	Security risk faced by enumerators Underreporting and non-disclosure of fishing activities	Close coordination with local authorities Conduct data validation (FGD & KII)	Secure necessary permits prior to the conduct of activities	Throughout the implementation	LGU, BFAR	Registration Forms	Monthly & Quarterly	LGU, BFAR	To be Determined
Implementation of gear swapping or buyout of illegal fishing gear (modified lift net, scoop net, beach seines)	Loss of livelihood especially for CFV fish workers Reduced fishing activities and income	Provision of alternative livelihood and conduct of skill development training	Execute legal agreement document with concerned fisherfolk to surrender illegal/destructive gears Ensure that beneficiaries are the certified and endorsed by the LGU and BFAR	Throughout the implementation	LGU, BFAR	Activity Report	Monthly & Quarterly	LGU, BFAR	To be Determined
Upskilling in sustainable fishing technologies and practices	Uncooperative participants, Low participation/attendance Upskilling not viable, costly, or mismatch	Provide incentives (e.g. free food, transportation, grocery items etc) Intensify skills assessment	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined

Adoption of sustainable fishing technology and practices	Technology/practices not viable, costly, or mismatch	Intensify social preparation and identification of suitable and viable fishery technology and practices	Ensure that beneficiaries are the truly affected fisherfolk Ensure viability, suitability and acceptability of the intervention	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
Conduct IEC activities, community-based sessions, and capacity building	Ineffective channel of communication (Misinformation, miscommunication), Uncooperative participants, Low participation/attendance	utilize strategic platforms (e.g. social media platforms etc) Close coordination with the local authorities	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
<i>2.2. Engaging local communities in effective coastal resource management. (e.g. enhancement, conservation, protection)</i>									

Conduct resource enhancement activities (e.g. mangrove rehabilitation, proper solid wastes management, etc)	Uncooperative participants, Low participation/ attendance e.g. Mangrove rehab: Planting of inappropriate species specific to unsuitable site, Mismanagement	Provide incentives (e.g. free food, transportation, grocery items, cash-for-work scheme etc) Conduct orientation prior to mangrove tree growing Provide incentives for properly planted and surviving mangrove	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined
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2.3. Identification of affected fishers and conduct of needs assessment for the provision of alternative livelihood

Conduct fisherfolk profiling	Uncooperative participants, Low participation/ attendance Inaccurate/incomplete/ insufficient data	Conduct orientation of the purpose of fisherfolk profiling Capacitate enumerator	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
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Conduct consultation and beneficiary needs-based assessment	Under represented key sectors	closely coordinate key sectors to actively participate	Ensure that all concerned sectors are invited and provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined
<i>2.4. Implementation of effective Awareness Campaign</i>									
Develop effective IEC materials and utilize strategic platform	Misinformation, untimely schedule of IEC activities	Utilize strategic EIC materials and platforms (e.g. social media platforms etc) Close coordination with the implementers	Hire/assign competent personnel	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined
Conduct of IEC activities to target stakeholders	Ineffective channel of communication (Misinformation, miscommunication), Uncooperative participants, Low participation/attendance	utilize strategic platforms (e.g. social media platforms etc) Close coordination with	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined

		the local authorities	conduct of activities						
<i>2.5. Development/implementation of alternative sustainable livelihood</i>									
Establish collaboration/linkages with other agencies to provide livelihood assistance (e.g. DSWD, TESDA, DOLE, DTI etc.)	Duplication of interventions Unable to deliver commitments	Close coordination with concerned agencies (e.g. regular meetings)	Execute MOA/MOU with other NGAs or entities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined
Develop effective IEC materials and utilize strategic platform	Misinformation, untimely schedule of implementation	Utilize strategic IEC materials and platforms (e.g. social media platforms etc) Close coordination with the implementers	Hire/assign competent personnel	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined

Conduct of IEC activities	Ineffective channel of communication (Misinformation, miscommunication), Uncooperative participants, Low participation/attendance	utilize strategic platforms (e.g. social media platforms etc) Close coordination with the local authorities	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
Conduct of financial literacy training	Uncooperative participants, Low participation/attendance Close-minded participants	Provide incentives	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
<i>For fish workers affected by the elimination of IUUF</i> Provision of technical-vocational training and alternative livelihood programs to diversify income	Loss of income Unsatisfied compensation of affected fisherfolk For food packs - nearly expired food	Provision of alternative livelihood and conduct of skill development training Intensify conduct of consultation Timely delivery of food packs to	Ensure FishR, Boat and Gear Registered Fisherfolk Ensure that beneficiaries are the certified and endorsed by the LGU and BFAR	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined

and support daily subsistence. Create skills-based job opportunities to affected fisherfolk. Livelihood such as but not limited to 1. Provision of food packs through food-for-work scheme 2. Aquaculture 3. Ecotourism activities 4. Livestock 5. Cash-for-work (coastal clean-up)		ensure food packs are not expired							
<i>For 3-month sardines closed fishing season affected fisherfolk (20%)</i> Advise and assist fishers to	Temporary loss of income Unsatisfied compensation of affected fisherfolk	Provision of alternative livelihood and conduct of skill development training Intensify conduct	Ensure FishR, Boat and Gear Registered Fisherfolk Ensure that beneficiaries are the certified and	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined

<p>shift or use other legal fishing gears other than Bagnet, ring net, drift gill net during closed season for</p> <p>Provision of alternative livelihood interventions to diversify income (to consider interventions for daily subsistence) such as but not limited to:</p> <ol style="list-style-type: none"> 1. Provision of food packs through food-for-work scheme 2. Aquaculture 3. Ecotourism activities 4. Livestock 5. Cash-for-work (coastal clean-up) 	<p>For food packs - nearly expired food</p>	<p>of consultation</p> <p>Timely delivery of food packs to ensure food packs are not expired</p>	<p>endorsed by the LGU and BFAR</p>						
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<p><i>For 3-month sardines closed fishing season affected fisherfolk (20%)</i></p> <p>Advise and assist fishers to shift or use other legal fishing gears other than Bagnet, ring net, drift gill net during closed season for</p> <p>Provision of alternative livelihood interventions to diversify income (to consider interventions for daily subsistence) such as but not limited to: 1. Provision of food packs through food-for-work scheme</p>	<p>Temporary loss of income</p> <p>Unsatisfied compensation of affected fisherfolk</p> <p>For food packs - nearly expired food</p>	<p>Provision of alternative livelihood and conduct of skill development training</p> <p>Intensify conduct of consultation</p> <p>Timely delivery of food packs to ensure food packs are not expired</p>	<p>Ensure FishR, Boat and Gear Registered Fisherfolk</p> <p>Ensure that beneficiaries are the certified and endorsed by the LGU and BFAR</p>	<p>Throughout the implementation</p>	<p>LGU, BFAR</p>		<p>Monthly & Quarterly</p>		<p>To be Determined</p>
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2. Aquaculture 3. Ecotourism activities 4. Livestock 5. Cash-for-work (coastal clean-up)									
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<p><i>Fisherfolk affected by the reduced fishing activities/ days (21%)</i></p> <p>Provision of alternative livelihood interventions to diversify income (to consider interventions for daily subsistence) such as but not limited to: 1. Provision of food packs through food-for-work scheme 2. Cash-for-work (coastal clean-up)</p>	<p>temporary reduction of catch and income</p>	<p>Provision of food/cash-for-work</p>	<p>Ensure FishR, Boat and Gear Registered Fisherfolk</p> <p>Ensure that beneficiaries are the certified and endorsed by the LGU and BFAR</p>	<p>Throughout the implementation</p>	<p>LGU, BFAR</p>		<p>Monthly & Quarterly</p>		<p>To be Determined</p>
<p><i>For ancillary industries</i></p> <p>1. Assist sardine ancillary industries in aligning their repair and</p>	<p>Temporary loss or reduction of income</p> <p>Cost of shifting to other commodities</p>	<p>Close coordination with the ancillary industries in terms of the timing of interventions and preparation of</p>	<p>Ensure FishR, Boat and Gear Registered Fisherfolk</p> <p>Ensure that beneficiaries are the certified and</p>	<p>Throughout the implementation</p>	<p>LGU, BFAR</p>		<p>Monthly & Quarterly</p>		<p>To be Determined</p>

<p>maintenance schedules during the closed fishing season.</p> <p>2. Encourage processing plants to engage in the processing of other aquaculture commodities during the closed fishing season of sardines which would help in diversifying their income sources</p>		<p>possible assistance</p>	<p>endorsed by the LGU and BFAR</p>						
<p><i>For the ancillary industry workers, women and other vulnerable sectors involved/indirectly affected by the policy:</i></p> <p>Provision of</p>	<p>Temporary loss/reduction of income</p> <p>GBV related risk</p>	<p>Close coordination with ancillary industries labor union and LGU for the provision of assistance</p> <p>Provision of GBV/GAD orientation</p>	<p>Ensure FishR, Boat and Gear Registered Fisherfolk</p> <p>Ensure that beneficiaries are the certified and endorsed by the LGU and BFAR</p>	<p>Throughout the implementation</p>	<p>LGU, BFAR</p>		<p>Monthly & Quarterly</p>		<p>To be Determined</p>

alternative livelihood interventions to diversify income and skills development training									
<i>2.6. Facilitate access of fishers to financial support and credit financing</i>									
Link with other agencies for the conduct of financial literacy and orientation	Duplication of interventions Unable to deliver commitments	Close coordination with concerned agencies (e.g. regular meetings)	Execute MOA/MOU with other NGAs or entities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined
Conduct capacity building on financial literacy and orientation on credit/loan programs	Uncooperative participants, Low participation/attendance Close-minded participants	Provide incentives	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
<i>2.7. Upgrade fisherfolk organizations into fisherfolk cooperative</i>									

Link with CDA for the conduct of capacity building activities	Duplication of interventions Unable to deliver commitments	Close coordination with concerned agencies (e.g. regular meetings)	Execute MOA/MOU with other NGAs or entities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined
Capacity building (organization development, financial literacy entrepreneurship, marketing)	Uncooperative participants, Low participation/ attendance Close-minded participants	Provide incentives	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
<i>2.8. Establishment of post-harvest facilities and provision of equipment</i>									
Inventory of existing PH facilities and equipment	Security risk faced by enumerators Underreported, non-disclosure of some PH facility and equipment, inaccurate data	Close coordination with local authorities Conduct data validation (FGD & KII)	Secure necessary permits prior to the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
Conduct review/update of Sardines VCA and feasibility study of proposed facilities	Security risk faced by enumerators Underreported, non-disclosure of some facility and equipment, inaccurate data	Close coordination with local authorities Conduct data validation (FGD & KII)	Secure necessary permits prior to the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined

Establishment of PH facilities (e.g. cannery, ice plant, transport vehicle/reefer van, solar dryer etc) and provision of equipment for sardines and other commodities	Project no longer viable due to change of project site Inactive/weak fisherfolk beneficiary/LGU Unfunded maintenance and operational cost	Execute MOA Capacitate fisherfolk beneficiaries Orient beneficiaries about the cost-sharing scheme (e.g. to address the maintenance and operational cost)	Ensure that the project feasible through the conduct of VCA, Feasibility study	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined
Conduct capacity building on fish processing (to include product development/food innovation, value-addition), and other trainings to improve seafood product and expand market channels	Uncooperative participants, Low participation/attendance Close-minded participants	Provide incentives	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
<i>2.9. Assist fisherfolk organization/SMEs to access potential markets</i>									

Conduct business-to-business network/market linkages, aqua fairs and exhibits	Uncooperative participants, Low participation/attendance Unable to sustain sufficient volume required by the institutional buyers	Provide incentives Link with other NGAs to provide facilities and assistance to showcase products during Agri-aqua fairs and exhibits/expo Capacity building to produce and cluster and consolidate products to achieve economy of scale	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
Conduct capacity building on online and other platform for marketing of fishery products	Uncooperative participants, Low participation/attendance Close-minded participants	Provide incentives	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
<i>2.10. Promotion of sustainable fishing technology and practices</i>									

<i>(environment-friendly and climate resilient e.g. FRP "bangka ko gawa ko" and HDPE cages, use of solar powered lights)</i>									
Capacity building and IEC activities	Ineffective channel of communication (Misinformation, miscommunication), Uncooperative participants, Low participation/attendance	utilize strategic platforms (e.g. social media platforms etc) Close coordination with the local authorities	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
Conduct of technology demonstration	Uncooperative participants, Low participation/attendance Technology/practices not viable or mismatch	Provide incentives (e.g. free food, transportation, grocery items etc) Intensify skills assessment	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined

Adoption of sustainable fishing technology and practices	Uncooperative participants, Low participation/ attendance Technology/practices not viable or mismatch	Intensify social preparation and identification of suitable and viable fishery technology and practices	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined
Provision of incentive mechanisms (e.g. recognition) for fisherfolk engaging in sustainable fishing practices	Failure to sustain fishing practices Unable to continue incentive mechanism	Regular mentoring and coaching as well as monitoring Allocate budget regularly	Ensure FishR, Boat and Gear Registered Fisherfolk Ensure that beneficiaries are the certified and endorsed by the LGU and BFAR	Throughout the implementation	LGU, BFAR		Monthly & Quarterly		To be Determined
<i>2.11. Empowerment of consumers through awareness of sustainable seafood.</i>									
Capacity building and IEC activities on sustainable seafood certification and eco-labeling and promote sustainable consumption	Ineffective channel of communication (Misinformation, miscommunication), Uncooperative participants, Low participation/attendance	utilize strategic platforms (e.g. social media platforms etc) Close coordination with the local authorities to	Ensure the provision of necessary assistance to the participants (e.g. transportation cost, food etc.) during the conduct of activities	Throughout the implementation	LGU, BFAR		Monthly & Quarterly	LGU, BFAR	To be Determined

	Greenwashing in eco-labeling	monitor greenwashing							
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C. GOVERNANCE

ANTICIPATED E&S RISKS AND IMPACTS OF ACTIVITIES					MONITORING SCHEMES			
	RISK MITIGATION AND MANAGEMENT MEASURES	EXPECTED OUTCOMES/ IMPACTS	TIMING/FREQUENCY OF MITIGATION	RESPONSIBILITY	MONITORING PARAMETER	TIMING/FREQUENCY OF MONITORING	RESPONSIBILITY	COST
<i>1. PRE- IMPLEMENTATION STAGE</i>								
<i>1.1 Development of Plans</i>								

Lack of interest, participation, cooperation of LGUs, NGAs, fishing communities	Consultation and communication and proper dissemination of information to stakeholders Alliance-level forum LGU-level		As needed Quarterly as needed	Alliance TWGs, LGU TWG members Alliance MB TWG per LGU	Acceptance to infused concepts on sardine FMP; passage of resolution supporting/adoption of FMP sardines	As needed	Alliance, LGUs	
<i>1.2 Plan Formulation</i>								
Political interference	levelling off among LCEs, TWGs	harmonization among LCEs	quarterly	Alliance, LCEs	ordinances adopting formulation of FMP with corresponding MOA			
Fragmented decision-making	levelling off among LCEs, TWGs	harmonization among LCEs	quarterly; as needed	Alliance, LCEs	ordinances adopting formulation of FMP with corresponding MOA			
Limited data and baseline information	coordination with concerned offices with the support of the	sufficient data to back up plan formulation	as needed	Alliance, LGUs, concerned offices	easy access to database			

	LGU and Alliance							
Saturation of projects	streamlining of priority projects	identification of first 5-highest identified issues	start of plan formulation	Alliance, NGAs				
complexity and long-term vision	streamlining of priority projects	ease of formulation	start of plan formulation	Alliance, LGUs, concerned offices				
<i>2. Plan Implementation Stage</i>								
<i>2.1 Presentation of Plans to Stakeholders</i>								
Time constraints	effective planning and scheduling	on-time implementation and presentation of sardines FMP	as needed	Alliance, LGU, FMA-9 Secretariats	followed timeline			
	effective communication and information dissemination	high degree of sense of ownership and understanding of sardines FMP						
	contingency planning	presence of back-up plans						
no permanent representative/devoid of authority	identification of permanent and alternate representatives	issuance of S.O for permanent and alternate representatives	as needed	LCEs	attendance of S.O.-issued personnels			
<i>2.2 Information Drive</i>								
Lack of resources and manpower	utilize multiple communication	amplified message visibility and reach						

	channels/medium							
	ensure accuracy and reliability	better message retention and understanding; full acceptance to projects						
	feedback mechanism	identification of gaps and areas for improvement						
misinterpretation of knowledge products/materials	proper conducting of consultation of IEC materials preparation	better message retention and understanding; full acceptance to projects						
<i>2.3 Policy Development in relation to FMP</i>								
less priority among LCEs, LGU SB	coordination and linkaging with LGUs	timely passage of policies and ordinances related to sardines FMP	as needed	alliance, NGAs, FMA-9 secretariats, LGUs	immediate action on proposed policies and ordinances on sardines FMP			
<i>2.4 Development of Alternative Livelihood for affected fishers and beneficiaries</i>								
mismanaged/unsustainable alternative livelihoods	proper training and capacity building of value formation and project management	transparency of project implementation; generation of income when fishing is not in season; resiliency	as needed; continuous implementation	LGUs, POs, NGOs, NGAs (BFAR, DOST, DOLE, DTI, TESDA)	in place record of income from alternative livelihood; feedback showing progress through their minutes of meetings			
lack of skill set								
fishing community not receptive to introduction of alternate livelihoods								

2.5 Implementation of Livelihood Projects								
C. GOVERNANCE								
inflation	facilitating market access and strong value chains	sound and established market linkages; ease in market participation	as needed	LGUs, DOLE	Reports			
forced majeure	diversification of livelihoods (alternative livelihoods)	generation of livelihood opportunities; lessened sardine fishing pressure; resiliency of fishing communities; poverty alleviation	as needed		Reports			
	ecosystem rehabilitation / DRRM plan formulation and implementation	protection/mitigation from natural disasters; improved biodiversity and conservation of species of <i>S. lemuru</i> and <i>S. gibbosa</i>	regularly done					
2.6 Approval and Implementation of Policy Developed from FMP								
timely approval and passage of policies	constant follow-up	approval of policies	as needed	LGUs, SBs, BFAR	approved policies			
lost documents	tracking and document back-up							
3. POST IMPLEMENTATION STAGE								
3.1 Monitoring and Evaluation of Livelihood								
accountability/transparency	in place bookkeeping	sound and transparent record keeping	regular (according to respective Man Ops)	LGUs, COOPs, FAs,	monitoring reports in line with FMP sardines			

	and financial system			Alliances, NGAs				
utilization of evaluation findings	generation of regular, physical accomplishment reports							
sustainability of monitoring/evaluation	institutional integration and support							
3.2 Monitoring and Evaluation of Plan Implementation								
non-adherence to FMP sardines plan	fast-pacing	targets of sardine FMP are met; increased sardine biomass	as needed	alliance, NGAs, FMA-9 secretariats, LGUs				
	empowered CLE	lessened incidence of illegal/unregulated fishing practices		PNP-MG, PCG, MARINA, BFAR-Fisheries Law Enforcement Group				
3.3 Monitoring and Evaluation of Policies Developed from FMP								
improper implementation of policies and ordinances	adhere to agreed monitoring system and policies	efficient and effective adherence to policies and ordinances	as needed	alliance, NGAs, FMA-9 secretariats, LGUs	reports			

	<i>regular reorientation of sardine-FMP-related policies and ordinances</i>	<i>unified team on monitoring activities</i>	<i>as needed</i>					
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