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Fisheries Annex

Protected Area Management Plan for the Sarangani Bay Protected Seascape, Region 12, Philippines (2016 – 2021)

Final Draft – February 2019



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About this Document

This 'Fisheries Annex,' is a planning document that forms part of the Protected Area Management Plan (PAMP) (2016-2021) for Sarangani Bay Protected Seascape (SBPS) in Region 12, Philippines. It is a proposed framework adopting an ecosystem approach to fisheries management (EAFM) with focus on the municipal fisheries of Sarangani Bay's seven surrounding coastal city/municipalities: (1) Maitum, (2) Kiamba, (3) Maasim, (4) Alabel, (5) Malapatan, (6) Glan and (7) General Santos City. The crafting of this document was facilitated through a technical assistance request of the SBPS' Protected Area Management Board (PAMB) of the Department of Environment and Natural Resources, Region 12 (DENR 12) to USAID Oceans. This document is a collaborative effort among the SBPS-PAMB, DENR 12, the Bureau of Fisheries and Aquatic Resources (BFAR)-Regional Office 12's Technical Working Group for Ecosystem Approach to Fisheries Management (BFAR-EAFM TWG), the technical staff of local government units (LGUs) within the Sarangani Bay, and other participants of the series of workshops that crafted and refined the plan into its current form through the generous support and technical assistance from the USAID Oceans project. This document is intended to provide a framework for fisheries management within the SBPS to support the implementation of its PAMP (2016-2021) by relevant governmental agencies, LGUs, non-governmental partners, academic and research institutions, and the fishing industry sector that altogether will benefit from an effective fisheries management and biodiversity conservation within the protected seascape. This Fisheries Annex is also intended to complement the Sarangani Bay and Sulawesi Sea Sustainable Fisheries Management Plan developed by BFAR Region 12 and local partners for the Fisheries Management Area in the Celebes Sea (Sulawesi Seas) in Southern Mindanao.

This document was produced for review and approval by the United States Agency for International Development/Regional Development Mission for Asia (USAID/RDMA). The views expressed in this document do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Cover photo: Coastal area of the Sarangani Bay. Philippines Bureau of Fisheries and Aquatic Resources, Region 12.

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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ADPO	Agricultural Development Project Office
AFF	Agriculture, Forestry and Fisheries
AFMA	Agriculture and Fisheries Modernization Act
BFAR	Bureau of Fisheries and Aquatic Resources
BMB	Biodiversity Management Bureau
CDP	Comprehensive Development Plan
CDD	Conservation and Development Division
CDT	Catch Documentation and Traceability
CENRO	City Environment and Natural Resources Office
CFLC	Community Fish Landing Centre
CNFIDP	Comprehensive National Fisheries Industry Development Plan
COP	Chief of Party
CPDO	City Planning and Development Office
CPUE	Catch Per Unit Effort
CRM	Coastal Resource Management
CRFMS	Coastal Resource and Foreshore Management Section
CSO	Civil Society Organization
DA	Department of Agriculture
DAO	Department Administrative Order
DENR	Department of Environment and Natural Resources
DENR-SMICZMP	DENR-Southern Mindanao Integrated Coastal Management Project
DPW	Deputized Fish Warden
EAFM	Ecosystem Approach to Fisheries Management
ExeCom	Executive Committee (of PAMB)
FAO	Food and Agriculture Organization (also Fisheries Administrative Order)
FARMC	Fisheries and Aquatic Resources Management Council
FLDT	Fisheries Livelihood Development Technicians
FLEMOP	Fishery Law Enforcement Manual of Operations
FLET	Fishery Law Enforcement Team
FMRED	Fisheries Management, Regulatory and Enforcement Division
FMU	Fisheries Management Unit
FPSSD	Fisheries Production and Support Service Division
GIZ	Gesellschaft für Internationale Zusammenarbeit
GSFPC	General Santos Fishing Port Complex
ICM	Integrated Coastal Management
IEC	Information, Education and Communication
IP	Indigenous People
IUU	Illegal, Unreported and Unregulated (fishing)
LGC	Local Government Code
LGU	Local Government Unit
MA	Municipal Agriculturist
M&E	Monitoring & Evaluation
MCLET	Municipal Coastal Law Enforcement Team
MCS	Monitoring, Control and Surveillance
MENRO	Municipal Environment and Natural Resources Office
MFO	Major Final Output
MMK	Malinis at Masaganang Karagatan
MPA	Marine Protected Area
MPDC	Municipal Planning and Development Coordinator
NCIP	National Commission on Indigenous People
NGA	National Government Agency
NIPAS	National Integrated Protected Area System

OIC Officer-In-Charge

OCAG	Office of the City Agriculturist
OMAG	Office of the Municipal Agriculturist
O&M	Organization and Management
OPAG	Office of the Provincial Agriculturist
PAGASA	Philippine Atmospheric Geophysical and Astronomical Services Administration
PAMB	Protected Area Management Board
PAMP	Protected Area Management Plan
PASu	Protected Area Superintendent
PPDO	Provincial Planning and Development Office
RA	Republic Act
RAFMS	Rapid Appraisal of Fisheries Management System
SAAD	Special Area for Agricultural Development
SBPS	Sarangani Bay Protected Seascape
SCW	Stakeholder Consultation Workshop
SEAFDEC	Southeast Asian Fisheries Development Center
SFMP	Sustainable Fisheries Management Plan
TWG	Technical Working Group
USAID	United States Agency for International Development
USAID Oceans	USAID Oceans and Fisheries Partnership Activity

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Formally titled as ‘Fisheries Annex,’ this planning document forms part of the Protected Area Management Plan (2016-2021) for Sarangani Bay Protected Seascape (SBPS) in Region 12, Philippines. Its focus is the municipal fisheries of Sarangani Bay’s seven surrounding coastal city/municipalities: (1) Maitum, (2) Kiamba, (3) Maasim, (4) Alabel, (5) Malapatan, (6) Glan and (7) General Santos City (GSC). The crafting of this document was facilitated through a technical assistance request of the SBPS’ Protected Area Management Board (PAMB) – Department of Environment and Natural Resources – Region 12 (DENR 12) to the USAID Oceans and Fisheries Partnership (USAID Oceans). This happened last year during the time of my predecessor, RD Tungko Saikol. As a regional project, USAID Oceans works to strengthen regional cooperation to combat illegal, unreported, and unregulated (IUU) fishing, promote sustainable fisheries, and conserve marine biodiversity in the Asia-Pacific region.

The planning process started in 2016 and underwent four major multi-stakeholder consultations at General Santos City in 2019. These were as follows: (1) *A Workshop for Crafting the ‘Fisheries Component’ of Protected Area Management Plan of Sarangani Bay Protected Seascape* held at Sun City Suites Hotel on January 25-26, 2017; (2) *Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a Sustainable Fisheries Management Plan* held at Greenleaf Hotel from February 21–23, 2017; and (3) *A Writeshop for Finalization of the ‘Fisheries Annex’ of Protected Area Management Plan of Sarangani Bay Protected Seascape* held at Sydney Hotel on June 15–16, 2017; and (4) *Progress Monitoring of the Sarangani Bay Protected Seascape Fisheries Annex* held at Sun City Suites Hotel on February 11, 2019. Based on these four workshops/writeshops and related desk works and consultations, the Fisheries Annex underwent several revisions.

The crafting of this ‘Fisheries Annex’ has been a special collaborative undertaking among various stakeholder groups within and around Sarangani Bay. In this regard, the invaluable inputs and contributions of the partner institutions and individuals in crafting this plan are duly acknowledged (see list of contributors in Appendix I).

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¹ SOCSKSARGEN = South Cotabato, Sultan Kudarat, Sarangani and General Santos City

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This Fisheries Annex has undergone an extensive consultation process from concerned stakeholder groups within and around Sarangani Bay. It is anticipated that this document will provide the integrated guidance in promoting the sustainable development of the municipal fisheries of Sarangani Bay. Moreover, this Fisheries Annex is anticipated to provide the framework for collaborative implementation of the priority programs, projects and activities in line with the respective coastal resource management (CRM)/municipal fisheries development plans of the concerned LGUs.

EXPANDED SUMMARY

Formally titled as 'Fisheries Annex,' this planning document forms part of the Protected Area Management Plan (2016-2021) for SBPS in Region 12, Philippines. The crafting of this document was facilitated through a technical assistance request of the SBPS' PAMB to the Oceans and Fisheries Partnership (USAID Oceans). As a regional project, USAID Oceans works to strengthen regional cooperation to combat illegal, unreported, and unregulated (IUU) fishing, promote sustainable fisheries, and conserve marine biodiversity in the Asia-Pacific region. Hence, this Fisheries Annex plan is in line with the USAID Oceans' ecosystem approach to fisheries management (EAFM) thrust of strengthening ecosystem-wide fisheries management planning. The sub-sector focus here is the municipal capture fisheries.

The SBPS itself serves as the fisheries management unit (FMU). Hence, its jurisdictional area coverage of some 215,950 ha of coastal marine water serves also as the planning area. Consequently, the basic spatial and governance scale of this Fisheries Annex are the waters of Sarangani Bay's six surrounding coastal municipalities: (1) Maitum, (2) Kiamba, (3) Maasim, (4) Alabel, (5) Malapatan and (6) Glan. Added here is the waters of General Santos City. Sarangani Bay is a large coastal embayment located between latitudes 5°33'25" and "6°6'15" N and longitudes "124°22'45" and "125°19'45" E.

This Fisheries Annex for Protected Area Management Plan (PAMP) of SBPS is not a stand-alone document. It takes into account the relevant fisheries/ CRM plans and development plans of the municipal/provincial LGUs. At the national level, it is guided by the Comprehensive National Fisheries Industry Development Plan (CNFIDP). The language of this plan has been simplified to the extent practicable for easier understanding of lay readers.

This Fisheries Annex is structured around six chapters. In turn, each chapter is divided into sections, and where appropriate, sub-sections. The 'preliminaries' contain the following elements: Table of Contents, List of Tables, List of Figures, Acronyms and Abbreviations, List of Boxes, List of Appendices, Acknowledgement and Expanded Summary.

Chapter 1 (Introduction) provides the contextual background materials in six interlinked sections. The first section contains the provisional vision highlighting the sustainability of the Sarangani Bay's municipal fisheries. The second section provides the rationale for crafting the Fisheries Annex as a distinct Municipal Fisheries Management Program and/or Component of the SBPS' PAMP. Section 3 then describes the planning process for crafting the Fisheries Annex focusing on the first stakeholder workshop in General Santos City on January 25-26, 2017. It involved the participation of relevant agencies/organizations as well as selected stakeholders. Three other multi-stakeholder workshops/writeshops follow this event. Section 4 (Sarangani Bay Protected Seascape as Fisheries Management Unit) indicates the plan's geographical coverage, which is the jurisdictional boundary of the SBPS, in effect making Sarangani Bay as the FMU. Section 5 gives an overview of the PAMP as guiding document in the development and management of SBPS. This Fisheries Annex may be formally linked later with other/relevant fisheries and/or coastal resources management (CRM) in the area. The last section outlines the contents and structure of the entire Fisheries Annex.

Chapter 2 (Profile Highlights) provides a summary synopsis of the seascape's current situation and consists of nine sections. Much of the literature are liberally taken from the SBPS' PAMP, DENR 12 reports and BFAR 12 documents as well as the results of the Rapid Appraisal of Fisheries

Management System (RAFMS) of the WorldFish. Other information are sourced out from the municipal profiles, fisheries/CRM plans, government reports and related publications.

Section 2.1 provides the 'Overview/General Information' while the next section summarizes the 'Geography of Sarangani Bay.' This is followed by Section 2.2 (Geography of Sarangani Bay). Meanwhile, Section 2.3 provides the Key Ecological/Environmental Features. Included here are descriptions of: geological/ geomorphological features; coastal marine/habitats; meteorological features; fish sanctuaries/marine protected areas (MPA); and marine water quality. Section 2.4 describes the seascape's zoning.

Section 2.5 relates to these socioeconomic features: basic demographic profile; General Santos City Fish Port Complex (GSFPC); occupation, employment, income and poverty; value chain for tuna and tuna-like species; markets of fish catch; cost and earnings; fishing boats/vessels; gender and labor, and economic development pathways. Section 2.6 gives an 'Overview of Sarangani Bay Fisheries.' Section 2.7 (Municipal Marine Capture Fisheries in Focus) contains the following characteristics: fishery resources; fishing gears and effort; fisheries production/catch and spatial distribution; fish abundance and diversity; and seasonality. Section 2.8 (Policy and Legal Framework) covers international treaties and agreements, national laws, municipal/local legislations and resolutions of PAMB. Section 2.9 (Organizations/Institutions Involved in Fisheries Management) highlights the key offices in municipal fisheries management particularly the Office of the Municipal/City Agriculturist (OMAG/OCAG) and City/Municipal Environment and Natural Resources Office (C/MENRO). Sections are also devoted for the description of BFAR 12 and PAMB as organizational entities that are very crucial for this Fisheries Annex. It winds down with a summary of local fisheries/CRM Plans.

Chapter 3 (Issues/Problems and Opportunities) presents the critical municipal fisheries concerns that need to be addressed. These are categorized into three broad dimensions of the EAFM: (1) ecological, (2) human welfare, and (3) governance. Each dimension is characterized into detailed elements. Ecological dimensions include overfishing or depleted status of fishery resources as well as degraded fishery habitats and coastal environments, including pollution concerns, both terrestrial and marine-based. The human welfare dimensions are largely socio-economic concerns that include poverty, livelihoods, population pressure, resource use competition and conflict, inequitable distribution of benefits from resource use and limited post-harvest facilities. Governance dimension covers constraints related to limited institutional capacity, inadequate or unharmonized policies, rules and regulations, and intensified inconsistent level of community participation.

Chapter 4 (Goals of Management of Municipal Fisheries) relates to the CNFIDP as the framework for overall management of Philippine fisheries. The specific fisheries management objectives that are outlined here are based on the identified problems/issues in Chapter 3. A few elements of monitoring/performance indicators are also described here.

Chapter 5 (Management Actions) are the proposed measures and/or actions that will be undertaken to address the critical municipal fisheries problems and issues that are present in the Sarangani Bay area. There are two sets of suggested management actions. The first set is from the January 2017 workshop recommendations that consist of 11 CNFIDP agreed consolidated actions and some 86 management actions. These are area based that may cover one municipality or the entire Sarangani Bay. The second set emanates from the February 2017 workshop recommendations with some 39 management actions.

Chapter 6 (Operational Planning, Annex Adaption and Implementation) is divided into six sections. Section 6.1 (Designing of Institutional Arrangements) is essentially the proposed Organization and Management (O&M) in executing/implementing the Fisheries Annex. To coordinate/orchestrate the Fisheries Annex's implementation, a distinct Fisheries Management Committee within PAMB shall be created. Section 6.2 (Operational Planning) involves project development and prioritization. As such, the project concepts and/or ideas that were proposed will be translated into individual and discrete implementable projects. Section 6.3 (Implementation of Early Management Actions) refers to the on-the-ground actions for the high priority projects to keep the planning momentum moving. An example is the crafting of the common or unified fisheries ordinance for the whole Sarangani Bay.

Section 6.4 (Adoption of Fisheries Annex) describes the process for legitimizing the Fisheries Annex. The PAMB may also refer to this planning document as the 'Fisheries Component/Program' of the PAMP of the SBPS. Another possible route is formal adaption of the Sarangani Bay LGUs. Section 6.5 (Development of Monitoring and Evaluation Scheme) highlights the need to develop a mechanism to monitor the progress of the Fisheries Annex's implementation through time. Such may include the Monitoring and Evaluation (M&E) protocols as well as indicators and targets for evaluating/assessing the efficiency or effectiveness of the plan. This section contains indicative EAFM benchmarks for LGUs. Section 6.6 (Financing the Fisheries Annex) highlights the need for funding to operationalize the Fisheries Annex. Aside from project-specific costs, such may cover operational funding requirements in terms of personal services, maintenance and other operating expenses and capital outlay.

The 'Bibliography' list the sources of information that are cited in the text, including those that are not specifically cited. Appendices provide the details of some data/information that could not be accommodated in the Annex's main body.

I. INTRODUCTION

I.1 Vision for Fisheries Management of Sarangani Bay

“The stakeholders envision a municipal fisheries of Sarangani Bay that is able to equitably and sustainably share the benefits from capture fishery resources thereby contributing to regional/local food security, inclusive economic growth and resource use sustainability.”

The above vision is in line with the vision and mission statements of the SBPS as contained in the PAMP. As such, the SBPS’s vision is “A healthy bay sustainably managed by empowered stakeholders.” Meanwhile, its mission is “Ensuring sustainable management of the Sarangani Bay through strong participation and institutional support from the stakeholders”.

I.2 Rationale/Background for Crafting of Fisheries Annex of PAMP

The SBPS is the second largest marine protected area (MPA) in the Philippines. It is also one of the richest in terms of marine biodiversity that includes fishery resources. The SBPS has been a recipient of international assistance related to marine biodiversity conservation and coastal development endeavors over the last half a century. Key donor agencies were GIZ and USAID. Substantial gains have been achieved through these international development assistance as well as the efforts by various management bodies and stakeholder groups. There are still areas for improvement, though, for coastal resources management (CRM) in general and fisheries management in particular.

USAID Oceans is a regional project that - in collaboration with Southeast Asian Fisheries Development Center (SEAFDEC) and BFAR - has chosen the GSFPC, and surrounding area around the SBPS, as the Philippines’ project ‘Learning Site’. In addition to the development and implementation of a Catch Documentation and Traceability (CDT) System, a core tenet of the project is also to strengthen an EAFM by developing a Sustainable Fisheries Management Plan (SFMP) for the coastal area (i.e., Sarangani Bay).

The updated PAMP for the SBPS was presented during the USAID Oceans’ Technical Session and Launching of Site Activities in General Santos City, held on September 2, 2016. Such PAMP was noted as a suitable platform for cooperation to complement the USAID Oceans-developed SFMP that is being crafted in close collaboration with local stakeholders. Eventually, representatives of the Protected Area PAMB –DENR Region 12 requested USAID Oceans to provide technical assistance to craft the ‘Fisheries Annex’ as a distinct fisheries component of the PAMP.

As a result, the *Workshop for Crafting the ‘Fisheries Component’ of Protected Area Management Plan (PAMP) of Sarangani Bay Protected Seascape (SBPS)* was held in General Santos City on January 25–26, 2017 to discuss its various elements. This was followed later by the workshop entitled *Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a Sustainable Fisheries Management Plan* that was held on February 21–23, 2017. The draft Fisheries Annex was developed between January and April 2017 and was presented to the PAMB’s TWG and ExeCom on April 18, 2017. During these two days, it was agreed that a multi-stakeholder writeshop to finalize the Fisheries Annex shall be held on June 15–

16, 2017. This Fisheries Annex was approved by the SBPS PAMB during their 42nd ExeCom Meeting, held on July 25, 2017, based on the SBPS PAMB Resolution No. 2017 – 025.

1.3 Planning Process for Crafting Fisheries Annex of PAMP

The planning process for crafting of Fisheries Annex was stated all the way back in 2016 (Table 1). This has been a participatory and collaborative process among many organizations and partner agencies. Particularly relevant are DENR 12, BFAR 12 and provincial/municipal LGUs.

Table 1. Key Dates for Crafting the Fisheries Annex from 2016 to 2019

Date	Planning Process
March 2016	USAID Oceans met with local partners, including BFAR 12 and DENR 12 Prof Connie Portugal of MSU introduced USAID Oceans to PAMB/ExeCom
August 30, 2016	Visit of USAID Oceans Team to DENR 12/BFAR 12 during 18 th National Tuna Congress
September 2 , 2016	Launching of USAID Oceans with BFAR 12 Presentation and DENR SBPS presentations; PAMB/DENR requested USAID Oceans’ assistance for PAMP Fisheries Annex
October 24/25 ,2016	USAID Oceans met with DENR 12 and BFAR 12 RD Sam during RAFMS training Sun City Suites;
October 26, 2016	Courtesy call of USAID Oceans to RD Saikol of Oceans Team at London Beach
December 14/15, 2016	Meeting of USAID Oceans with BFAR 12 and DENR 12 to discuss Fisheries Component/Annex
January 11, 2017	Coordination Meeting about Fisheries Component/Annex Workshop with BFAR 12 and DENR 12
January 25-26, 2017	A Workshop for Crafting the ‘Fisheries Component’ of Protected Area Management Plan of Sarangani Bay Protected Seascape, Sun City Suites, General Santos City
February 21–23, 2017	Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a Sustainable Fisheries Management Plan, Greenleaf Hotel, General Santos City
January – April 2017	Crafting of Fisheries Annex (Working Draft circulated on 17-19 April 2017)
April 18, 2017	Presentation of Fisheries Annex to PAMB –TWG Meeting, Sydney Hotel, General Santos City
April 19, 2017	Presentation of Fisheries Annex to PAMB – ExeCom, Sydney Hotel, General Santos City
April – May 2017	plan revision/refinement (Revised Draft transmitted by USAID Oceans to PAMB Chair and PASu circulated on May 31, 2017)
June 15-16, 2017	workshop-writeshop to finalize Revised Draft Fisheries Annex among TWG members, selected municipal/provincial LGU representatives at Sydney Hotel, General Santos City

June 16, 2017	presentation of Final Draft Fisheries Annex to PAMB – ExeCom and its adaption at Sydney Hotel, General Santos City
June – July 2017	plan finalization, printing/publication, socialization
July 25, 2017	Approval of the Fisheries Annex by SBPS PAMB during 42 nd EXECOM, based on Resolution No. 2017 – 025
July 2017 – 2018	Operational planning and implementation by LGUs and SBPS PAMB
February 11, 2019	Progress Monitoring of the Sarangani Bay Protected Seascape Fisheries Annex, Sun City Suites Hotel, General Santos City

The planning process adopts a combination of the RAFMS (Figure 1) and the EAFM framework (Figure 2). The RAFMS requires a four-step process that led to the description of the fisheries management system of Sarangani Bay. This process eventually led to the crafting of this Fisheries Annex as the specific municipal fisheries management component of PAMP. Step 1 (Secondary data analysis) was the review of existing literature about the SBPS, including an analysis of documents from government sources, research by academic and research institutions and reports from civil society groups. Step 2 (Reconnaissance survey) involved initial site visits to the provincial and municipal LGUs and ocular inspection of coastal fishing villages. Selected government officials, as well as representatives from people’s organizations, non-governmental organizations and the private sector were consulted. Step 3 (Field data gathering) was the collection of primary data. The three data gathering methods used were semi-structured interviews, focused groups discussions and field observations. Step 4 (Community validation) involved the presentation of the results of data generated to the stakeholders. Aside from site validations, the results were likewise validated during these two events: “A Workshop for Crafting the ‘Fisheries Component’ of Protected Area Management Plan (PAMP) of Sarangani Bay Protected Seascape (SBPS)” in January 2017 and “Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a Sustainable Fisheries Management Plan” held in February 2017, in General Santos City.

Figure 1. Description of the fisheries management system of Sarangani Bay through RAFMS process.

Source: Pido et al 1996, 1997

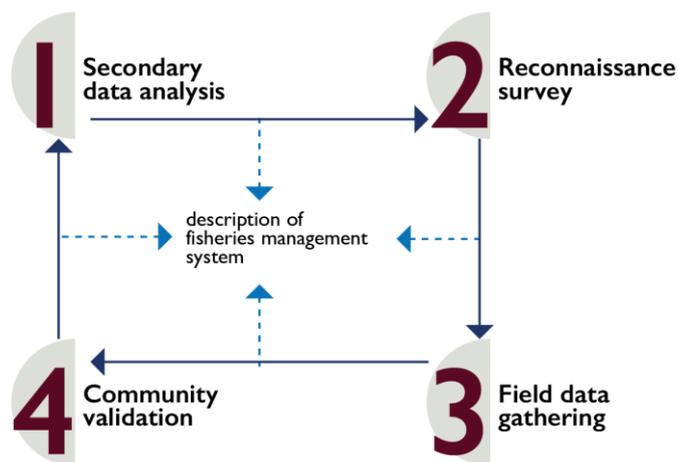
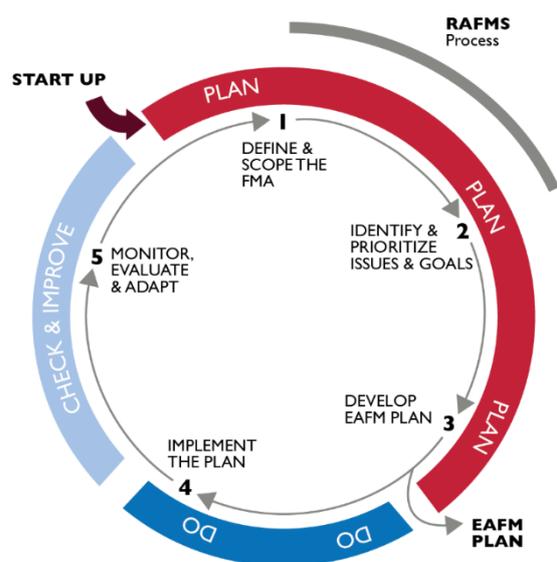


Figure 2. Five steps of EAFM



Source: Pomeroy et al. (2013); Staples et al. (2014)

USAID Oceans subcontracted WorldFish to conduct the RAFMS in the Philippines and provide inputs to the development of CDT system and the SFMP. The RAFMS in the Philippines aims to assess the status of the capture fisheries subsector in Sarangani bay with focus on the conduct of a structure-conduct-performance analysis for major tuna species caught in the fishing area.

Meanwhile, the five steps of EAFM are as follows: (1) define and scope the FMU; (2) identify and prioritize issues and goals; (3) develop EAFM plan; (4) implement the plan; and (5) monitor, evaluate and adopt the EAFM plan. Fisheries Annex forms part of 2016-2021 PAMP of the SBPS. There are two stakeholder consultations involved as described below.

The formal planning process commenced during the first stakeholder consultation during A *Workshop for Crafting the ‘Fisheries Component’ of PAMP of SBPS*. The workshop program is presented in Appendix I. The three workshop objectives were as follows: (1) to socialize the PAMP of the SBPS with different stakeholders; (2) to present and discuss past and ongoing fisheries-related activities, initiatives, plans, programs, and projects of the DENR 12, BFAR 12, and LGUs in relation to the issues and problems in the Sarangani Bay; and (3) to discuss the basic elements of the fisheries component of the PAMP of the SBPS.

This collaborative undertaking was held at the Sun City Suites in General Santos City from January 25–26, 2017 and it convened 65 attendees (Appendix I). The DENR 12 served as the lead, while the BFAR 12 and USAID Oceans provided technical support and coordination.

Majority of the participants (32) came from regional offices of the following National Government Agencies (NGA): DENR, BFAR, Department of Agriculture (DA) and NCIP. This is followed by those coming from the LGUs (24 participants). They were represented by the officials of the municipal/city and provincial LGUs from the following offices: agriculture, environment and planning. The civil society/non-government organization and the academe were likewise represented.

Multiple workshop methods were employed for interactive participation. There was a series of presentations from representatives of PAMB, DENR 12 and BFAR 12, as well as municipal and provincial LGUs. The following background presentations were: ‘Overview of the USAID Oceans’ and ‘Workshop Objectives and Mechanics’ by USAID Oceans; ‘Overview of the National Integrated Protected Area System (NIPAS) and Biodiversity Management Bureau (BMB) Initiatives’ by DENR-BMB; ‘Introduction of RA 8550 as amended by RA 10654 (Annex VI)’ and ‘CNFIDP 2016–2020’ by BFAR 12; ‘Initiatives on Biodiversity Conservation of the SBPS’ by DENR 12; and the latest version of the SBPS’ PAMP by a PAMB representative.

There were presentations on the 'Past and On-going Fisheries-Related LGU Initiatives'. There were two presentations from two offices (Agriculture and Environment and Natural Resources) Sarangani Province. Then, the representatives from the seven study areas provided their respective presentations.

Day 2 involved two workshops. In Workshop 1 (Verification of Issues), participants identified issues/problems in the different municipalities/city surrounding the SBPS, including those that generically apply bay-wide. These are broadly classified into three EAFM categories: (1) ecological, (2) human, and (3) good governance. Key results are presented in Chapter 3.

Workshop 2 (Action Planning) involved initial project identification and development. Based on the CNFIDP's agreed consolidated actions and 'Capture Fisheries Sectoral Workplan,' participants identified their initial sets of projects. Some 86 projects were initially and/or preliminarily identified. At this stage, these projects were considered more as concepts or ideas. Some may still be merged or consolidated – while others may still be divided into several projects. As such, it is possible to transform them into full project proposals during the operational or detailed planning. This activity may be scheduled within 2017. The workshop participants committed towards the establishment of a management constituency with focus on fisheries to support the PAMB. Key results are presented in Chapter 4.

The second consultation was formally called "*Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a Sustainable Fisheries Management Plan*". This was held in General Santos City, from February 21–23, 2017. The third day was specifically relevant for the Fisheries Annex. The list of participants is provided in Appendix I. This workshop was attended by 165 participants. Attendees came from different groups or sectors including NGAs, LGUs, local academe, fishing industry players (such as small-scale and commercial fishers, financiers/scalers, retailers, processors, and relevant civil society organizations), USAID Oceans' implementing partners (i.e., WorldFish, BNA, Verité, and National Network on Women in Fisheries (WINFISH)), USAID and USAID Oceans, SEAFDEC, and observers. Fishing industry players were the most represented sector followed closely by NGA representatives.

There were two key activities during the third day with regard to the identified fisheries management problems/issues: (1) prioritization and (2) action planning. The problems/issues considered in the working document were from the presentations during the first two days of the workshop, comments during the open forum, and listings from the meta cards given by the participants. These were then subjected to a series of clustering followed by overlaying with the categorization system used in EAFM, CNFIDP and other literature. The resulting working document clustered all the issues identified into 27 items grouped under three classifications: (1) ecological well-being, (2) human well-being, and (3) good governance.

Participants were sorted into three groups: Group 1 - municipal fisheries, Group 2 - commercial fisheries, and Group 3 - post-harvest and marketing. This Fisheries Annex is specific for the municipal fisheries. Each group selected three issues from each category which they collectively felt were most relevant to them and would therefore wish to focus on. Group 1 decided to treat "Weak law enforcement" and "Inconsistent implementation of national policies and regulations" as one issue, and "Overlaps in policies, rules, and regulations" and "Inadequate/inconsistent fisheries policies" as another. Group 1 shortlisted by asking each participant to vote for three issues under each category. Some details are elaborated in Chapter 3. After which, they identified actions on how these issues can be addressed. Specifics are reflected in Chapter 4.

The Draft Fisheries Annex was crafted between January and April 2017. The said Draft Fisheries Annex was presented by USAID Oceans to the PAMB's TWG Meeting on April 18, 2017 in General Santos City. The same document was also presented during the PAMB's (Executive Committee) ExeCom Meeting on April 19, 2017. Between April and May, the document was revised/refined. Consequently, the Revised Draft was transmitted on May 31, 2017 by USAID Oceans to PAMB Chair and PASu for circulation to the writeshop participants on June 15-16, 2017.

A Writeshop for Finalization of the 'Fisheries Annex' of Protected Area Management Plan (PMAP) of SBPS was held at Sydney Hotel, General Santos City, Philippines, from June 15–16, 2017. Twenty three participants who attended this event are listed in Appendix I. A Progress Monitoring of the Sarangani Bay Protected Seascape Fisheries Annex was held at Suncity Suites, General Santos City. The workshop provided the opportunity to update on progress of LGU partners within the SBPS in implementing the Approved Fisheries Annex of the PAMP, as well as solicit final inputs for the final draft of the Fisheries Annex.

Overall, the planning process has been participatory, transparent and based on the best available information. This Fisheries Annex is aligned with the CNFIDP targets for municipal capture fisheries and likewise promotes fisheries sustainability that therefore forms part of the priority of Duterte administration. It may be anchored with [Agenda No. 2](#) (Promoting rural and value chain development toward increasing agricultural and rural enterprise productivity and rural tourism). This SFMP is linked with the Philippine Development Plan (PDP) for 2017-22. More specifically, the connection is with Subsector Outcome 1: Agriculture, Forestry and Fisheries (AFF) productivity within ecological limit improved. One of the strategies is to “pursue an ecosystems approach to fisheries management.”

1.4 Sarangani Bay Protected Seascape as Fisheries Management Unit

The SBPS straddles along Sarangani Bay in Region 12 (Figure 3). In effect, the SBPS's legal/jurisdictional boundary serves as the FMU. During the Ramos Administration, it was declared as a protected area under Presidential Proclamation No. 756 (dated March 5, 1996). Sarangani Bay was specifically declared as a protected seascape for the purpose of protecting and maintaining its coastal and marine resources for the benefit and enjoyment of the people of the Philippines. The SBPS forms part of sites under NIPAS. Its original area was 215,950 ha. Some descriptions of Sarangani Bay's ecological, human (socio-economic) and governance features are provided in Chapter 2.

The SBPS covers extensively the six coastal municipalities of Sarangani Province and General Santos City. Uniquely situated, General Santos City divides Sarangani Province into two separate geographic areas. On its eastern side are the municipalities of Alabel, Malapatan, and Glan. Located on its west side are the municipalities of Maasim, Kiamba, and Maitum. The SBPS's 'expanded/updated' area is 218,639.54 ha (Land Evaluation Party–Department of Environment and Natural 12 2015). Reference points are Pinol Point in Maitum and Tinaca Point in Glan. Currently, some 770.748 ha is under focused protection. Only about 23 ha is under strict protection zone or a core/no touch area of an MPA.

Figure 3. Extent and Coverage of Sarangani Bay Protected Seascape SBPS, Region 12, Philippines



Source: DENR 12

1.5 Overview of Protected Area Management Plan (PAMP) of SBPS

As part of PA management planning activities, each PA is required to prepare its PAMP). Normally, a PAMP covers a five-year period. The PAMB is currently updating its PAMP for the time period 2016-2021. The updated document has been circulated for feedbacks and comments from various stakeholder groups. This document serves as the Fisheries Annex/Component specifically to address the issues, concerns and opportunities that are related to the municipal or small-scale fisheries. The PAMP serves as the primary basis for the preparation of the PA's annual Work and Financial Plan.

This Fisheries Annex, therefore, forms part of 2016-2021 PAMP of the SBPS. Its elements are linked with the PAMP's vision, issue, goals/objectives and management actions. The SBPS's Vision ("A healthy bay sustainably managed by empowered stakeholders") and Mission ("Ensuring sustainable management of the Sarangani Bay through strong participation and institutional support from the stakeholders") are considered. Its third goal (long-term desire) is related to fisheries – "To empower local and fisher folk communities by fully involving them in decision making, planning, monitoring and evaluation and implementation of the plan." The PAMP's management objectives directly related to the fisheries include: (1) to conserve and protect existing coastal resources while restoring the damaged coral reef and mangrove areas by 20% in 5 years; (2) to reduce illegal fishing methods and practices in 5 years; and (3) to organize and strengthen coastal community associations/cooperatives to enable them to participate in community based-resource management. Its 'Ecosystem Management' program corresponds to management of fishery habitats. Problems/Issues identified in PAMP related to fisheries include: (1) habitat destruction; (2) encroachment of commercial fishers in the municipal waters; (3) resource use/management zoning; and (4) weak enforcement of fishery and environmental laws. This Fisheries Annex is also intended to complement the Sarangani Bay and Sulawesi Sea Sustainable Fisheries Management Plan developed by BFAR 12 and local partners for the FMA in the Celebes Sea (Sulawesi Seas) in Southern Mindanao.

The PAMB would have to ensure the integration of the management plan into the comprehensive land/sea use plans of the municipal/city and provincial LGUs. Moreover, it must ensure the complementation of the PAMP's activities and its harmonization with the ancestral domain plans of the indigenous peoples (IPs). There are a number of IP groups that inhabit along the coast of Sarangani Bay. As the policy making body, the PAMB shall formally approve the final PAMP. The PAMB shall likewise endorse it to the DENR Secretary for approval/affirmation.

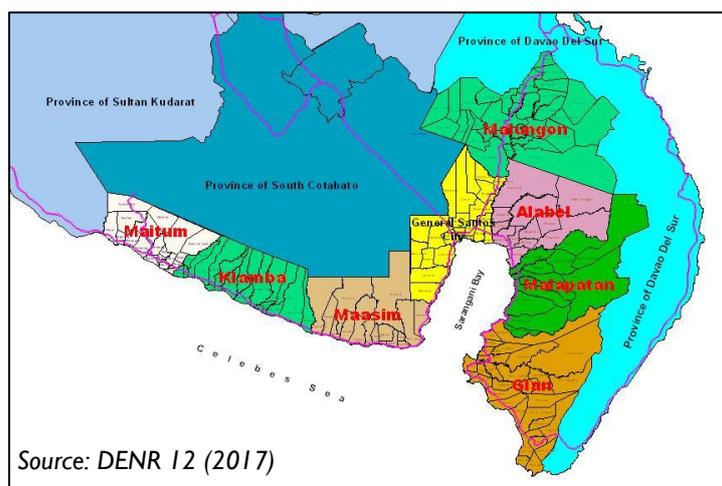
2. PROFILE OF SARANGANI BAY

2.1 Geography of Sarangani Bay and its Ecological Features

2.1.1 Overview

Geographically, Sarangani Bay is a large coastal embayment located between latitudes 5o33'25" and "6o6'15" N and longitudes "124o22'45" and "125o19'45" E (Figure 4). Sarangani Bay straddles along two provinces: (1) Sarangani Province² and South Cotabato Province. On its western side, it covers Sarangani Province's three coastal municipalities going east as follows: Maitum, Kiamba and Maasim. After Maasim lies General Santos City. Although already a highly urbanized city, General Santos City forms part of South Cotabato Province. Going eastward, are three more coastal municipalities of Sarangani Province: Alabel, Malapatan and Glan.

Figure 4. Location Map of Sarangani Bay, Region 12



The bay's average depth is 350 m. Its deepest part exceeds 800 m. Its mouth opens towards Celebes Sea in the southern Philippines. There is poor vertical water mixing Sarangani Bay due to the absence of typhoons. Hence, the bay is oceanic in character given this condition coupled with low freshwater inputs from the riverine systems (LBII 1993).

2.1.2 Zoning of Sarangani Bay Protected Seascape

There are two major management zones in SBPS; (1) Strict Protection Zones (SPZ) and (2) Multiple Use Zones (MUZ) (Figure 4). The SPZ covers areas comprising coral reef habitats and associated ecosystems that support various fisheries and offers potential benefits for tourism. As such, the SPZ consist of fish sanctuaries and areas identified as having comparative exceptional live coral cover. In SBPS, a total of 36 strict protection zones have been identified with a total area of 612.11 ha (Table 2). These areas are quite small as the coverage is only 0.32% of the total protected area. MUZs cover areas that are used for economic activities, such as fisheries, coastal industrial development, recreation, tourism, human settlements, shipping and navigation and as a buffer zone. The SBPS has a total of 113 zones (Table 2).

Table 2. Summary of zones in SBPS

Zone Type	Number of Zones	Total Area (has)	% of total SBPS
Strict Protection zone	36	697.69	0.32
Habitat management Zones	22	222.69	0.10
Recreational Zones	32	-	-
Restoration Zone	2	-	-

² Sarangani Province was signed into law by former President Corazon C. Aquino on March 16, 1992 by virtue of Republic Act (RA) 7228. As such, the new province was constituted of seven municipalities that formerly belonged to the Province of South Cotabato. These were the municipalities of Alabel, Glan, Kiamba, Maasim, Maitum, Malapatan and Malungon. All are coastal municipalities except the land-locked Malungon.

Multiple Use Zone:			
Industrial	6	-	-
Mariculture	5	620.65	0.29
Economic	8	874.38	0.40
Communal		214,156.24	99.17
Navigational	1		
Buffer zone		22,068	
Total	113		

Source: PAMB (2017)

2.1.3 Coral Reefs, Mangroves, Seagrasses and other Habitats

The sustainability of Sarangani Bay's fisheries is dependent on the health and/or condition of the associated marine habitat types. In total, coral reef (2,449.30 ha) is the most extensive, followed closely by seagrass bed (1,411.30 ha) and mangrove forest (331.80 ha) has the least extent (Table 3). Their geographical extent, however, are largely associated with the length of the coast line. The most extensive reefs, seagrass beds and mangroves are found in Glan and General Santos City.

Table 3. Hectarage of major marine habitat types within municipal LGUs of Sarangani Bay

Marine habitat	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Total (Ha)
Coral Reef (2015)	161.273	403.08	619.57	188.11	253.743	140.725	682.80	- 2,449/30
Seagrass Bed (2016)	56.44	564.98	156.06	167.02	39.22	54.3	375.28	1,411.30
Mangrove Forest (2016)	27.86	32.71	29.73	40.11	46.25	51.93	103.15	331.80

Source: Department of Environment and Natural Resources DENR XII (2015-2016)

Sarangani bay is characterized by steep and gently sloping fringing reefs. Substrate composition is mostly rubble, rock and sand. Other reef areas have a combination of two or more substrates with some portions of silt. Coral reefs here are diverse, consisting of 31 coral genera in 15 families. The SBPS has generally fair coral reef condition with live hard coral reef cover ranging from 25-50%. Dominant genera include: *Acropora*, *Porites*, *Goniopora*, *Diploastera*, *Montipora* and *Favites*. Foliose, digitate and tabular forms dominate the shallow and sheltered waters. Coral health appears to be in decline, with fair live coral reef cover. There are relatively few areas of reef habitat in near-pristine condition. Generally, deeper water reefs are less disturbed and healthier.

Seagrass beds appear right after the sandy-muddy areas of mangrove areas up to specific depth; these coexist with corals in particular depths along Sarangani Bay's sloping terrain. Maitum and Kiamba facing the Celebes Sea have seagrass beds interspersed with coral reefs. Extensive seagrass beds were also documented in Sinalang and Tinoto (Maasim), Kawas (Alabel) and Gumasa (Glan), which are located close to the remaining mangrove forest in the bay. Shallow reef areas with seagrass cover about 10 km² from Taliak Point, Maasim to Lefa Point in Glan. Ten seagrass species are present in SBPS. Maasim has the most diverse seagrass community as 9 out the total 10 species are present in this municipality. *Thalassodendron ciliatum* is a rare seagrass species found in Glan specifically fronting Barangays Gumasa and Batulaki. Dominant genera include *Cymodocea*, *Enhalus*, *Halodule*, *Halophila* and *Thalassia*. Ten out of 16 naturally-occurring species in the Philippines are found in the Bay up to a depth of approximately 30 feet.

Glan Municipality has the largest mangrove area of about 103.15 ha. Maitum has the least mangrove area of only about 27.86 ha. The SBPS has a total of about 269 ha of mangrove areas. The dominant

genera include *Avicennia* (Piapi), *Rhizophora* (Bakawan) and *Sonneratia* (Pagatpat). Forest cover has continuously declined due to conversion to fishponds and prawn ponds, increasing coastal development and wood cutting for the local market/household purposes, such as fuelwood and construction materials.

2.1.4 Fish Sanctuaries/Refugias and Marine Protected Areas

About 24 MPAs in the SBPS that are situated in various municipalities/city along the bay cover a total of 612 ha (Table 4). All these MPAs consist of three major coastal habitats: coral reefs, mangroves and seagrass beds, except for Maasim. These MPAs have reef areas with status of coral cover ranging from poor to excellent (Table 4).

Table 4. Marine Protected Areas / sanctuaries along the coastal waters of Sarangani Bay

Municipality	No. of MPA (s)	Total Area (hectares)
General Santos	3	52.77
Glan	10	287.04
Malapatan	3	114.07
Alabel	1	29.00
Maasim	2	74.68
Kiamba	3	83.71
Maitum	2	25.52
Total	24	612.11

Source: DENR (2015); WorldFish (2017)

Table 5. Proposed Network of Marine Protected Areas along the coastal waters of Sarangani Bay

Location	Area (hectares)
Phil Florencia Resort, Maasim	6.7
Malbang, Maasim	31.9
Pacman, Maasim	16
KMEps, Maasim	43.65
Colon, Maasim	55
Lumasal Marine Sanctuary	5.34
Total Area for MPA Networking	158.59

Source: DENR (2015); WorldFish (2017)

Table 6. Status of coral reefs at the Marine Protected Areas / sanctuaries along the coastal waters of Sarangani Bay

Coral Reef Areas	Coral Reef Area (has)	Status of Coral Cover
Glan		
Batulaki MPA	50.640	Fair
Pangyan MPA	70.410	Poor
Baliton Marine Sanctuary	11.950	Fair
Pagang Baliton Reef Area	18.000	Fair
Isla Jardin MPA	58.670	Excellent
Binuni Marine Sanctuary	15.664	Good
Glan Padidu Marine Sanctuary	10.855	Fair

Lago Marine Sanctuary	25.687	Fair
Cabug Marine MPA	22.578	Fair
Belmar Cabug Adopt –a-Reef	2.590	Fair
Malapatan		
Pananggalon Marine Sanctuary	74.070	Fair
Lun Padido	20.000	Fair
Malapatan Fish Sanctuary (Lot Marine Sanctuary)	20.000	Good
Alabel		
Kawas Marine Sanctuary	22.493	Good
General Santos City		
Bula, Cora Reef Areas	41.668	Fair
Maharlika Marine Sanctuary	4.417	Fair
Maasim		
Kamanga Marine Eco-Tourism Park and Sanctuary	140.490	Good
Colon Marine Sanctuary	30.680	Fair
Kiamba		
Lumuyon Reef	2.284	Fair
Tuka Marine Sanctuary	73.317	Good
Tambilil	29.034	Good
Maitum		
Mabay MPA	13.717	Fair
Pinol Marine Sanctuary	11.534	Fair

Source: DENR (2014); PAMB (2017)

Table 7. Proposed MPA/SPZ/Fish Sanctuaries in Sarangani Bay

Municipality	Location	No. of MPA/ SPZ
Alabel	Ladol, (hunasang dako)	1
Malapatan	Sitio Lasang, Lun Masla	2
Glan	Kapatan, Lago, Burias, Taluya, San Jose, Cablalan, Glan Padidu	6
Maasim	Colon, Malbang, Lumasal,	2
Kiamba	Luma, Lagundi, Tambilil, Bacud Reef Tablao Reef (Lumuyon)	5
Maitum	Kiambing, Mabay, Kalaong, Pinol, Maguling	5
General Santos	Baluan, Buayan, Bawing	3
Total		24

Source: PAMB (2017)

The total proposed MPAs/SPZ is 23. Glan has the most at six, while Alabel has only one.

2.1.5 Marine Water Quality

As a protected seascape, the SBPS' water quality should be under coastal/marine water class SA (PAMP 2017). However, current land as well as water use of the coastal zone has resulted to various water classification in the 39 established stations of the Sarangani Bay. Data in 2015 showed that dissolved oxygen (DO) levels have exceeded the minimum requirement as stipulated in the Department Administrative Order (DAO) No. 34, which has a standard value not falling below 5 mg/L. For Total and Fecal Coliform, the values for most stations showed normal concentrations.

The values for oil and grease levels were quite alarming since almost all records exceeded the standard at 2 mg/L and 3 mg/L for Class SB and Class SC, respectively. These high levels may have been caused by frequent spillage from small fishing boats and cargo-passenger vessels that pass along

the bay. The pH values are neutral (7) in most of the stations with only a few showing slightly basic characteristics at 8.

2.1.6 Weather, Meteorology and Seasons

The climate is generally classified by Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA) as type IV. As such, its rainfall is evenly distributed throughout the year. The weather is monsoonal whereby the northeast monsoon starts from November and ends up in March. Meanwhile, the southwest monsoon covers the period from June to October. The wind during the southwest monsoon arrives from a southerly direction with an average speed of 2 m/s (DENR-SMICZMP 2003).

Sarangani Bay is exposed to the tidal effects of the Celebes Sea, which generally contributes to the semi-diurnal characteristics of the tides in the many coastal areas of the eastern and southern Philippines. The Bay has semi-diurnal tides with two high and two low water levels occurring in a day.

2.2 Socioeconomics

2.2.1 Overview

Although capture fisheries has been a dominant economic sub-sector, there is a great variation with regard to the fisheries related characteristics. All these municipal LGUs are economically dependent on agriculture, forestry and fisheries (AFF). General Santos City has the largest fisherfolk population

(594,446), followed by Maasim (59,468) and Maitum (44,595). Sarangani Province is now among the key players in the SOCCSKSARGEN Growth Center of Region 12.³ Alabel serves as its capital.

Table 8. General Information about municipal LGUs of Sarangani Bay

Characteristic	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Total
Land Area (ha) ⁴	32, 435	41, 828	50,043	53,606	51, 098	62,456	74,705	277,162
Coastline Length (km) ⁵	19.95	39	43	30	12	18	66	232
No. of Coastal Barangays ⁶	7	13	12	9	3	6	16	66
No. of fishers (Provincial Fisheries 2014) ⁷	1,270	38,576	8,839	15,334	1,320	7,105	62,509	134,953
Population ⁸	44, 595	61,058	59, 468	594, 446	80, 359	76, 914	118, 263	1,100,938
Income class ⁹	2 nd	1 st	1 st	1 st	1 st	1 st	1 st	
Poverty incidence (2012) ¹⁰	39.80%	36.40%	44.10%	19.30%	45.90%	53.10%	49.00%	
Major economic activities aside from capture fisheries ¹¹	Agribusiness (including plantations), Aquaculture, Tourism	Agribusiness, Trade, Tourism,	Agribusiness, Aquaculture, Industries (power plant and shipyard), Tourism	Wholesale/retail, Transport, communication, financial Agribusiness Manufacturing	Trade Agribusiness Aquaculture	Agribusiness Aquaculture Tourism	Tourism Agribusiness Fishing Trade Transport	

³ SOCCSKSARGEN is Administrative Region 12 that is located in central Mindanao, Philippines. It stands for the region's four provinces (South Cotabato, Cotabato, Sultan Kudarat and Sarangani) and one of its cities (General Santos City).

⁴ Source: Municipal Profile and Municipal Profile Presentation During the 'A Workshop for Crafting the 'Fisheries Component' of Protected Area Management Plan (PAMP) of Sarangani Bay Protected Seascape (SBPS), SunCity Suites at General Santos City, 25 – 26 January 2017:

Maitum (2016), Kiamba (2016), Maasim (2016), GSC (2015), Alabel (2016), Malapatan (2016), Glan (2011)

⁵ Source: Municipal Fisheries Profile from Prov. Office:

Maitum (2014), Kiamba (2014), Maasim (2014), Alabel (2014), Malapatan (2014), Glan (2014) and GSC Fisheries Profile 2015

⁶ Source: Municipal Fisheries Profile from Prov. Office:

Maitum (2014), Kiamba (2014), Maasim (2014), Alabel (2014), Malapatan (2014), Glan (2014) and GSC Fisheries Profile 2015

⁷ Municipal Fisheries Profile from Province: Maitum (2014), Kiamba (2014), Maasim (2014), Alabel (2014), Malapatan (2014), Glan (2014) and GSC Fisheries Profile 2015

⁸ Sources: PSA 2015 Census of Population, (<https://psa.gov.ph>) April 24, 2017

⁹ Sources: DILG LGUs 201, (<http://lgu201.dilg.gov.ph/>) April 24, 2017

¹⁰ Sources: PSA 2012- City and Municipal Level- Small Area Poverty Estimates, (<https://psa.gov.ph/psa-press-release-tags/poverty-small-area-estimate>), April 24, 2017

¹¹ Source: WorldFish FGD (2016)

2.2.2 Profile of Fishing Households

There are 38,867 male and female registered fishers in Sarangani Bay (Table 9). About 15,664 of them are registered in the six municipalities of Sarangani Province. Meanwhile, South Cotabato (where General Santos belongs) had 26,203 registered fishers. Most of the fishers in Region 12 are males. There were 55,383 males as compared with their 24,798 female counterparts.

Table 9. Number of registered fishers and boats in the seven coastal municipalities along the Sarangani Bay

Municipality	Registered Fisheries (Based on Fish R as of Jan 2017)			Registered Boats (Based on Boat R as of Jan 9, 2017)
	Male	Female	Total	
General Santos City	15,549	7,654	23,203	1,861
Glan	3,005	959	3,964	1,223
Malapatan	1,173	290	1,463	74
Alabel	1,260	604	1,864	129
Maasim	2,918	1,074	3,992	1,722
Kiamba	2,174	354	2,528	125
Maitum	1,337	516	1,853	180
Total	27,416	11,451	38,867	5,314

Source: BFAR 12 (2017)

The municipal fishers provided a relative ranking about the importance of marine habitats as fishing grounds (Table 10). All municipalities have ranked open water as the most important. This may be attributed to their preference to catch the commercially-valuable pelagic species, particularly tuna. Except for Maasim, coral reef was ranked second. There are commercially-valuable demersal species that are associated with coral reefs.

Table 10. Ranking by municipal fishers of importance of marine habitats as fishing grounds

Municipality	Importance of Fishing Grounds (Rank)					
	Open water	Coral Reefs	Mangroves	Seagrasses	Soft Bottoms	Riverine
General Santos City	1	2				3
Glan	1	2		3		
Malapatan	1	2	5	3	4	
Alabel	1	2 (very few)				
Maasim	1		3	2		
Kiamba	1	2			3	4
Maitum	1	2				

Source: WorldFish (2017a)

2.2.3 Occupation, Employment, Income and Poverty

Workers in Sarangani Province are grouped into three major sectors, namely: agriculture, forestry and fishing (AFF), industry and services sector. Workers in the AFF sector comprised the largest proportion of the population who are employed, making up 62.4% of the total employed in 2011 (PPDO 2012 p. 173).

In 2011, fishing employed 17,248 households (8.93% of total households in General Santos City). In the same year, individuals with agricultural/fishery skills represented the 5th highest livelihood choice

(specialized skill set area) of all General Santos City residents, behind housekeeping, food service, transportation, and “other” livelihoods.

Table 11. Major sources of livelihood in coastal communities

General Santos City	Glan	Malapatan	Alabel	Maasim	Kiamba	Maitum
Fishing	Fishing	Fishing	Fishing	Fishing	Fishing	Fishing
Canning (wives)	Farming	Farming	Farming	Sari-sari store	Construction	Carpentry
Construction	Tourism (vending)	Driving		Employment	Carpentry	Farming
Driving (Habal-habal, trike)	Carpentry	Construction			Farming (banana, coconut)	Construction/labor
		Carpentry				Employment

Source: WorldFish (2017a)

At the large-scale commercial fishery level, processing of fish and fishery products (particularly tuna) is by canning. These are also packaged as fresh frozen, fresh chilled tuna for both domestic and export markets. At the level of coastal communities, processing of fish and other fishery products is by salting, drying, and fermenting for local and domestic consumption.

In terms of the poverty incidence, five out of ten Sarangani families was estimated to be poor in 2012 (46%) (PPDO 2015 p. 235). Poverty Incidence among families in Region 12 was 28.1% during 2014-16.

Women’s involvement in the value chain is predominantly in preparation and processing (Vera and Hipolito 2006). Wives of low income fishers are noted as assuming the task of seeking loans to ensure the daily needs of the family while the husband is away for several days on deep-sea fishing trips. Women are also employed for processing activities, particularly by canneries. The tuna canning industry in General Santos City employs almost 8,000 workers and is one of the city’s biggest private sector employers (Vera and Hipolito 2006). The canning industry is one of the best employers based on salary, job tenure and other benefits. Despite these benefits, there is high turnover especially of employees in the production department. Here, employees who are mostly women need to stand for twelve hours in order to clean and prepare the tuna for canning. Most of those who resign are young single women who have other job options, as compared to married and older women workers who may prefer to stay due to limited options.

Women also perform marketing-related tasks and other administrative work in the tuna industry and other industries closely linked to the tuna value chain. These services include business servicing for industry, government and non-government agencies which are interested in promoting sustainable fisheries management.

2.2.4 General Santos City Fish Port Complex (GSFPC)

Situated in Barangay Tambler, the GSFPC is a modern fisheries port facility located within the General Santos Agrotex Economic Zone. This is the largest industrial fisheries center in the southern Philippines. This facility caters to both small-scale and commercial fishers. It is located approximately 17 km south of the General Santos City Central Business District. The GSFPC’s total

land area is 32 ha, including the agro-industrial area along the Sarangani Bay shoreline. The daily landings at General Santos City Fish port are second highest in the nation (after Navotas in Metro Manila).

The Philippine Fisheries Development Authority (PFDA) oversees the management, operations, and development of the GSFPC. Its mandate is to promote the development of the fishing industry through the provision of post-harvest infrastructure facilities and essential services to improve efficiency in handling and distribution of fish and fishery products and for enhanced quality.

The Fishport Complex has a 750 m quay and a 300 m wharf for 2,000 gross tons (GT) reefer carriers. The port is equipped with modern facilities that comply with international standards on fish catch handling. GSFPC services and operations include: (1) unloading and marketing of marine products both for local and foreign markets; (2) harbor operations; and (3) processing and refrigeration activities. Fishport building facilities include a 6,000 m² fish market, a 7,000 m² refrigeration building, and a maintenance shop, including net mending. Administrative and pump house buildings are also situated on site. The refrigeration facilities include an ice making plant, ice storage and crusher, and cold storage capacity at 1500 MT. Support facilities include 86,000 m² of parking/loading, a wastewater treatment plant, fuel oil supply depot, a water supply station, a commercial shop area, 22 lease-lots of agro-industrial business space, and fish conveyor systems.

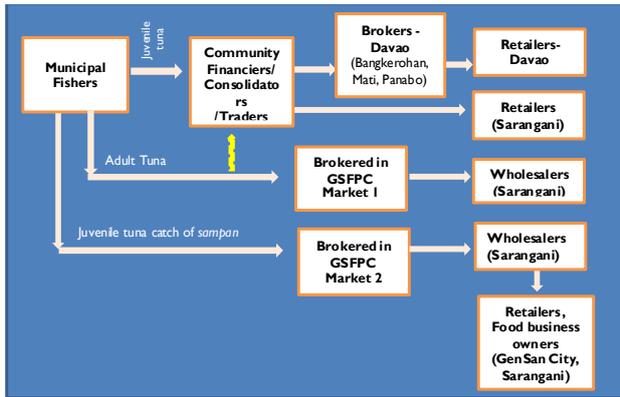
In 2013, total vessel arrival at the GSFPC was 334,772 (average monthly vessel arrival of 27,897). The average fish unloading at the fishport was 465.49 metric tons (MT) per day. Among the top species being unloaded in the fish port are skipjack tuna, yellowfin tuna, round scad, bullet tuna, and bigeye scad. The average number of boats coming to port daily is about 25, which fish from as far as borderline of Indonesia and Palau Islands.

Beyond the GSFPC, General Santos City is home to the Makar Wharf, which is one of the most modern international seaports in the country. With a 740 meters docking length and a 19 meter width, the wharf can accommodate up to nine ship-berthing positions all at the same time. The port is complete with modern facilities like container yards, storage and weighing bridges. Several shipping companies operate, including international (Indonesian) passenger and cargo services.

2.2.5 Value Chain for Tuna and Tuna-Like Species

Description here is liberally lifted from the RAFMS Report (WorldFish 2017). Three municipal players are central in the value chain for tuna and tuna-like species: (1) municipal fishers, (2) financiers cum consolidators cum wholesalers, and (3) retailers (Figure 5). Municipal fishers catch tuna and tuna-like species within the bay's vicinity using various fishing gears. An increasing number of fishers (using motorized boats) are fishing beyond municipal waters to the Celebes Sea, Moro Gulf and Sulu Sea. Some fish all the way in the marine waters off Mati in Davao del Norte.

Figure 5. Key players in municipal tuna fishing and product flow



Source: WorldFish (2017b)

Due to financial difficulty, many fishers borrow starting capital from financiers. In return, a fisher often sells his catch back to the financier, who is also a consolidator and then a wholesaler. All players relate to each other in the pervasive and high trust “suki” system. Such economic scheme is driven in part by the following factors: their residence in the same community, by the willingness of financiers to wait for their payment, by the indebtedness or “utang na loob” inherent in the system which is based as well on “loyalty” and trust that each supplier brings in good quality fresh fish and correct weight.

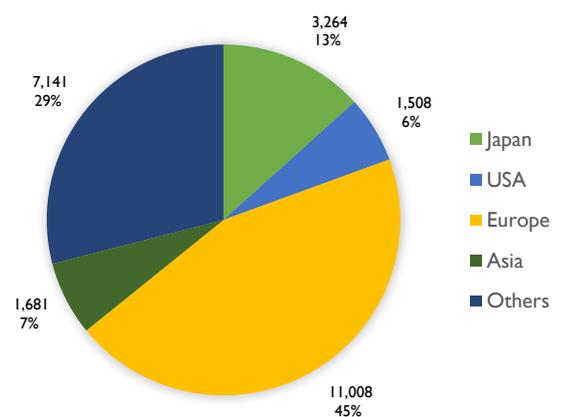
In a Gender Analysis conducted by WINFISH under the USAID Oceans Partnership in 2017, both female and male municipal fishers reported that ‘self-financing’ is the main source of funds used to purchase boats and gears, as well as maintain the fishing operations. When there are cash shortages, women resort to loans. Sources of information for new fishing practices were reported to be from one’s own experience and from other fishers’ practices. Very few cited government entities or the television/radio as sources of information. This points to the dearth of available and accessible information that may influence the adoption of improved fishing technologies. Source of information for market prices were reported to be the buyer, fishport and financier. There was no report of the use of real time databases. Major buyers are reportedly wholesalers, followed by financiers (WINFISH, 2017).

2.2.6 Markets of Sarangani Bay Fish Catch

There are three types of markets for Sarangani Bay fish catch: (1) local; (2) national; and (3) international. Locally, several barangay-level fish markets sell/trade their seafood products in General Santos and surrounding towns/villages. Fisheries products (largely tuna) are sold/shipped daily from General Santos City Fishport to locations throughout the Philippines. Some of the tuna are caught by municipal fishers.

The Philippines is one of the top three tuna producers, of which 80 % is exported to the US and the EU, equivalent to US\$ 120 million export earnings (Business World 2003). General Santos’ international airport and seaport are the transshipment routes of fishery products to ASEAN nations, North Asia (China, Japan, and Korea), Australia, the European Union (EU) and the U.S.

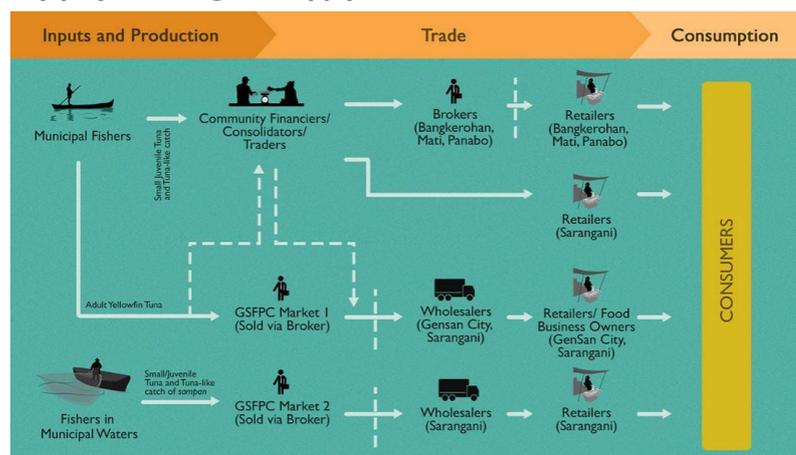
Figure 6. Major Destination of Tuna Export (MT)



Source: BFAR (2014)

The RAFMS study reported customer requirements for tuna (WorldFish 2017b). Local market requires fresh and pinkish color of the meat. The preferred size is between 4–8 pieces/kg, if juvenile. The export market requires fresh, sashimi-grade. The preferred weight is at least 35 kg/pc. The flow of adult and juvenile tuna species from the municipal fishers to the retailers is shown in Figure 7.

Figure 7. Flow of tuna and tuna like-species among municipal key players along the supply chain



Source: WorldFish (2017b)

As the “Tuna Capital of the Philippines”, General Santos City is the largest producer of sashimi-grade tuna in the Philippines. These are primarily skipjack (*Katsuwonus pelamis*; accounting for approximately 45% of tuna landings), yellowfin (*Thunnus albacares*; approximately 25% of tuna landings), and bullet (*Auxis rochei*; approximately 20% of tuna landings) tuna species. It is the nation’s second largest fisheries producer as measured by total daily catch at 750 MT. More than 80% of total fish landings are tuna and tuna-like species, supporting 7 commercial tuna processing centers. An estimated 60% of landings are either supplied to local canneries (for both domestic and international consumers) or exported to foreign fish markets. Thirty five percent of landings are shipped to domestic fish markets, while 5% of landings are consumed locally. Tuna longline fishers target adult yellowfin and billfish. Provided below is a summary of fishery products that are exported through GSFPC (Table 12).

Table 12. Summary of fishery products exported through GSFPC

Product	Species	Export volume	Export value	Main markets
Canned tuna	Skipjack	72%	66%	55% to EU 29% to US 11% to Japan
Frozen tuna (whole and loins)	Yellowfin (approx. 90%)	23%	29%	60% to EU 15% to US 20% to Japan + fillets to Israel
Fresh tune (whole and loins)	Yellowfin (approx. 90%)	4%	5%	50% to EU 10% to US 9% to Japan +fillets to Switzerland
Total		105,466 MT	\$357 million	

Source: USAID Oceans, General Santos Value Chain Summary (2017)

2.2.7 Cost and Earnings

Several observations can be made on cost and earning of the fishing community. According to Figure 8, the fishers earn more income per kg but benefit the least monetarily. This may be attributed to the small volume of catch after several days of fishing. Furthermore, the financiers/consolidators cum wholesalers earn the most due to the large volume of fish consolidated in a day. They also have the option to sell fish where prices are higher. Lastly, the retailers are a far second to the financiers/consolidators in terms of earnings. Due to competition from many other retailers, each can sell only a small proportion of the fish daily.

Figure 8. Estimated Earnings of Municipal Key Players

Key Players	Municipal Fishers	Financiers/ Consolidators/ Wholesalers	Retailers
Volume of Catch or Sales	De mano fishers: ≈ 3 kgs W/ 6.5 hp engines: ≈ 30 kgs W/ 12-16 hp engines: ≈ 50 kgs	Small: 150 – 200 kgs/day Relatively big: 2,000 kgs 2x -3x/wk	21 to 80 kgs/day
Net Earnings/kg	De mano fishers: PhP 20 -25/kg W/ 6.5 hp engines: PhP 21.67-26.67 W/12-16hp engines: PhP 25 to PhP 30	Sold in Sarangani PhP 10 – 15/kg Sold in Davao: PhP 15 -20/kg	PhP 15 – 20/ kg
Total Net Earnings per fishing effort or per trading period	De mano fishers: PhP 75 - 90 W/ 6.5 & 12-16 hp: PhP 650 – 800 & PhP 1250 – 1500	Sold in Sarangani PhP 750-1,000 to PhP 10000 daily Sold in Davao: PhP30000 – 40,000 per trip	For 21 kgs/day sales PhP315-420: For 80 kgs/day sales: PhP1200-1600

Source: WorldFish (2017b)

2.2.8 Gender and Labor Relations

A [Value Chain Analysis](#) conducted by USAID Oceans, via WINFISH, showed that women are heavily engaged in certain nodes of the tuna value chain, although tuna fisheries is traditionally a male-dominated industry. Women are most commonly involved in the processing, trading, and vending activities while men are largely responsible for the actual catching or fishing. Trading is carried out by both: women are primarily involved in small-scale ventures while men are mostly engaged in medium-scale and large-scale trading activities.

Men do the physically-demanding work from input provision to production, processing and trading. For small-scale fisheries, men procure and load the ice/diesel to the boat and do the regular machine maintenance. After catching the fish, men behead, ice, grade, bleed and tag/code the fish. Men unload, butcher, weigh and transport the tuna product. Women, on the other hand, are

predominantly focused in the procurement of food provisions and other supplies/paraphernalia to be used by fishers. Women do the coding, filleting, sorting, recording of sales, steaming, packaging, labeling and do paper processing for the tuna products' exportation. There are shared work and these are observed to be light tasks such as the preparation of gears, releasing of loan money for capitalization, washing, drying, and value-adding which includes the processing of tuna by-products into *tabal*, *dayok*, and *chicharon*, among others. These tasks likewise serve as bonding time for couples (USAID, 2017).

Nonetheless, women's economic contributions in fisheries are often undervalued and underestimated – and in some cases, unrecognized. In terms of wages, women's work are not paid at par with their male counterparts. The multiplicity of women's burdens at home and in peripheral (often irregular), fishing-related work further make women vulnerable to the impacts of low fish catch and low market prices of fish products (USAID, 2017).

Hence, there is a need to look more closely at a gender-responsive enabling environment in the fisheries sector. Other gender issues in tuna fisheries are also found from the study, including lack of women-friendly machineries/equipment, low participation of women in combatting IUU fishing, and lack of women's organizations. For traders, although there is an increasing number of female checkers/recorders in the fish markets, male checkers/recorders are still preferred because they are thought to move and work faster compared to the women, and men can perform physically demanding tasks in addition to recording (USAID, 2017).

USAID Oceans, through subcontractor Verité, also conducted [Labor Analysis Research](#) to investigate the labor conditions in the tuna sector in General Santos City. A summary of fishing gears, boats and demographics engaged in tuna fisheries is provided in Table 13.

Table 13. Profile of fishing gears, boats and demographics engaged in tuna fisheries

	Gear	Trip Length	Vessel Type	Fishing Grounds	Fisher Sex	Fisher Origin	Fisher Age	Fisher Education
Handline <i>Palaran</i>	Hook and line	Overnight	Small	Municipal waters	Male	General Santos City	Adult	Little to no formal
Handline <i>Pamarile</i>	Hook and line	3-21 days	Motherboat plus small	International	Male	General Santos City	Adult	Little to no formal
Purse seine	Netting	6-12 months	Motherboat plus small	International	Male	Coastal Mindanao	Ages 26-36	High school

Source: USAID Oceans (2017)

Recruitment of vessel-based workers tended to be directly conducted by the employer (or the boat captain), without the involvement of intermediaries. On the other hand, 90% of land-based personnel are brokered by or outsourced, either through employment agencies or marketing cooperatives.

With regard to documentation, the paper requirements are not standardized or consistently imposed. Very few workers have formal working agreements or relationships with their employers, such as the handliners. Purse-seine and land-based facility workers said they signed contracts but allegedly were not provided copies. Nearly all land-based workers interviewed were under a “subcontracted” or “outsourcing” arrangement. The workers interviewed were not furnished copies of their contracts.

Although handline operators and/or captains all have fisher IDs, majority of the handline fishers lack documentation. Land-based workers undergo a more stringent process, such as the submission of authenticated government IDs or clearances (such as barangay or police). Since age is rarely or inadequately verified, child labor risk is present both in sea-based and land-based work. Some reported to have worked as young as 13 years old.

Many respondents of the study interviewed displayed very low awareness of labor laws, rights and policies of the companies that they work with. Working conditions do not normally follow the typical 8 hours of work. Both sea-based and land-based workers may work for long hours, even beyond 12 hours/day.

2.3 Fisheries Profile

2.3.1 Overview

The fishery resources of the bay are multi-species in nature, showing both coastal and oceanic stocks (MSU-SBFSAP 1997). Sarangani province dominates the marine municipal production of the region in terms of value and volume (BFAR 12 2015b). The municipal fishery is predominantly multi-species and multi-gear whereby fishers report their catches are mostly coming from the Celebes Sea (83%) and Sarangani Bay (17%) (WorldFish 2017). Small pelagics like squid (*Loligo uyii*) and scads (*Decapterus* sp., and *Selar* sp.) dominate the catches. Nonetheless, fishers also catch large pelagics like skipjack, bullet tuna, and yellowfin tuna.

Figure 9. Fishing grounds utilized by municipal fishers



Source: WorldFish (2017a)

Municipal fishers favor the multiple hook and line, the mixed gear-drift gill net-troll line combination, and the troll line (alone) among the variety of gear available to them. Yields have been relatively stable between 8,000 to 10,000 MT from 2011 to 2014. A record surge was noted in 2015, with yield reaching more than 30,000 MT. Normal catch rates range from less than 5 kg per trip in the inner part of the bay, to 10 to 20 kg in the outer bay. Fishers report that their catches have been declining since the late 1990s, with NSAP data reporting a downtrend beginning in 2005. Fishers blame a reduction in fish stock (depletion) but also blame the numerous Fish Aggregating Devices

scattered throughout the bay mouth, which allegedly prevent the commercially valuable fish from entering the bay.

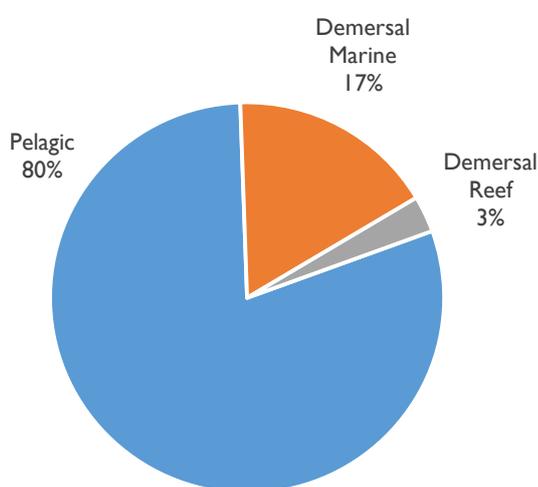
Sarangani Bay fishers utilize other fishing grounds aside from the Bay (Figure 9). These include Sulu Sea, Moro Gulf, Celebes Sea and Mati.

2.3.2 Fishery Resources

Fish catch in Sarangani Bay may be divided into two major groups (Figure 10). Some 80% is pelagic while the remaining 20% is demersal (BFAR 2015). The latter is divided into 17% demersal marine and 3% demersal reef.

Pelagic species are largely comprised of the following families: Clupeidae (sardines), Carangidae (Caranx or jacks), Engraulidae (anchovies), Scombridae (scombrids) and Menidae (moonfish). Other families include the following: Exocoetidae, Istiophoridae, Coryphaenidae, Sphyraenidae, Caesionidae, Belonidae, Gempylidae, Trichiuridae, Polynemidae, Megalopidae, Xiphiidae, Carcharhinidae, Hemiramphidae, Chanidae and Osmeridae. Demersal marine catch is dominated by Loliginidae (squids) and 28 miscellaneous families. Lutjanidae (snappers) dominate the demersal reef catch followed by Priacanthidae.

Figure 10. Proportion of fish species distribution in Sarangani Bay, Region 12



Source: BFAR (2015a)

The Bay's waters host both commercial and municipal fisheries with comparable volumes of catch. The Bay is home to approximately 400 commercially-important fish species. Over 200 species are reef-associated (52% of catch in Sarangani Bay area), represented mainly by groupers (Serranidae) and snappers (Lutjanidae); 108 are pelagic species (28% of catch) including jacks (Carangidae), herrings (Clupeidae), and mackerels and tunas (Scombridae). Some species are restricted to one habitat while others are wide-ranging, favoring certain habitats during particular stages of their life cycle (nursery, feeding, spawning). Research conducted under the Sarangani Bay Fish Stock Assessment Project (1996) indicated that spawning of majority of fish species occurs inside the Bay.

2.3.3 Fishing Boats/Vessels

There are two occupational groups of fishers who are engaged in capture fisheries. The first group is called as municipal fishers (also called small-scale or artisanal fishers) who are mainly local residents engaged in subsistence-level activities. Their boats are less than 3 GT in weight. The second group is the commercial sector involving mainly fishing vessels from other areas. They have boats over 3 GT. Major gears include seines (purse seines) and bagnets. Majority (79%) are registered in FishR, which is the electronic database developed for the MKBA's fisheries and licensing system. Table 14

provides an inventory of 1,427 fishing boats used by municipal fishers in Sarangani Bay. These boats are further classified into motorized and non-motorized boats.

Table 14. Number of municipal fishing boats by municipality in Sarangani Bay (2011-2015)

Municipality/City	Motorized	Non-motorized	Total
Glan	680	785	1465
Malapatan	42	66	108
Alabel	126	3	129
Maasim	65	9	74
Kiamba	200	14	214
Maitum	165	5	170
General Santos	555	6	561
Total	1,833	888	2,721

Source: BFAR (2015a)

General Santos City had the highest number (54% of total) of municipal fishing boats. They operate mostly in the sampling sites of Barangays Bawing and Buayan. Among the 6 coastal municipalities, Kiamba recorded 200 motorized and 14 non-motorized boats. Boats coming from this area use mostly lines like bottom set longline catching demersal species and entangling nets (surface gillnets) that catch mainly species of Carangids and Scombrids. However, Malapatan recorded the lowest number of motorized boats but the highest number of non-motorized comprising of about 66 units. This is logical considering that Malapatan has the shortest coastline.

Eighteen major fishing gears have been catalogued to operate in Sarangani Bay (Table 15). Many of these are species-specific. Scoop net and push net mainly catch anchovies. Maitum and Buayan fishers use mostly surface gill net to primarily catch herrings. Other fishers use bottom set gill net targeting demersal species, while drift gill net catches some pelagic species. Lines are the most abundant gears as supported by the volume of catches and species recorded; these types of fishing gears are also less exploitative. Fish corral and spear gun are also used but their catches are minimal. Some destructive gears, such as beach seine and ring net, are still in operation.

Table 15. Comparison of different gear types used in Sarangani Bay in 2001-2002 to 2011-2015

Category	Common Name		Local Name
	SBFSAP (1996); NSAP-Region XI (2001-2002)	NSAP- Data (2011-2015)	
Impounding net	Scoop net	Scoop net	<i>Sigpaw</i>
	Lift net	Push net	<i>New look</i>
	Fixed lift net		<i>Skylab</i>
	Push net		<i>Sudsud</i>
	Fine mesh net		<i>Pukot</i>
	Fish net		<i>Pukot</i>
Pull or Drag	Beach seine	Beach seine	<i>Baling</i>
	Ring net (free school, with payao)	Ring net	<i>Likom/ Sinsoro</i>
	Baby ring net		<i>Likom /Sinsoro</i>
Entangling	Bottom set gill net	Bottom gill net	<i>Pamanti</i>
	Drift gill net	Drift gill net	<i>Paanod</i>

Category	Common Name		Local Name
	SBFSAP (1996); NSAP-Region XI (2001-2002)	NSAP- Data (2011-2015)	
	Surface gill net	Surface gill net	<i>Palutaw</i>
		Encircling gill net	<i>Pukot</i>
Lines	Jiggers	Jiggers Squid Luring Device	<i>Sarangat</i>
	Long line		<i>Pasol</i>
	Bottom set long line	Bottom set long line	<i>Palangre</i>
	Set line		<i>Rentex</i>
	Single hook and line	Single hook and line	<i>Pasol</i>
	Multiple hook and line		<i>Palangre</i>
	Single hand line	Hook & Line	<i>Pasol</i>
	Multiple hand line	Multiple Hook & Line	<i>Undak</i>
	Troll line	Troll line	<i>Subid</i>
		Handline	<i>Pamariles</i>
Hand instrument	Spear gun	Spear gun	<i>Pana</i>
Barriers and traps	Fish corral	Fish corral	<i>Bungsod</i>

Source: BFAR (2015a)

Every municipality has its own target species (favored by fishers) that could be attributed to the type of fishing gears used in the locality. There is a variation among the major gears, catch rates and catch composition among the municipal LGUs along Sarangani Bay (Table 15). In Buayan, modified ring nets locally named *taksay*, is used to catch herrings and the seasonally caught anchovies. Multiple hook and lines, locally *undak*, are very common to all the municipalities. These are used to catch pelagic species, especially the most sought round scad (*Selar crumenophthalmus*) for its high market value. In some municipalities, bottom set long lines, locally called *palangre* and spear guns (locally called *pana*), commonly target demersal species.

Table 16. Major gears, catch rates and catch composition among the municipal LGUs along Sarangani Bay

Municipality	Major Gears	Catch rates	Catch composition
General Santos City	Undak, Palabo, Palangre, Sarangat, Pahawin	3-5 kg; H 15 kg; L 1-2 kg	Bilong, tulay, nokus, malmal
Glan	Sarangat, Pamariles, Pamparao, Pamirit, Panulay, panunton, palangre, bira-bira, pingwit, pahawan, pasubid, pukot, likos, pasul, pamana, Bungsod, bental (crab lift net), laya (cast net)	20 kg; H 20-30 kg; L 5kg	Nokus, tulay, pirit, burot, bariles, Pandawan, Caballas, talakitok, molmol, buga-ong, danggit, lapu-lapu, salmon, maya-maya, caraballos, bilong-bilong, bangsi, tangigue, molmol, bolmao, tamban, pandawan, alimango, ibis
Malapatan	Pamo/nylon, Pununton, Undak, Pangnukos, Palangre, Bira2, Subi	~5 days fishing time 80kg; H 100 kg L 30 kg	Tamban, Tulay, Caballas, Timbungan, Katambak, Lapu-lapu, Maya, Tangigue, Balo, Pandawan, Marang (marlin), Liplipan
Alabel	Undak, Tonton, Pamariles, Pokot, Pakaras/subid	5-10 kg (pokot 15-20 kg) H 15-30 kg, 100-300 kg	Malmal, Caraballos, Bilong, Tulay, Tamban, Tangigue

		L 1-2 kg	
Maasim	Likos, Pissi (H&L), Squid jig, Gleaning, Pana, Subid	3-5 kg, H 20 kg Likos-100 kg, H 2,000 kg Squid jig – 40 kg, H 80 kg	Tamban, Karaw (gg), nokus
Kiamba	Undak, Pang-nokos, Pakaras, Subid, Palabo, Pasol	60 kg H 80-100 kg L 10 kg	Pirit, Tulay, Nokus, Pandawan, Salmon
Maitum	Pangnokos, Pamirit, Pamarilis, Palabo (di magamit ung bigay, large meshes)	15-20 kg H 40 kg, per 3 days L 5-10 kg	Nokus, Bariles, Pirit, Tulay, Pandawan, Salmon

Source: WorldFish (2017a)

2.3.4 Fisheries Production/Catch and Spatial Distribution

Family Lutjanidae has the greatest number of species (44 species) out of 69 families recorded for Sarangani province's six coastal municipalities (Alabel, Malapatan, Glan, Kiamba, Maasim and Maitum). The same family (27 species) dominates in the coastal barangays of General Santos City (Bawing and Buayan) out of 54 families recorded.

Pelagic species were the most abundant species caught in Sarangani Bay, mainly coming from Barangay Buayan and Maasim Municipality. The bulk of catches were herrings, locally called *tamban*. Anchovies (*Encrasicholina punctifer*), locally called *bolinao*, was the second most abundant pelagic species with most of catch coming from Buayan and Maitum. Demersal fishes in Sarangani Bay were most abundant in Glan, Kiamba and General Santos City's Barangay Bawing. Squid (*Loligo uyii*) was the most common invertebrate caught in Sarangani Bay, with the highest catch coming from Maitum. Catch compositions of different gears indicate that only a few are selective gears and most gears had no particular target species (Table 17). Most of the fishing gears catches mainly pelagic and migratory species. Exceptions are squid luring device and jigger specific for squids as well as scoop net and push nets for anchovies.

Table 17. Top 20 species caught by different gear types in Sarangani Bay, 2011-2015

Species	B S	B S G N	B S L L	D G N	D I N	E G N	F C	F T	H	H L	J	M H L	P N	R N	S N	S G	S L D	S G N	T L
<i>Loligo uyii</i>	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	X	-	-
<i>Encrasicholina punctifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	-	-	-	-
<i>Sardinella lemuru</i>	-	X	-	-	-	-	-	-	-	-	-	X	-	X	X	-	-	X	-
<i>Selar crumenophthalmus</i>	X	X	X	X	-	X	-	-	-	X	-	X	-	X	-	-	-	X	X
<i>Sardinella (Juvenile)</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	X	-
<i>Mene maculata</i>	-	-	X	-	-	-	-	-	-	X	-	X	-	X	-	-	-	X	X
<i>Spratelloides gracilis</i>	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-
<i>Rastrelliger kanagurta</i>	X	X	X	X	-	X	-	-	-	X	-	X	-	X	X	-	-	X	X

<i>Decapterus kurroides</i>	-	X	X	X	-	-	-	-	-	X	-	X	-	X	-	-	-	X	-
<i>Sardinella gibbosa</i>	X	X	-	-	-	X	-	-	-	-	-	X	-	X	-	-	-	X	-
<i>Thunnus albacares</i>	-	-	-	X	-	-	-	-	X	X	-	X	-	-	-	-	-	X	X
<i>Selaroides leptolepis</i>	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-
<i>Katsuwonus pelamis</i>	-	-	-	X	-	-	-	-	X	X	-	X	-	-	-	-	-	X	X
<i>Decapterus macrosoma</i>	-	X	X	X	-	-	-	-	-	X	-	X	-	X	-	-	-	X	-
<i>Auxis thazard</i>	-	X	-	X	-	-	-	-	-	X	-	X	-	X	-	-	-	X	X
<i>Cheilopogon cyanopterus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-
<i>Auxis rochei</i>	-	X	-	X	-	-	-	-	-	X	-	X	-	X	-	-	-	X	X
<i>Istiophorus platypterus</i>	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	X	-	-	-
<i>Decapterus macarellus</i>	X	X	-	X	-	-	-	-	-	X	-	X	-	-	-	-	-	X	X
<i>Rastrelliger faughni</i>	X	X	X	X	-	-	-	-	-	-	-	X	-	-	-	-	-	X	-

Source: NSAP-Region XII (2011-2015) and BFAR 2015a

Legend: X – caught; - – not caught

BS-beach seine, BS-bottom set gillnet, BSL- bottom set longline, DGN-drift gillnet, DIN- drive-in-net, EGN-encircling gillnet, FC-fish corral, FT-fish trap, H-handline, HL-hook & line, J-jigger, MHL-multiple hook & line, PN-push net, RN-ringnet, SN-scoop net, SG-spear gun, SLD-squid luring device, SGN- surface gillnet, and TL-troll line.

Five fishing gears haul nearly 81% of the total catch (Table 18). At the topmost is ring net (434,012.52 kg) with significant contribution of 24% of the total catch. This is followed by multiple hook and line (341,309.48 kg) that accounted for 19%. Thirdly, surface gillnet (332,069.74 kg) with total catch computed at 18%. Squid jigger (249,049.72 kg at 14%) and push net (121,979.20 kg at 7%) accounted for top four and top 5 catch, respectively. All remaining gears (345,724.16 kg) shared 19% of the total projected catch.

Table 18. Raised catch (kg) of Sarangani Bay limited to monitored landing sites

Gear Type	2011	2012	2013	2014	2015	Grand Total
Ring net	2,893.33	14,672.35	32,965.94	162,163.37	221,317.52	434,012.52
Multiple hook and line	25,924.24	72,285.01	74,259.16	65,345.21	103,495.87	341,309.48
Surface gillnet	9,804.88	85,204.42	49,276.24	89,206.72	98,577.49	332,069.74
Jigger		9,616.79	9,155.87	40,944.49	189,332.58	249,049.72
Push Net		400.00		121,579.20		121,979.20
Bottom set long line	650.64	24,027.03	14,477.50	16,152.68	12,680.81	67,988.66
Scoop net		17,185.83	18,454.83	1,658.48	21,852.63	59,151.78
Hook & Line	1,862.44	19,382.71	641.04	25,025.54	11,348.65	58,260.38
Beach seine	138.50	45,485.45			2,746.33	48,370.28
Spear gun		137.18	506.38	17,944.24	17,392.79	35,980.59
Encircling gillnet	6,307.99	4,366.70			9,298.70	19,973.39
Drift gillnet				226.93	19,536.09	19,763.03
Handline		265.26	1,442.41	770.46	10,479.85	12,957.99
Troll line	5,817.86	3,542.61	1,025.63		1,238.82	11,624.92
Squid Luring Device			1,857.65	2,231.53	2,443.16	6,532.34
Bottom gillnet		194.72	274.29	2,305.27	2,288.78	5,063.05

Drive-in-net					26.97	26.97
Fish corral			16.39			16.39
Fish Trap					14.40	14.40
Grand Total	53,399.87	296,766.07	204,353.33	545,554.11	724,071.45	1,824,144.82

Source: BFAR 12 (2015a)

Estimated catch and catch per unit effort (CPUE), calculated by kilogram per boat per day, for scoop net and ring net (Figure 11) and jigger (Figure 12) are provided. Among the fishing gears operating in Sarangani Bay from 2011-2015, beach seine (*baling*) had the highest trend in CPUE in year 2012 due to its large volume of catch in anchovies followed by push net in Maitum. Ringnet, surface gillnet, troll line and scoop net had a fluctuating trend in CPUE during the same time period. There was a massive spike in the CPUE and total catch in 2012 due to the use of the beach seine, which was banned and not used again in the successive years. The sudden abundance of herrings in 2014 contributed to the increase in CPUE, mainly due to gears utilizing nets (ring nets, gillnets, push nets and scoop nets) which have very high catch rates.

Figure 11. Comparison of annual catch per unit effort (kg/boat/day) of scoop net and ring net in Sarangani Bay

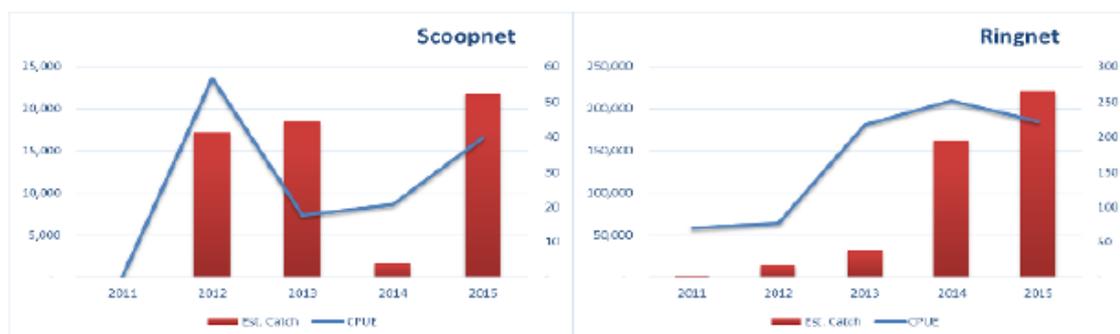
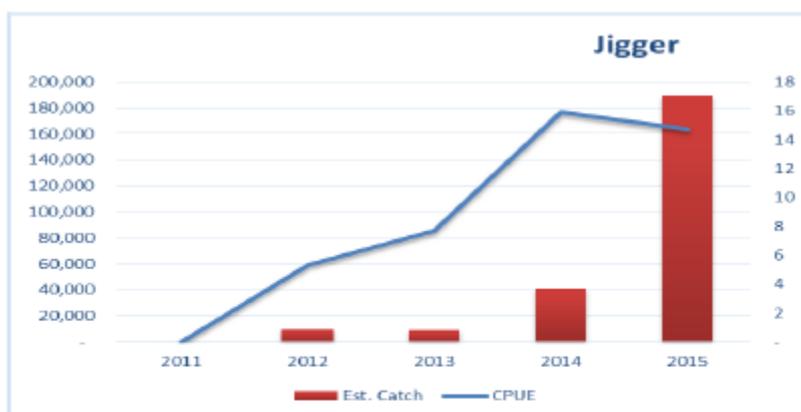


Figure 12. Comparison of annual catch per unit effort (kg/boat/day) of jigger in Sarangani Bay

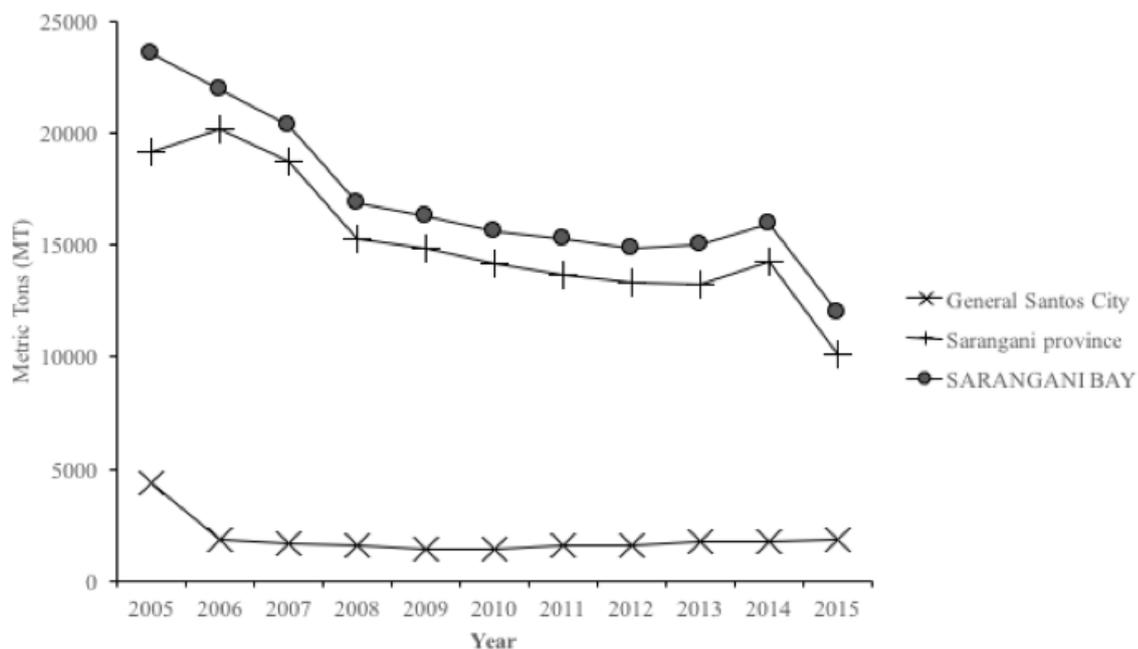


Source: BFAR (2015a)

The use of fishing gears was also contingent on the species available. Scoop nets were originally used to catch anchovies that reached their peak in 2013. In 2014, most fishers using scoop net switched to ring nets. In the same year, there was a boom in the appearance of sardines in Sarangani Bay as indicated by the massive increase in total catch in ring nets. In 2015, anchovies disappeared 'completely' from the bay; and they were replaced by herrings (*Sardinella gibbosa*, juvenile *Sardinella*). The fishers then used scoop nets to catch this newly-abundant species, thereby increasing the total catch for scoop nets.

There has been a steady increase in the abundance of squids (*Loligo uyii*) that led to the popular use of squid jigger locally known as *saranggat*. The production of squids has reached its peak in 2015, making the species the number one most abundant species by volume. Although there is an increase in the total production of Sarangani Bay due to squids, the abundance of squids suggests the degradation in the quality of marine environment. Overall, the trend in the fish production over the last decade has been on a decline (Figure 13). The landings, though, has continuously increased due to fish catch coming from overseas particularly offshore marine waters of Indonesia and Papua New Guinea.

Figure 13. Trend in municipal fisheries production over the last decade in Sarangani Bay



Source: BFAR 12 (2015a)

2.3.5 Fish Abundance and Diversity

Sarangani Bay has greater fish abundance and diversity when compared to other large and heavily fished bays in South Central Philippines such as Bais Bay, (SE Negros), Carigara Bay, (NE Leyte), Panguil Bay (N. Mindanao) and Sogod Bay (S. Leyte). Top species in the 2011-2015 NSAP survey include *Loligo uyii* (*pusit*), *Encrasicholina punctifer* (*bolinao*), *Sardinella lemuru* (*tamban*), *Selar crumenophthalmus* (*tulay*) and *Mene maculata* (*bilang-bilong*). These species still belong to top 20 list of species in terms of catch in the previous (1996) NSAP survey.

2.3.6 Seasonality

Based on landed catches, most species exhibits seasonality with one peak a year (Table 19). Pelagic fishes (*Carangids* spp. and *Scombrids* spp.) are caught throughout the year. Squid (*Loligo uyii*) peaks during the month of October. However, flying fishes and anchovies do not appear to be highly seasonal. Generally, *Mene maculata* has been observed to peak on November which is abundant throughout the year in some landing sites. The same trend was noted with *Selar crumenophthalmus* that peaks during the month of July. Tuna and tuna-like species landed in the municipal sites were recorded to peak from January to March. Thus, these species appeared to be caught in large volume in Sarangani Bay during this first quarter period of a year.

Table 19. Seasonality of top 20 species in Sarangani Bay determined from catch data, CY 2011-2015

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>Loligo uyii</i>										Black		
<i>Encrasicholina punctifer</i>				Black								
<i>Sardinella lemuru</i>											Black	
<i>Selar crumenophthalmus</i>							Black					
<i>Sardinella (Juvenile)</i>							Black					
<i>Mene maculata</i>											Black	
<i>Spratelloides gracilis</i>					Gray		Black					
<i>Rastrelliger kanagurta</i>									Black			
<i>Decapterus kurroides</i>					Black							
<i>Sardinella gibbosa</i>												Black
<i>Thunnus albacares</i>	Black											
<i>Selaroides leptolepis</i>							Black					
<i>Katsuwonus pelamis</i>		Black										
<i>Decapterus macrosoma</i>												Black
<i>Auxis thazard</i>		Black										
<i>Cheilopogon cyanopterus</i>						Black						
<i>Auxis rochei</i>			Black									
<i>Istiophorus platypterus</i>									Black			
<i>Decapterus macarellus</i>									Black			
<i>Rastrelliger faughni</i>							Black					

Legend: Black – peak; Gray – caught; Unshaded – not caught Source: BFAR 12 (2015a)

2.4 Policy and Legal Framework

2.4.1 Overview

The legal and policy framework in the Philippines is hierarchical. Topmost is the 1987 Philippine Constitution. At the lowest level, however, are the ordinances by the LGUs. Next below the Philippine Constitution are national laws and international agreements, then administrative issuances to implement national laws. Elaborated in the next sections are selected details.

2.4.2 International Treaties and Agreements

International treaties and agreements also have bearing on the policy and regulatory framework for Philippine fisheries. These legal instruments become parts of the national laws once ratified by the Philippine Senate. Key international agreements include the following: Food and Agriculture Organization (FAO) Port State Measures to Prevent, Deter and Eliminate IUU Fishing (2009); Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region (2007); Cartagena Protocol on Biosafety (2000); 1995 FAO Code of Conduct for Responsible Fisheries, 1992 Convention on Biological Diversity, 1992 Action Agenda for Sustainable Development (Earth Summit); 1982 United Nations Convention on the Law of the Sea (UNCLOS); and 1973 CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora, also known as the Washington Convention).

2.4.3 National Laws

These are the five major Philippine laws that serve as the foundation for the current policy and regulatory framework for fisheries in the Philippines: (1) Philippine Fisheries Code of 1998 (Republic Act [RA] 8550) as amended by RA 10654 of 2015; (2) Agriculture and Fisheries Modernization Act (AFMA) of 1997 (RA 8435); (3) Local Government Code of 1991 (RA 7160); (4) National Integrated Protected Areas System (NIPAS) Act of 1992 (RA 7586); and (5) The Indigenous Peoples' Rights Act of 1997 (RA 8371). These are summarized below.

The comprehensive legal framework that governs the development, management and conservation of the country's fisheries and aquatic resources is the Philippine Fisheries Code of 1998 (RA 8550). BFAR issued its IRR on May 21, 1998. In support of achieving national food security, its key objectives include people empowerment, poverty alleviation, rational use of fishery resources, social equity and sustainable development. The Fisheries Code also contains provisions for establishing MPAs (called "fish sanctuaries" and "fish refuges" under the code), but these municipal-level MPAs are much smaller (usually less than 100 ha) than MPAs under NIPAS. RA 10654 (An Act to prevent, deter and eliminate IUU fishing) amended RA 8550. This became a law on February 2, 2015 and took effect on March 23, 2015 and its IRR took effect on October 10, 2015.

A few salient features are described here about RA 10654. This national legislation introduced the concept of IUU fishing that pertains to fishing activities that do not comply with national, regional or international fisheries conservation, management legislation or measures. This national legislation addresses high seas fishing and fishing in other coastal states by Philippine-flagged fishing vessels. It likewise emphasizes compliance with international conventions to conserve and manage living resources in conjunction with ecosystems-based approach and precautionary principle. It introduces the concept of community service for municipal fisherfolk offenders. This is considered an innovation given that the generally impoverished municipal fishers do not have the capacity to pay the monetary fines.

The AFMA of 1997 provides the appropriate budgetary and logistical requirements for modernization of the country's agricultural and fisheries resources. Given economic focus and being market-oriented in approach, its priorities include: sustained increases in production, industrialization and full employment. The AFMA's objectives are poverty alleviation, social equity, food security, rational use of resources, people empowerment, sustainable development and global competitiveness. It operates through Strategic Agricultural and Fisheries Development Zones

(SAFDZ) as identified by the DA; also through the agriculture and fisheries modernization programs of LGUs. The AFMA's planning systems are through the Agriculture and Fisheries Modernization Plan (AFMP) at the national and LGU levels and the SAFDZ Plans. General Santos and Sarangani Bay areas have long been identified as a SAFDZ. Its IRR was issued on July 10, 1998.

The Local Government Code (LGC) of 1991 established the municipal/city LGUs as the key manager of resources within their boundaries. In the process, the code also provided for the devolution of the responsibility to provide a number of basic services to LGUs. Responsibilities devolved from the NGAs to the LGUs included: the enforcement of fishery laws in municipal waters; the enforcement of environment and natural resources laws within the territory; and the provision of extension and on-site research services and facilities related to agriculture and fishery activities. Section 149 of LGC provides municipal governments with the authority to grant fishery privileges in municipal waters and to impose rentals, fees and charges. Fishery privileges include the erection of fish corrals and oyster, mussel and other aquatic beds, the collection of fry (e.g., *bangus*, prawn, *kawag-kawag*, etc.), and the catching of fish using nets, traps and other gear. Meanwhile, section 20 contains the resource management responsibilities. Administrative Order No. 270 issued on February 21, 1992 provides RA 7160's IRR.

The National Integrated Protected Areas System (NIPAS) Act of 1992 (RA 7586) established a system for designating national parks and protected areas in order "to preserve genetic diversity, to ensure the sustainable use of resources therein, and to maintain their natural conditions to the greatest extent possible." DENR Administrative Order 25, Series of 1992 provides the Implementing Rules and Regulations of the NIPAS Act. DAO 2008-26 provides the revised IRR that is consistent with the Wildlife Resources Conservation and Protection Act (R.A. No. 9147), Caves and Cave Resources Management and Protection Act (R.A. No. 9072) and Philippine Mining Act of 1995 (R.A. No. 7942). This revised IRR also provides guidance in the promulgation of programs and projects on biodiversity conservation and protection consistent with the principle of sustainable development. RA 7586 was amended when President Rodrigo Duterte signed R.A. 11038, the E-NIPAS Act of 2018, into law. This new legislation adopts strong amendatory measures to the 24-year-old NIPAS Act.

Under NIPAS are "outstanding remarkable areas and biologically important public lands that are habitats of rare and endangered species of plants and animals, biogeographic zones and related ecosystems, whether terrestrial, wetland or marine". Among the categories of protected areas relevant to fisheries management are marine reserves and protected seascapes. Hence, the SBPS that was proclaimed in 1996 under PP 758 has become part of the NIPAS. Thus, NIPAS complements the Fisheries Code with regard to MPA establishment and provides a mechanism for establishing large MPAs. If these MPAs are effectively managed, they can contribute substantially to sustainable fisheries.

The Indigenous Peoples' Rights Act of 1997 (Republic Act 8371) explicitly guarantees the right of the indigenous peoples to their ancestral domain lands. It gives them the right to ownership, the right to claim reservations and the right to manage and develop lands and resources even in protected forest lands. These rights are to be integrated in the overall conservation and development strategies for the uplands, including coastal in certain cases such as in the Coron Island Ancestral Domain in Palawan Province. Several IPs (such as B'laan, T'boli, Tagakaolo, Manobo and Obo) inhabit the coastal fringes of Sarangani Bay. The nomadic B'laan people are the original settlers of General

Santos City. The National Commission on Indigenous Peoples (NCIP) Administrative Order No. I Series of 1998 provides the IRR for RA 8371.

There are other national laws that have bearing on fisheries management. RA No. 4067 (2007) is another national law that is specific to handline fishing. These include the: Presidential Decree (PD) 1586 or the Environmental Impact Statement System of 1978; Wildlife Resources Conservation and Protection Act (RA 9147 of 2001); and RA 9003 (Ecological Solid Waste Management Act of 2000; and RA 9275 (Philippine Clean Water Act of 2004).

The DA and/or BFAR has issued other relevant issuances that are relevant to CDT and this Fisheries Annex. BFAR BAC No. 251 s. 2014 is the main legal instrument for traceability system for fish and fishery products. BAC No. 253, s.2014 provides a moratorium on the issuance of commercial fishing vessel and gear license and other clearances. FAO 238 s. 2012 contains the rules and regulations governing the implementation of Council Regulation (EC) No. 1005/2008 on the Catch Certification Schemes (See Appendix II for municipal/city and provincial fisheries ordinances).

2.4.4 Municipal/Local Legislations Related to Fisheries Management/CRM

Many LGUs in Sarangani Bay have enacted relevant ordinances as well as their fisheries and/or CRM Code through the years to improve the management of their municipal fisheries (Table 20). Some examples include Maitum that issued Ordinance No. 04, series of 1994, prohibiting commercial fishing and active fishing gear provided herein for fishing activities within the municipal water of Maitum. Kiamba enacted Municipal Ordinance NO. 06-084 (2006) (that Amended Municipal Ordinance NO. 05-082) “An Ordinance for the Utilization, Development, Conservation, Protection and Management of Fishery and Aquatic Resources in the Municipality of Kiamba. Many have already enacted their fisheries and/or CRM Codes (Appendix II).

General Santos City enacted Fisheries Ordinance No. 10, Series of 2009 with regard to the legalization of its Fisheries Code. Ordinance No. 07 (Series of 2005) provides the policy guidelines in the registration of fishing vessel 3 GT and below. Municipal Ordinance # 01-94 (S. 1994) in Malapatan prohibits commercial fishing activities within its municipal waters. Glan prohibits the use of compressor or scuba diving tanks and paraphernalia in fishing and providing penalties for violation through Ordinance No. 97-01. A detailed listing of other municipal ordinances is provided in Appendix II.

2.4.5 Resolutions of Protected Area Management Board

PAMB has issued several resolutions that are either related to CRM in general or to fisheries in particular. Resolution No. 2017-02 (dated February 2, 2017) granted a PAMB Clearance to the ‘Jet Ski Exhibition Project’ at Queen Tuna Park, Barangay Dadiangas South. Resolution No. 2017-03 (dated March 14, 2017) provides the PAMB policies, conditions and restrictions on the conduct of festival ceremonies along Sarangani Bay. As such, the proponents of festivities need to secure a PAMB clearance that would include garbage collections and disposal measures. Resolution No. 2017-15 (also dated March 14, 2017) created a SBPS-PAMB Investigating Committee with regard to the issues and allegations of IUU fishing within Sarangani Bay. This resolution may be directly linked with the CDT-related concern of USAID Oceans.

2.5 Organizations/Institutions Involved in Fisheries Management

2.5.1 Overview

The Philippines' fishery resources is managed by a mixture of several government agencies, bodies or instrumentalities. These management bodies may be broadly categorized into three: (1) the municipal or city governments manage the "municipal waters" and resources within their territorial boundaries; (2) the DA-BFAR handle aquaculture and commercial (e.g., outside municipal waters) fishing activities and public lands such as tidal swamps, mangroves, marshes and foreshore land and ponds; and (3) the DENR takes charge of the shoreline and foreshore areas and, through the PAMBs, for areas under the category of protected landscapes and seascapes under the NIPAS Act. Out of the municipal waters (15 km limit), BFAR leads the jurisdiction over management and development of all fisheries and aquatic resources. The DENR's responsibilities related to fisheries management include the management of foreshore and shoreline areas, as well as protected areas.

Given the PA status of Sarangani Bay, its PAMB has jurisdiction over all marine waters within the PA's boundary. The NIPAS Law vests upon the site-specific PAMB to, among others, "decide matters relating to planning, resource protection and general administration... of the protected area" (ELAC 2011 p. 29). The primary jurisdiction of LGUs over their municipal waters excludes protected areas as in the case of SBPS.

While this jurisdictional distinction has been viewed as a conflict area on several instances, it bears pointing out that the NIPAS law does not totally deprive the LGUs of responsibility over protected areas (ELAC 2011 p. 29). The law enables LGUs to continue exercising responsibility over protected areas because local officials are mandated members of the PAMBs. In the classification of zones within municipal waters, the protected areas can be identified as separate zones. Municipal ordinances provide policy support to the protected area management plans and strategies. Eight local chief executives (LCEs) are members of the PAMB's (ExeCom). These include Hon. Steve C. Solon (Governor of Sarangani Province as Co-Chair) and seven Mayors: Hon. Victor James B. Yap - Mayor, Glan; Hon. Alfonso M. Singcoy, Sr. - Mayor, Malapatan; Hon. Corazon Grafilo - Mayor, Alabel; Hon. Ronel E. Rivera - City Mayor, General Santos City; Hon. Aniceto Lopez; - Mayor, Maasim; Hon. Raul C. Martinez - Mayor, Kiamba; and Hon. Bryan Riganit. Given the above explanation, these three management bodies must be contextualized as complementary despite having varying degrees of 'overlap.'

2.5.2 Key Offices in Municipal Fisheries Management

Office of the Municipal/City Agriculturist (OMAG/OCAG):

At the municipal level, OMAG is the primary office mandated for fisheries management. The OMAG's functions related to fisheries management include, but not limited to the following: (1) development and implementation of plans and programs for coastal and fishery resources; (2) enforcement of fishery laws and regulations; (3) establishment and management of MPAs and fish refugias or sanctuaries; (4) information, education and communications (IEC) campaigns; (5) monitoring and evaluation of fisheries programs, projects and activities; (6) registration and licensing of municipal fishers, fishing vessels and gears; and (7) technical advice.

Although an optional office under the 1991 LGC, all 7 LGUs along Sarangani Bay have offices for agricultural services. Each of the municipalities has an OMAG while General Santos City has an OCAG. This is typically headed by the MA. Generally, the OMAG caters to these three agricultural concerns and/or commodities: (1) crops, (2) livestock and fisheries. Key personnel complement of the OMAGs in Sarangani Bay is provided below (Table 20).

Table 20. Key personnel of Office of the Municipal/City Agriculturists in Sarangani Bay

Province/ City	Municipality	Municipal/City Agriculturist	Municipal/City Fisheries Coordinator
1. Sarangani	1. Maitum	Mr. Renato Fantone	Ms. Nanette Nacional
	2. Kiamba	Ms. Angeline M. Gulmatico	Mr. Venancio C. Banquil
	3. Maasim	Ms. Susan B. Baya	Ms. Arlene H. Holero
	4. Alabel	Mr. Enriqueito A. Daguplo	Mr. Noel P. Lumanta
	5. Malapatan	Mr. Cipriano M. Pandita	Mr. Nixon L. Java
	6. Glan	Ms. Virginia R. Musa	Mr. Crisanto S. Suarez Jr.
2. General Santos City		Ms. Merlinda M. Donasco	Mr. Diosdado D. Cequiña

Sarangani Bay is peculiar given that only five out of seven OMAGs take the lead in fisheries management. These are: (1) Kiamba, (2) Maasim, (3) Alabel, (4) Malapatan and (5) Glan.

City/Municipal Environment and Natural Resources Office (C/MENRO):

All the seven LGUs along Sarangani Bay have offices for environment and natural resources services. Although an optional office under the 1991 LGC, General Santos City has the City Environment and Natural Resources Office (CENRO), while the six municipal LGUs have their respective MENROs. This office is often under the leadership of the City/Municipal Environment and Natural Resources Officer (C/MENRO). As an office or organizational unit, the C/MENRO caters to environment and natural resources management (NRM) concerns in general and coastal resources management (CRM) in particular. These include, but not limited to the following functions: development of plans and strategies related to environment and NRM; protection of communal forests and watersheds; utilization of mineral resources; undertaking projects related to restoration of degraded coastal habitats; implementation of community-based forestry projects (such as mangrove rehabilitation and coastal habitat restoration); conservation of rare and endangered marine species; and control land, air and water pollution.

The names of both the CENRO and MENROs in Sarangani Bay is provided below (Table 21). These MENROs concurrently serve as members of the SBPS's Law Enforcement Committee.

Table 21. Municipal/City Environment and Natural Resources Officers in Sarangani Bay

Province/City	Municipality	Municipal/City Environment and Natural Resources Officer
1. Sarangani	1. Maitum	1. Ms. Nanette Nacional
	2. Kiamba	2. Engr. Carmelo Velasco
	3. Maasim	3. Ms. Alejandra Sison
	4. Alabel	4. Engr. Allan Rivera
	5. Malapatan	5. To be designated
	6. Glan	6. Mr. Arvel Sojor Lara
2. General Santos City		7. Prof. Valiente Lastimoso

The MENRO spearhead fisheries management in the case of Maitum. In the context of General Santos City, the fisheries management functions are divided between the OCAG and the CENRO. The OCAG takes charge of aquaculture, boat registration, law enforcement and livelihoods provision. Meanwhile, the CENRO leads CRM and mangrove management. Both offices are involved in marine protected area.

Municipal/City Planning and Development Office (M/CPDO):

The Municipal/City Planning and Development Office (M/CPDO) is mandated under the LGC (1991). Hence, these offices exist in Sarangani Bay's seven municipal LGUs. This unit is often headed by the Municipal/City Planning and Development Coordinator (M/CPDC). Among others, the M/CPDO takes charge in: (1) formulating integrated economic, social, physical, and other development plans and policies for consideration of the local government development council;(2) integrating and coordinating all sectoral plans and studies undertaken by the different functional groups or agencies; (3) monitoring and evaluating the implementation of the different development programs, projects, and activities of the LGUs in accordance with the approved development plans; and (4) preparing comprehensive plans and other development planning documents for the consideration of the local development council.

The CRM and/or Fisheries Plans are linked with the comprehensive and other development plans at the municipal level. One Sarangani municipality has a special case. In Kiamba, the MPDO – through the MPDC – takes the lead in preparing the CRM/fisheries plan.

Provincial Offices:

Three offices of Sarangani's provincial government provide some technical and related services. These are the: (1) Office of the Provincial Agriculturist (OPAG), (2) Provincial Government Environment and Natural Resources Office (PG-ENRO) and Provincial Planning and Development Office (PPDO). A typical OPAG may provide technical support to the municipal LGUs in the implementation of fisheries demonstration projects, conduct of Participatory Coastal Resource Assessments (PCRA) and establishment of fish sanctuaries and/or marine refugias. The OPAG's projects in Sarangani are mostly related to mariculture.

The PG-ENRO's activities are mostly related to CRM. Specific initiatives include: Sarangani Bay Reef Conservation Program; MPA Management Plan Formulation; Mangrove Nursery and Rehabilitation; Marine Wildlife Conservation; Crown-of-Thorns Mitigation; and Marine Turtle Hatchery and Enhancement. More interventions/resources are now directed to law enforcement. The *Sulong Kalikasan* Task Force, which was initially created to address timber poaching, is being strengthened to also address illegal fishing activities in the coastal marine areas. Training assistance from DENR and BFAR are being sought for these purposes. The PPDO's contributions are more related to planning. Fisheries concerns are being incorporated in updating the Provincial Development Plan.

Barangay/Villages:

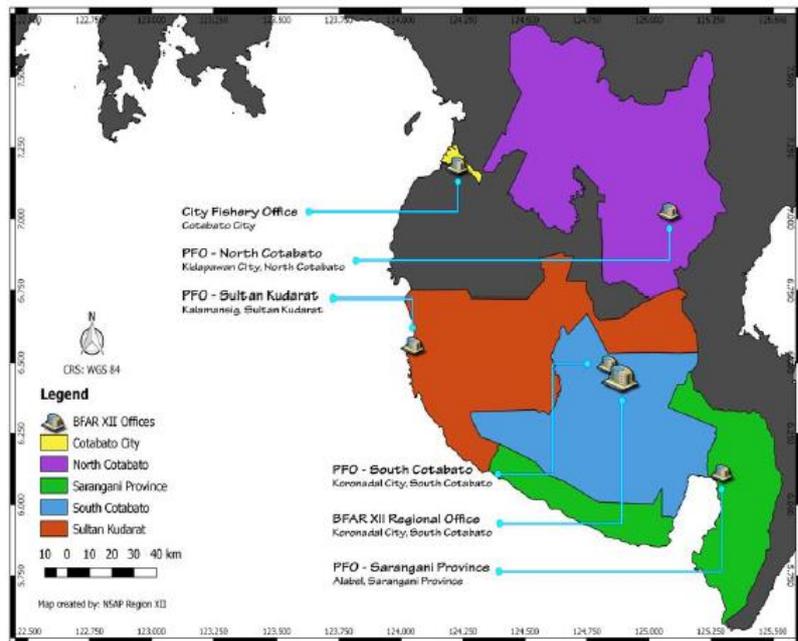
The barangays, at the lowest rung of LGUs, are involved in certain activities related to fisheries. These include reporting of illegal fishing activities (such as the use of illegal or destructive gears), patrolling of coastal marine waters as part of law enforcement and protection of mangrove forests,

seagrass beds and coral reefs. Some village officials are also members of the Fisheries and Aquatic Resource Management Councils (FARMC).

2.5.3 Bureau of Fisheries and Aquatic Resources Region 12

The Regional Office of BFAR 12 is located at the Regional Government Center, Carpenter Hill, Koronadal City.¹² BFAR 12 is within Administrative Region 12 or SOCCSKSARGEN. BFAR 12 has been providing fisheries-related services to its regional constituents, which is in line with the bureau's mission to improve fisheries productivity within ecological limits and empower stakeholders towards food security, inclusive growth, global competitiveness and climate change adaptation. The regional office is committed to: conserve, protect and sustain the

Figure 14. Location of Regional and Provincial Offices of the BFAR within Region 12



management of the country's fishery and aquatic resources; alleviate poverty and provide supplementary livelihood among municipal fisher folks; improve productivity of aquaculture within ecological limits; utilize optimally the offshore and deep sea resources; and upgrade post-harvest technology.

A Provincial Fishery Office was created and functional for every province within the region such as North Cotabato, Sarangani, Sultan Kudarat, South Cotabato covering General Santos City and City Fishery Office in Cotabato City (Figure 14). These offices serve as the fishery and aquatic arm for resource management, protection and development at the grassroot levels that are accessible to fisherfolks, LGUs and private entities.

BFAR Regional Office 12 has a total of 61 permanent employees and 197 contracted job order employees comprising both technical and administrative and support service staff. Its organizational structure is provided in Figure 15. The Office of the Regional Director ensures the coordinated implementation of fishery programs and projects as well as the strict enforcement of fishery laws at the regional and provincial level. Appointed by the Secretary of Agriculture, Sammy A. Malvas, Regional Director, heads the Regional Office. It consists of three key divisions: (1) Fisheries Production and Support Services Division (FPSSD), (2) FMRED and (3) Regional Fisheries Training and Fisherfolk Coordination Division (RFTFCD). The respective designated Officers-in-charge are as follows: Mr. Abdelnaser A. Tarabasa, Mr. Glenn J. Padro and Mr. Medardo L. Jamiro Jr.

¹² <http://region12.bfar.da.gov.ph>

The Office of the FPSSD oversees the activities pertaining to production, post-harvest, marketing and laboratory procedures. Thus, Capture Section, Post-Harvest and Marketing Section, Aquaculture Section and the Regional Fish Health Laboratory are all under the supervision of FPSSD. On the other hand, FMRED administers the Leasing and Licensing Section, Fisheries Resource Management Section and provides direct instruction and directives to the Monitoring, Controlling and Surveillance Unit. This office acts as a regulatory and enforcement body in the regional office to handle inspection and quarantine functions and the Monitoring, Control and Surveillance (MCS) duties.

The Regional Fisheries Training and Fisherfolk Coordination Division facilitates the conduct of trainings and seminars. It likewise provides technical support and extension services to fisherfolks, private entities and municipal/provincial LGUs. Moreover, this division leads the implementation of National FARMC Implementation Plan.

BFAR 12 implements various fishery programs and projects within its area of jurisdiction that are briefly described below. Some of these are regular services of a typical regional office while others may be considered as special projects. These may cover the municipal fisheries of Sarangani Province and General Santos, which is the focus of this Fisheries Annex.

DA-BFAR launched a program called Targeted Actions to Reduce Poverty and Generate Economic Transformation in the Fishery Sector (TARGET) in Tanza, Cavite Province, to ease the poverty incidence in the country's fishing communities on November 24, 2014. The program was called TARGET, as the government's main objective to be more precise in delivering interventions and assistance to the identified fisherfolk population to improve their livelihoods. TARGET makes use of the fisherfolk database that was generated through the National Program for Municipal Fisherfolk Registration System (FishR). In addition, it was designed to enhance, fast track and complete the Municipal Fisherfolk Registry of coastal LGUs nationwide. It is also aimed to achieve the following: develop and promote a simplified and standardized national registration system for municipal fisherfolk; get the support of all coastal municipalities and cities to use the standardized registration system and to integrate with and regularly update the FishR; and to use the data in the System to design fisheries management and biodiversity conservation measures.

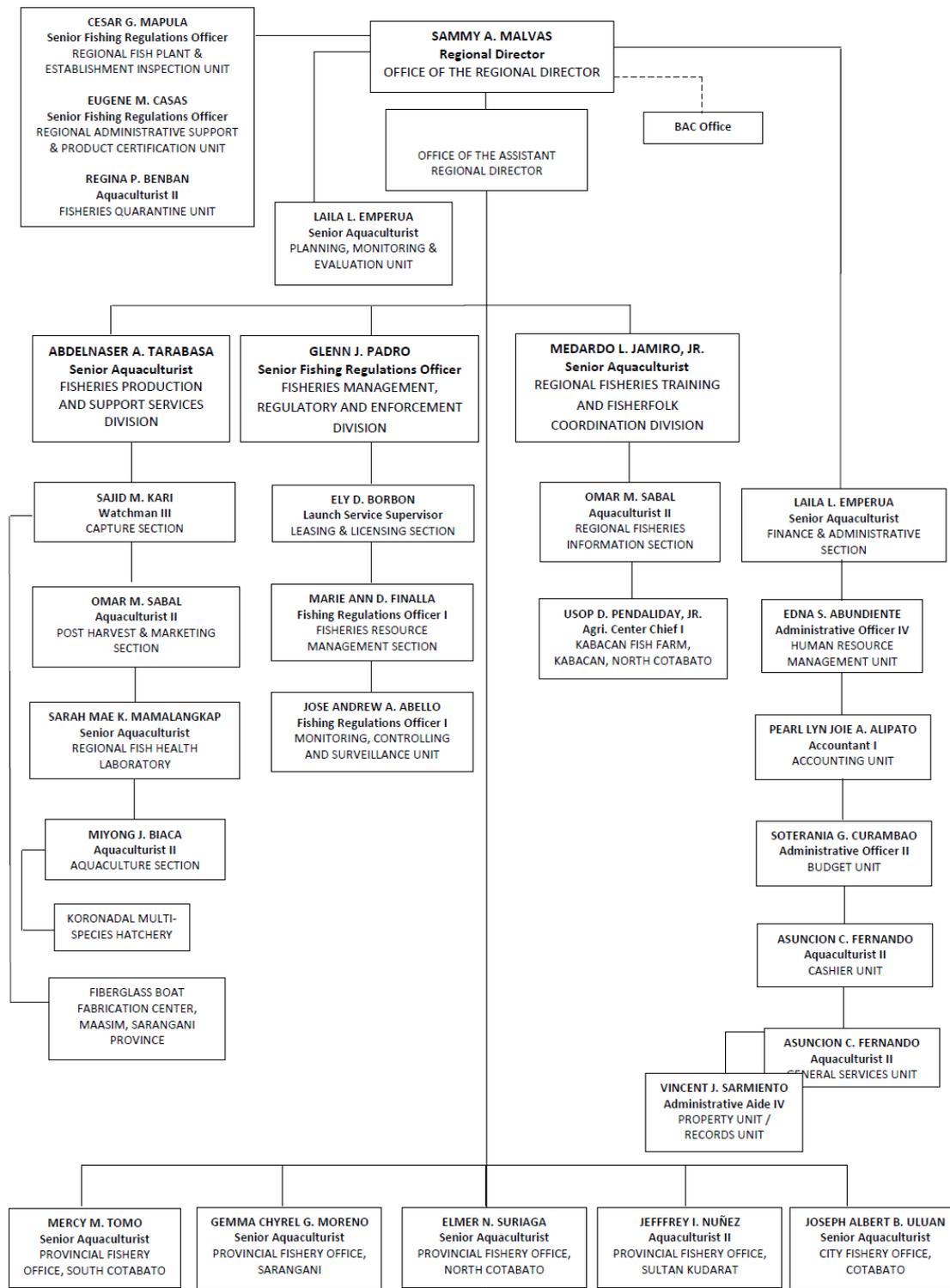
Registered fisherfolks are provided with livelihood interventions such as fishing boats, motor engines, payao, aquaculture inputs, farm implements and post-harvest facilities and equipment. The TARGET program also addresses IUU fishing through resource management and protection component. This is being done through the enhanced fishery law enforcement and strengthened regulatory activities especially in the identified areas. The program's other component elements are: livelihood support, resource enhancement, and post-harvest and marketing support.

A sequel initiative after FishR was the National Program for Municipal Fishing Vessel and Gears Registration or Boat-R to fast-track, enhance and complete the registration of municipal fishing vessels that are 3 GT and below and the municipal fishing gears as required under the Executive Order No. 305 and RA 8550, respectively. The efforts to register all the fisherfolk, fishing vessels and gears are management measures that will determine the exact configuration of the fishing industry and how much fishing efforts are appropriate for the relevant fishing grounds. The registries will also help the bureau in providing targeted interventions to address their welfare and livelihood concerns, including combating high poverty incidence that may entice municipal fishers from engaging in destructive fishing activities. The registries also serve as instruments for quick response and relief in times of calamities and natural disasters.

One of BFAR 12's regular interventions is the distribution of fishing gear or fishing paraphernalia recently named as FB Pagbabago. Shifting from wooden-made boats to fiberglass is a way to minimize the cutting of trees for boat-building purposes; hence, this initiative helps in conserving the forest resources. The region has established a working station for fiberglass boat fabrication in Maasim, Sarangani Province. As such, the regional office has trained personnel, beneficiaries and some fishers to work on the fabrication of the boats that provide income through cash-for-work under the community participation component.

Considering the socio-economic conditions of fisherfolk communities with high poverty incidence, the Community Fish Landing Centers (CFLCs) were established in strategic coastal areas. The construction of the CFLCs is part of the government's commitment to deliver precise interventions and promote inclusive growth in the fishery sector. The DA, through the BFAR, is targeting to reduce fisheries post-harvest losses from 25% to 18%. These physical infrastructure facilities will also serve as venues for skills trainings on disaster-resilient fisheries-based livelihoods and resource management such as monitoring fish catch and stock assessment. It is also anticipated that the CFLCs may serve as monitoring and/or recording areas for the upcoming CDT system.

Figure 15. Organizational structure of Region 12 Office of the Bureau of Fisheries and Aquatic Resources



Another major program launched last year is the Malinis at Masaganang Karagatan (MMK). A national search for outstanding coastal communities forms part of this initiative. The activity raises the consciousness of the public to actively promote the protection of fishery resources and coastal

resource management. Part of BFAR's advocacy on MMK is to encourage the LGUs to adopt best fisheries practices and promote the conservation, judicious management and sustainable development of the municipal waters. This, in turn, would help increase fisheries production in the country but with corresponding responsibilities on the part of the fishers. In Region 12, only Maasim participated and the municipality consequently received two million pesos worth of projects as rewards.

The National Inland Fisheries Enhancement Program (NIFEP) is envisioned to sustain the initiatives between BFAR and LGUs with the participation of fisherfolk to restore the physical condition and to enhance the culture-based fisheries of selected lakes and reservoirs through combination of habitat restoration into culture-based fisheries technologies and capacity building. On the marine side, BFAR 12 will conduct further fisheries sanctuary assessment in Sarangani Province. The continuous development of the coastal areas leads to the degradation of the coastal resources; therefore, there is a need for assessment and evaluation of critical marine habitats. Mangrove rehabilitation is an on-going government initiative to conserve the coastal resources.

Another major program for 2017 is the Special Area for Agricultural Development (SAAD) whose main objective is to reduce poverty in targeted areas. This is funded by BFAR-CO worth 15 million pesos. Sarangani Province is among the recipients of this SAAD program. The beneficiaries of this program will be catered for three years and different activities every year will be conducted to address food security by increasing fish production and increase income by providing appropriate agri-based livelihoods.

The bureau, in partnership with the LGUs, continues to provide assistance and services to fisherfolks. These include the deployment of Fisheries Livelihood Development Technicians (FLDTs) to assess the beneficiaries, monitor the progress of assistances and services, and direct interaction with fisherfolks to effectively implement the projects.

The regional office's activities are also described in terms of major final outputs (MFOs). There are five MFOs. The performance indicators of these MFOs include number of units, beneficiaries and budget allocation:

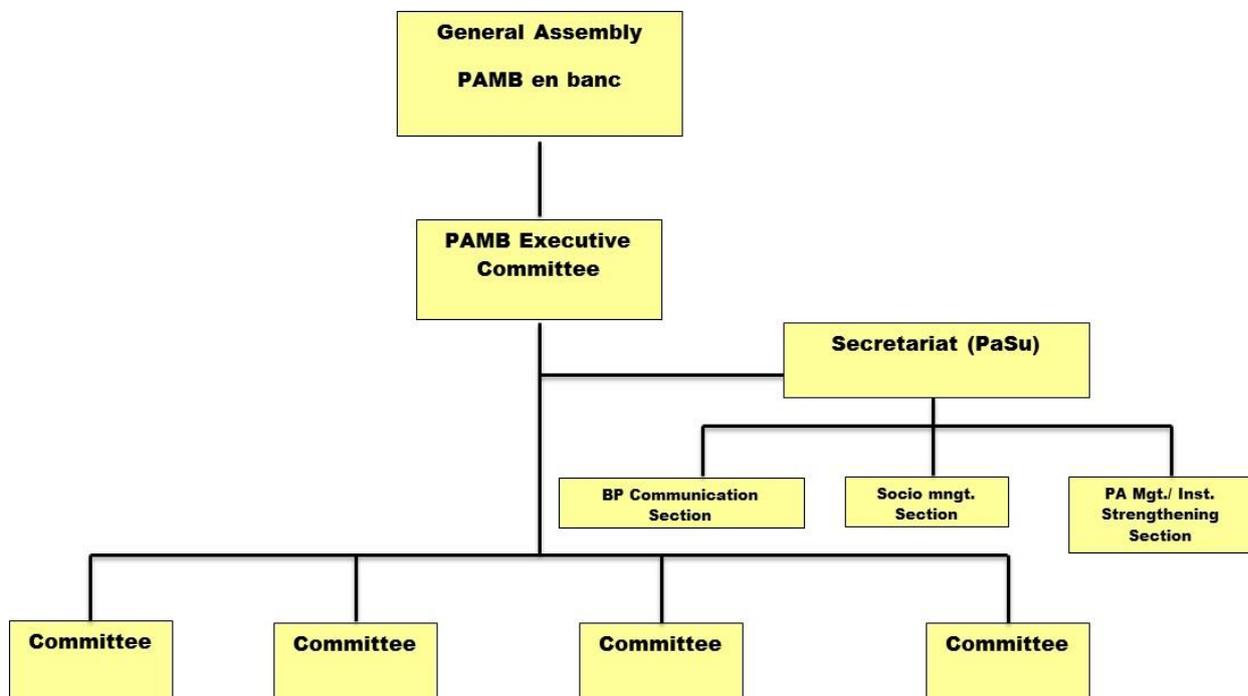
- MFO 1 relates to Fisheries Policies Services.
- MFO 2 pertains to Technical Advisory Services. Included here are: (1) market development services (marketing assistance and participation to agri-aqua fairs and exhibits); (2) extension support, education and training services that include provision of training and technical assistance; establishment of technology demonstrations, such as culture technologies and systems; conduct of information, education and communication campaigns; strengthening partnerships with stakeholders (including assistance to FARMCs and LGU technicians); and operation of regional fisheries training centers; (3) research and development; and (4) formulation of coastal and inland fisheries resource management plans in relation to the numbers of LGUs assisted on CRM/Integrated Fisheries Management planning, PCRAs assisted/conducted and bays co-managed.
- MFO 3 relates to Supply Services for Fishery Production. These include the following: (1) fish seed production and distribution that cover broodstock development and maintenance as well as operation and maintenance of production facilities; (2) seaweed production and distribution; (3) fishing gear/paraphernalia distribution; and (4) operation and maintenance of mariculture facilities.

- MFO 4 pertains to Supply of Infrastructure Facilities and Equipment. A major activity here is the establishment of fishery on-farm equipment such as smoke houses and solar dryers. Another key thrust is coastal and inland fisheries management that supports activities related to marine/fisheries sanctuaries, artificial reefs, mangrove rehabilitation and re-stocking.
- MFO 5 is focused on Fisheries and Aquatic Resources Regulation with four key activities. The first activity relates to quality control and inspection that cover monitoring of both the fisheries facilities and production. The second focus is quarantine, registration and licensing that involve permit issuance for commercial fishing vessels and gears as well as fishpond lease agreement. The third activity is linked with monitoring, control and surveillance. The emphasis is on regulations and enforcement activities; hence, this is directly relevant to the proposed CDT system. The fourth activity pertains to legal and advisory services.

2.5.4 Protected Areas Management Board (PAMB)

As contained in RA No. 7586 or the NIPAS Act of 1992 and elaborated in Chapter V, Section 18 of DAO 25 (Series of 1992), each established protected area shall be administered by a PAMB. Following Presidential Proclamation No. 756 dated March 5, 1996 that declared Sarangani Bay as "Protected Seascape", its PAMB was created to serve as a site-policy making body. This SBPS' PAMB also acts as an overseer in the implementation of the Management Plan and at the same time provides forum for conflict resolution among stakeholders. Figure 16 provides the PAMB's organizational structure.

Figure 16. Organizational structure of the Protected Area Management Board of the SBPS



PAMB's duties and functions include the following:

1. Deciding matters relating to planning, resource protection and general administration of the area in accordance with the General Management Planning Strategy;
2. Approving proposals, work plans, action plans, guidelines, for management of the protected area in accordance with the approved Management Plan;
3. Delineating and demarcating protected area boundaries buffer zones, ancestral domains, and recognize the rights and privileges of indigenous communities under the provisions of the Act;
4. Promulgating rules and regulations to promote development consistent with the Management Manual of the protected area;
5. Ensuring the implementation of programs as prescribed in the Management Plan in order to provide employment to the people dwelling in and around the protected area;
6. Controlling and regulating the construction, operation and maintenance of roads, trails, water works, sewerage, fire protection and sanitation systems and other public utilities within the protected area; and
7. Monitoring and evaluating the performance of protected area personnel, NGOs and the communities in providing for biodiversity conservation and socio-cultural and economic development and report their assessments to the NIPAS Policy and Program Steering Committee and the Integrated Protected Areas Fund Governing Board.

Overall, the PAMB exercises jurisdiction and management over the protected area. These include functions related to MPAs, energy efficiency, pollution, preventing habitat degradation and spatial/temporal controls of fishing. Hence, the policies and rules are decided by the PAMB and implemented by the Protected Area Superintendent (PASu) and his staff at the Protected Area Office (PAO).

The SBPS-PAMB was established in 1996 with 96 members, mostly composed of LGU representatives. These included the coastal barangay captains, the MPDCs, the CPDC and PPDC. Out of this total, 31 were members of the Executive Committee (ExeCom) as of 2000, which was later reduced to 21 in 2003. Only 16 active members involving 8 LGU representatives sit on the PAMB ExeCom meetings to undertake the regular business. Of these members, 11 have signed appointments (August 2003) from the DENR Secretary. The current ExeCom SBPS-PAMB is chaired by RD Reynuleo A. Juan in his capacity as RD of DENR 12. Governor Steve C. Solon of Sarangani Province serves as Co-Chair.

Currently, the PAMB's TWG Members and Secretariat are provided by the DENR 12. There are 14 members headed by Hadja Didaw Piang-Brahim, ARD for Technical Services. Moreover, the PAMB has a nine-member 'Law Enforcement Committee.' Such committee is headed by PASu Iskak G. Dipatuan. Other members include representatives from BFAR 12 and municipal/provincial LGUs.

During the PAMB meetings on April 18, 2017 (TWG) and April 19, 2017 (ExeCom), it was agreed that the Fisheries Annex shall remain within the ambit of PAMB. A sort of distinct 'Fisheries Committee' shall be established later to spearhead the overall coordination and/or implementation of the Fisheries Annex. Meantime, the PAO headed by PASu Iskak G. Dipatuan shall coordinate the activities related to the Fisheries Annex's finalization and/or legitimization.

2.6 Fisheries/CRM Plans

All municipal LGUs have their respective Fisheries/CRM plans (Table 22). Some are in various stages of updating. These plans have not been crafted in isolation but are linked horizontally and vertically. For example, the municipal fisheries/CRM plans are linked ‘horizontally’ with the municipal development plans as well as comprehensive land and water use plan. Vertically, the municipal fisheries/CRM plans are linked with the provincial agriculture development plans.

Table 22. Fisheries/coastal resource management plans of the coastal municipalities of Sarangani Bay, Region 12

Municipality/City	Fisheries / CRM plan
1. Maitum	Maitum Integrated Coastal Management (ICM) Plan (2013)
2. Kiamba	ICM Plan (2012-2015)
3. Maasim	ICM Plan (2013)
4. Alabel	ICM Plan (2013)
5. Malapatan	Coastal Resource Management (CRM) Plan (2001-2005)
6. Glan	ICM Plan (2005-2013)
7. General Santos City	ICM Plan of General Santos City (2014-2019)

This Fisheries Annex has considered the Comprehensive Development Plans (CDPs) of the Municipal LGUs surrounding Sarangani Bay as well as the Provincial Development Plans of the Sarangani and South Cotabato Provinces. The development plans embody the LGUs’ vision, goals, objectives, strategies and policies over a fixed time period. The CDPs likewise contain the corresponding Programs/Projects/Activities (PPAs) which serve as primary inputs to investment programming, subsequent budgeting and implementation of PPAs for the growth and development of the local governments.

The management actions contained in the Fisheries Annex shall also be linked with the latest fisheries/CRM plans of LGUs. Such management actions may be elaborated later into more formal PPAs. Hence, these PPAs shall be submitted later to the respective legislative councils for annual investment planning and/or funding.

At the global level, this Fisheries Annex recognizes the Sustainable Development Goals (SDGs). This plan relates to Goal 14: Life Below, which aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development of which the fisheries is a major component. This Fisheries Annex is likewise linked with the Philippine Development Plan (PDP) for 2017-22 of the Duterte Administration. More specifically, the connection is with Subsector Outcome 1: AFF productivity within ecological limit improved. A key strategy under this outcome is to “pursue an ecosystems approach to fisheries management.” It considers the national fisheries plans. This is linked with the CNFIDP. This is likewise linked with the Tuna Fisheries Management Plan as well as the NPOA for IUU. This Fisheries Annex is also intended to complement the *Sarangani Bay and Sulawesi Sea Sustainable Fisheries Management Plan* developed by BFAR12 and local partners for the FMA within the Celebes Sea (Sulawesi Seas) in Southern Mindanao.

2.7 Current Initiatives on Catch Documentation and Traceability and Associated Partners

To bolster electronic seafood traceability capabilities, in 2017, BFAR launched their first end-to-end digital seafood traceability system, the Philippines' National Electronic Catch Documentation and Traceability System (eCDTS), supported by USAID Oceans. The system was developed by the Government of the Philippines to address IUU fishing through full-chain traceability, from the point of catch to export. The BFAR eCDTS was developed following the BFAR Administrative Circular (BAC) No. 251 on Traceability System for Fish and Fisheries Products.

The BFAR eCDTS was designed to capture Key Data Elements at every stage of the supply chain, enabling traceability data to be entered and stored electronically with more efficient validation processes than previous paper-based recording. At the point of catch, the system utilizes Vessel Monitoring Systems (VMS) onboard large-scale fishing vessels to capture key data and ensure the fish has been caught from a permitted area. Upon landing, data captured by the VMS for the e-logsheet is electronically submitted to BFAR and used by BFAR Fishery Officers to inspect and validate unloaded catch to approve the Fish Unloading and Monitoring Report. Following, the fishing company is able to apply for a Catch Origin Landing Declaration (COLD) via the eCDT system to be validated by a BFAR inspector before the fish is transported for processing. Once the fish has been processed and is ready for export, the processing/canning company is then able to submit an application for a Catch Certificate (CC) via the system.

Since the system's launch, BFAR has continued to work closely with USAID Oceans and industry organization, the SOCKSARGEN Federation of Fishing and Allied Industries, Inc. (SFFAI)¹³, to test and enhance the capabilities of the system with selected First Movers from fishing and processing companies. SFFAI, a trusted industry organization and USAID Oceans grant recipient, has been a strong supporter of the eCDT system and therefore made recommendations to its members to become 'First Movers' to test the eCDT system in the Philippines. With SFFAI's recommendation, as of 2019 the eCDT system was being piloted by 13 First Mover companies. SFFAI engages various stakeholders, both private and government, at the regional, national, and local level to facilitate eCDT system implementation and sustainability. As of 2019, the partners were working to make final system connections to achieve full-chain traceability, with exploration and planning underway to expand the system beyond the General Santos City site.

Advancing small-scale traceability capabilities has also been of interest to the Government of the Philippines. In 2018, USAID Oceans and the Futuristic Aviation and Maritime Enterprise (FAME) launched a partnership to develop and test small-scale catch documentation and traceability (CDT) technology with integrated communications capabilities. FAME is a private, Philippines-based company and the leading provider of small-scale vessel trackers and monitors. FAME's technology makes use of radio frequency to send and receive information. Its gateways receive the information from transponders and sends to the cloud. Telemetry data can be sent up to 50 km offshore and can be further extended via mesh technology between the transponders, as once the vessel/device is out of range, but within range of another vessel equipped with a FAME transponder, the data can still be sent to a gateway. Personal communication, together with telemetry data can be sent through the FAME transponders.

¹³ SFFAI is an umbrella organization of seven associations with a total over one hundred companies involved in fishing, canning, fish processing, aquaculture production and processing, and other allied industries in the Philippines.

FAME also provides a dashboard through a web and mobile browser-based application, allowing users to see details of each transponder and other related data in near real-time, anywhere. The dashboard allows users to draw geofencing areas for remote areas or areas to prioritize, as well as generate custom reports with integrated graphs. FAME users can receive notifications (alerts) both to fishers at-sea and users on-shore. Fishermen can use their mobile phones with USB On-The-Go (OTG) or Bluetooth to send and receive messages without mobile phone tower connectivity. Their platform is fully customizable and has been modified to incorporate USAID Oceans required Key Data Elements (KDEs).

Through the partnership, as of 2019, USAID Oceans and FAME have installed approximately 30 transponders on small-scale vessels in USAID Oceans' learning site of General Santos City, Philippines in collaboration with BFAR Region 12. With the transponders, the vessels are now able to transmit CDT data at-sea, as well as communicate more easily with business partners and family members on shore. To support small-scale traceability, BFAR and civil society organizations have begun developing and initiating a national consultation process on the "Municipal Catch Documentation and Traceability System."

3. MAJOR ISSUES AND OPPORTUNITIES

3.1 Overview

There are various issues and problems that are affecting the SBPS. Many of these have long been identified in the CNFIDP, although there are few emerging ones and some of them have been documented in the PAMP itself (PAMB 2017) and profile of Sarangani Bay (de Jesus et al. 2001), as well as in the Region 12 Development Plan and other municipal/provincial LGU plans. These issues can be classified into three EAFM categories: (1) ecological, (2) human and (3) governance.

Ecological issues are largely related to the bio-physical aspects. These include the impacts of the fisheries on the environment and vice versa, such as marine pollution. Human issues are mainly socio-economic and involve people or stakeholders in the fisheries sector. These may also include gender-related issues. Governance issues are primarily institutional in context. These can be factors that are affecting one's ability to achieve the management objectives.

These problems/issues were also addressed from two key sources: (1) stakeholder consultations and (2) literature. The two main stakeholder consultations were *A Workshop to Craft the 'Fisheries Component' of the PAMP of SBPS* held in January 2017 and the *Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a SFMP* in February 2017. Meanwhile, the main literature used is the PAMP itself. This is supplemented by the results of the WorldFish's RAFMS study, CRM/fisheries plans, municipal profiles and some other publications. These are described in more details in the succeeding sections, including illustrative examples. Some problems/issues are specific to the surrounding municipalities/cities, while others generically apply throughout the Sarangani Bay. The sequence of description are the results of two workshops followed by the relevant PAMP elements relevant to the fisheries.

3.2 Ecological

Ecological issues are divided into those that are specific to the fisheries and those that are only indirectly associated with it (Table 23). Foremost on the list is the issue of ‘depleted fishery resources’ – this is also referred to as overfishing. Declining fish catch is manifested by the declining trend in capture fisheries production, changing species composition of catch and increase in fishing effort. In Maitum, depleted fish catch is associated with the heavy influx of fishers from its neighboring municipalities. Low fish catch has been noted in Kiamba. Increase in number of fishing boats is the specific associated concern in Alabel. The CRM plan of Malapatan indicated that the fish catch of today has adversely decreased when compared to the volume of catch in the 1950s.

Table 23. Summary list of ecological fisheries issues/problems in SBPS

Issues/problems	Fisheries Annex								SCW	PAMP
	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Sarangani Province		
1. Depleted fishery resources or overfishing	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2. Illegal/ unsustainable fishing methods	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Degraded coastal/fishery habitats	✓	✓		✓		✓		✓		✓
4. Nutrient/ sediment run off	✓			✓		✓		✓		✓
5. Marine litter	✓	✓		✓	✓	✓		✓		✓
6. Coastal/marine pollution coming various sources				✓	✓			✓		✓
7. Sewage	✓	✓		✓				✓		✓
8. Dried up springs and flooding								✓		
9. Storm surge	✓									
10. Climate change		✓							✓	

Legend on column headings: Fisheries Annex - A Workshop to Craft the ‘Fisheries Component’ of PAMP of the SBPS held in Sun City Suites, General Santos City, January 25–26, 2017; Stakeholder Consultation Workshop (SCW) - Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a Sustainable Fisheries Management Plan, Greenleaf Hotel, General Santos City, February 21 -23, 2017; PAMP

In the PAMP, overfishing is associated with illegal fishing methods. In the SCW reference above, overfishing is manifested in several ways, including decreasing CPUE, which may imply collapse of fisheries, fishing during spawning season, noticeable or reported decrease in catch for SSF, uncontrolled vessel registration/licensing, and possible ecosystem overfishing whereby squid population is increasing due to the loss of predators.

Illegal/destructive fishing is manifested in many forms. Among others, the Annex workshop participants have identified active gears, such as ring nets and beach seine. Destructive fishing methods identified by SCW and PAMP participants are the use of payaw and solar lights, as well as fine mesh nets and noxious substances, such as cyanide and locally-manufactured organic substances like “tubli” or “lagtang” in municipal waters.

The ‘degraded coastal/fishery habitats’ are brought about by a number of factors. Some concerns are specific to specific municipalities. In Kiamba, a large portion of Bacud Reef was degraded when a fishing vessel was grounded here in 2012, while its mangrove area is being reduced due to land-use conversion. Cutting of mangrove was noted in Maasim. In Glan, illegal shoreline development contributes to habitat degradation. The SCW noted the conversion of fisheries habitats into other uses. The SBPS’ PAMP noted that coral reefs, seagrasses and mangroves are being destroyed within the Bay.

‘Nutrient and sediment run off’ largely come from terrestrial sources, for instance the siltation of rivers, as well as sediments from livestock manure and erosion caused by deforestation and destructive farming practices. In General Santos City, degraded forest and watershed areas cause flooding during rainy season that carry with it nutrient and sediment loads.

SCW workshop participants mentioned the siltation from the highlands. The PAMP noted that sediments are among the agricultural pollutants in the bay. Furthermore, large amounts of dissolved nutrients are released into the water column where eutrophication and reef degradation are the end result.

‘Marine litter’ comes in various forms. Solid wastes from littering and/or throwing of garbage in the open sea was listed as an issue for Maitum. Malapatan’s CRM plan noted improper waste management in the municipality and computed that the volume of waste generated per head is about 0.4 kg per day.

Solid waste is a major issue identified in PAMP. The increasing volume of solid waste materials that are brought by tidal currents and wind from outside the protected area may negatively impact the health and aesthetics of the bay. LGUs are still using controlled disposal facilities. ‘Coastal/marine pollution from shipping and maritime industries’ is understandably focused in General Santos City as the premier city of Cotabato Province in particular and Region 12 in general. Some fishing boats are reportedly dumping their used oil products into the open waters. Several forms of pollution were noted during the SCW. An illegal activity in the sea is the release of used oil products. Coal-fired power plant may have negative impacts to the fisheries in the future. Water pollution is one of the top issues indicated in PAMP. This is attributed to three major sources: industrial, domestic and agricultural.

‘Sewage’ emanates from both the households and industries. It is concentrated in Tumbler where the fish canneries are located, as some of these canneries do not have adequate wastewater treatment facilities. In Alabel, there is improper disposal of liquid wastes from agriculture, industry and other

sources that drains down to Sarangani Bay. Only Alabel has an operational sewage treatment facility. General Santos City has no facility but has entered a MOA with Alabel for joint use of the facility.

Three other issues ('dried up springs and flooding,' 'storm surge,' and 'climate change') may be climate and/or weather related, if not part of the natural stresses. The provincial government specifically identified that the aquaculture ponds are affected by flooding and when springs are dried up. Storm surge was identified in Maitum. Kiamba representatives associate climate change with coral bleaching due to excessive heating of the marine waters. Climate change was one of the issues mentioned. El Niño is perceived to have caused reduced fish production. The PAMP noted that occurrence of coral bleaching, crown-of-thorn and *Drupella* infestations are natural causes due to climate change.

3.3 Human

The 'Human Well-being' category has several associated issues (Table 24). 'Poverty (including livelihoods)' is a pervasive issue in the bay. Low household income is manifested by high poverty incidence in the coastal areas. A typical fishing household has an unstable monthly income that is below the poverty threshold. Maitum specifically mentioned the lack of capital for sustainable livelihood projects. Kiamba highlighted the poverty among fishers given limited sources of income. Associated with poverty are several forms of deprivations such as: (1) cramped living conditions due to their desire to live on or nearest the shore despite government programs of providing home lots to the poor in General Santos City; (2) long period of absence by the head of the family in the case of those who are employed as fishing boat laborers; (3) displacement of fishing communities to give way to physical development of the beachfronts; (4) lack of basic facilities in coastal and fishing communities; and (5) limited alternative or supplemental livelihood opportunities due to absence of skills and technical training opportunities, as well as limited access to financial capital.

Table 24. Summary list of human well-being issues/problems in SBPS

Issues/problems	Fisheries Annex								SCW	PAMP
	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Sarangani Province		
1. Poverty (Including Livelihoods)	✓	✓	✓	✓		✓	✓	✓	✓	✓
2. Uncompetitive Fishery Products	✓				✓			✓		
3. Inequitable Distribution of Benefits from Resource Use		✓		✓				✓		
4. Conflicts of fisheries within and other economic sectors							✓		✓	✓
5. Post-Harvest Losses	✓						✓	✓		
6. Population Pressure		✓		✓	✓	✓		✓		✓
7. Lack of Infrastructure Support Facilities	✓				✓		✓	✓		
8. Repatriation of fishermen from Indonesia								✓		
9. Labor and Gender									✓	

Legend on column headings: Fisheries Annex - A Workshop to Craft the 'Fisheries Component' of PAMP of SBPS, held at Sun City Suites, General Santos City, January 25–26, 2017; SCW - Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a Sustainable Fisheries Management Plan, Greenleaf Hotel, General Santos City, February 21-23, 2017; PAMP

'Uncompetitive Fishery Products' has been noted for the cases of Alabel and General Santos City. 'Inequitable Distribution of Benefits from Resource Use' come in various forms. It is also associated with intensified resource use competition, both within and outside the fisheries sector. Resource conflict has been noted due to the encroachment of the commercial fishers within the municipal waters. In General Santos City, it was noted that the income sharing among boat owners are not equitable to the fisherfolks. The 'conflicts of fisheries with other economic sectors' is brought about by the modernization of the Sarangani Bay. Tourism is booming given the province's thrust towards eco-tourism, which competes for physical space with fisheries-related activities.

The SCW noted 'poor product quality' as an allied issue. It specifically mentioned the lack of product innovation and non-accreditation. 'Post-Harvest Losses' were noted in some municipalities. It is closely associated with the 'Lack of Infrastructure Support Facilities.' These include the lack of pre- and post-harvest facilities in Kiamba, such as the lack of dry docking area in the coastal barangays. Alabel noted the lack of infrastructure support facilities such as ice plant and landing port. As the majority of women are involved in the post-harvest and transformation nodes of the value chain, not addressing these issues raised will lead to the loss of livelihood and income generating opportunities to these women. As the other nodes in the fisheries value chain that are dominated by men thrive and get more attention, the women in the post-harvest sector would be at a disadvantage, especially in the distribution of economic opportunities.

Limited facilities i.e., fish ports, market roads and harvest facilities were also noted as one of the issues. One even commented that facilities are too inadequate. Associated here are poor fish handling and contamination of processed fishery products. Small scale, individual and home-based post-harvest and marketing sectors are at a disadvantage due to lack of financial and intellectual capital. In particular, the majority are the women, mainly wives of fishers, who need to graduate from being "just" fishers' wives and be recognized as women entrepreneurs in their own right. There is an evidenced lack of women empowerment initiatives despite the fact that both women and men are involved in various nodes of the fisheries value chain.

'Population Pressure' is also critical, given that the coastal marine areas have generally higher population increase rate compared to their inland counterparts. Many females do not have access to modern contraceptives or have limited knowledge of family planning methods. Bay-wide, there is a proliferation of informal settlements along coastal areas. Hence, land squatting is becoming an issue. The situation is exacerbated by the in-migration into Sarangani Bay of families coming from other provinces, especially in Malapatan.

The SCW proposed the need to correlate human population increase with fish catch. The PAMP recognized the concern for human population. It documented the high proportion of the population of Sarangani Province and the General Santos City, many of whom are dependent on fishing. There is a proliferation of coastal informal settlers. The surging population in the coastal areas results to congestion and unsanitary living conditions. Due to their untreated domestic wastes, they invariably contribute to water pollution.

'Repatriation of fishermen from Indonesia' was mentioned by the provincial government. It refers to the fishers (some of whom are municipal fishers) who are detained in Indonesia for illegal entry within its maritime boundary. In addition, a representative from the civil society reported of fisher's wives concerns regarding their fisher husbands being detained in Manado, and not knowing of their situation and when they would come back. In the meantime the wives are holding fort at home, taking care of the children and performing both reproductive and productive roles for their families.

With the added responsibilities of women due to their husbands' absence from either fishing with long duration or being detained indefinitely in Indonesia, during the SCW and which surfaced during gender analysis in the sites, that additional capacity building for women empowerment should be included in the government's programs and not just be limited to distributing GPS units and the like.

'Labor and gender' was a major issue during the SCW with a host of associated concerns. These include an 'enslaving' system in the fishing industry, child labor, lack of labor rights and social protection for fishing workers, in particularly females, as well as international or cross border issues, such as detention of fishers in Indonesia.

At the EAFM Workshop to craft the fisheries component of PAMB, it was also suggested that gendered interventions are needed, considering that the government agencies have their Gender and Development (GAD) budgets to implement their GAD action plans. In addition, the issues discussed could all be approached or addressed with a gender lens, particularly those on human welfare, poverty alleviation, disaster preparedness, capacity building, and governance, among others.

It has to be noted that this workshop was conducted a week after the Inception Workshop for the gender analysis in tuna fisheries value chain in January 2017, and there has never been a formal agenda on human welfare, gender and labor in a fisheries meeting. It was only during the SCW, when the gender analysis and labor assessments had been presented, that this topic was more widely and freely discussed in a technical fisheries meeting.

3.4 Governance

The good governance dimension cluster consists of six categories (Table 25). 'Limited Institutional Capabilities' reflects several institutional constraints. One of which is the lack of financial resources. Inadequate financial support is noted for Maitum while there are limited funds in the case of Kiamba. Low awareness level is closely associated with this issue. Illiteracy is relatively high among fishing families. There is inadequate human resource among the LGU offices that are involved in the management of municipal fisheries. The lack of research regarding fish stock assessment and an absence of sufficient fisheries monitoring, control, and surveillance efforts encourage unsustainable fishing practices. Bay-wide, there is a lack of relatively trained personnel. Limited personnel is noted in Kiamba while the lack of manpower is identified in Alabel. The above issue was discussed during the SCW in terms of government regulations. Some manifestations are in long processes in securing fishing permits, highly stringent registration processes and inefficient government projects.

Table 25. Summary list of governance issues/problems in SBPS

Issues/problems	Fisheries Annex								SCW	PAMP
	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Sarangani Province		
1. Limited Institutional Capabilities				✓		✓	✓	✓		
2. Inadequate/ Inconsistent Fisheries Policies		✓	✓				✓	✓	✓	
3. Weak Institutional Partnerships		✓		✓			✓			
4. Lack/Limited Community/Public Participation		✓		✓	✓	✓	✓	✓	✓	
5. Weak enforcement of fishery laws/regulations		✓	✓	✓	✓	✓	✓	✓	✓	
6. Lack or Limited Catch Documentation and Traceability									✓	

Legend on column headings: Fisheries Annex - A Workshop to Craft the 'Fisheries Component' of PAMP of SBPS, Sun City Suites, General Santos City, January 25–26, 2017; SCW - Towards Improved Fisheries Management and Biodiversity Conservation in Southern Mindanao: Stakeholder Validation and Initial Crafting of a SFMP, Greenleaf Hotel, General Santos City, February 21-23, 2017; PAMP

'Inadequate/Inconsistent Fisheries Policies' takes several forms. Kiamba identified the need for a unified ordinance. Maasim noted the absence of a municipal fishery ordinance. Several related issues were discussed during the SCW. One is the overlaps in policies, rules and regulations as there are too many policies. There is also inconsistent implementation of national policies and regulations. An example is the 'un-harmonized' PP 756, NIPAS Law and RA 10654. There are also fragmented policies/ordinances. An example is the generalization of policies on gears among commercial fishers.

'Weak Institutional Partnerships' is manifested in several forms. In Kiamba, it is manifested by inactive FARMCs. It could also mean low priority given to fisheries. In General Santos City, most of the fisherfolks have a wait and see attitude. 'Lack/Limited Community/Public Participation' is more attitudinal in focus. This apparent lack of participation has been noted in Alabel and General Santos City. The issue of 'weak enforcement of fishery laws/regulations' is prevalent bay-wide. Weak law enforcement is specifically noted in Alabel and Malapatan. The SCW noted the limited coordination among concerned agencies/stakeholders as there are plenty of agencies involved in fisheries management.

'Lack or Limited Catch Documentation and Traceability (CDT)' deserves a special attention within Sarangani Bay. During the SCW - Stakeholder Validation and Initial Crafting of a Sustainable Fisheries Management Plan held in February 2017, this issue was identified by the three workshop groups (municipal, commercial and post-harvest/marketing/cross-cutting) as a priority. Sarangani Bay's fish stocks and marine habitats are in danger as a result of unsustainable fishing practices, which threaten biodiversity, food security and livelihoods. IUU fishing in the bay has been prevailing and there are signs of over capacity as reflected by the increasing number of fishing boats and gears. Overfishing combined with IUU fishing, destructive fishing and seafood fraud may lead to the collapse of fisheries that may have devastating consequences for regional food security and marine biodiversity alike. A CDT system that is specific to municipal or small-scale fisheries is therefore needed.

3.5 Key Development Opportunities

While the challenges confronting the small-scale fisheries may be overwhelming and daunting, there are some opportunities to be considered, such as the vast water resources for increasing production through mariculture development/aquaculture expansion, and a range of commercially-viable species for culture that may complement the production from capture fisheries.

Improvement in post-harvest facilities and technologies may help reduce the losses of fisheries products along the value chain. There are some good prospects with regard to alternative or supplemental livelihoods. Sarangani Bay has long been identified as a major tourism destination. General Santos City in particular is being promoted as an investment destination.

Another opportunity is the continuing interests of the development agencies, including USAID and GIZ. USAID provided technical assistance in earlier profiling and CRM planning works. Again, USAID through USAID Protect Wildlife is providing support in SBPS and hopefully the implementation of this Fisheries Annex.

In the case of GIZ, during 2015, a Memorandum of Agreement and fund to protect and conserve the Bay was initiated among the DENR, LGUs, Mindanao State University, and GIZ, as the "Biodiversity Conservation and Protection of Coastal Resources in SBPS through Enhanced and Effective

Management Mechanisms” project. The objectives of the project are to “reduce illegal fishing, reduce water pollution, eliminate encroachment of users in mangrove areas, increase the level of awareness on biodiversity conservation, and protection of area management.” The project also aims to “enhance the management effectiveness of the PAMB through improved ordinances/resolutions and functional on-the-ground committees.”

On March 21, 2018, RA 11033 was passed by the Senate and House of Representatives and signed by the Philippine President on June 22, 2018. Popularly called as E-NIPAS, this aims to reinforce RA 7586 of 1992. Such a landmark legislation would bring 92 new areas under the protection and management of the country’s National Integrated and Protected Areas System Act. This new legislation covers Sarangani Bay Protected Seascape. Aside from the rationalization of the PAMB membership, the covered protected areas would be assured of an annual funding through the General Appropriations Act. The enactment of E-Nipas will hopefully increase the annual budget allocation of the 100 PAs in the country.

On the human welfare aspects, particularly gender and labor in fisheries, a number of legislations exist to guide stakeholders in addressing relevant issues in the fisheries sector, and in identifying, creating, and availing of opportunities. The Republic of the Philippines has promulgated Republic Act 9710, also known as the Magna Carta of Women, which is a comprehensive human rights law for women, designed to eliminate discrimination against women especially those from the marginalized sectors by recognizing, protecting, fulfilling and promoting the rights of Filipino women. In addition, the existence of a number of international, national and local legislations on gender and women in the Philippines, or referring to it, such as the Plan for Gender-Responsive Development (1995-2025), the Local Government Code (RA 7160), the Agriculture and Fisheries Modernization Act (RA 8435), and the Philippine Fisheries Code (RA8850), which recognize the importance of including both women and men in the fisheries sector, mandate competent authorities to provide support to the fishery sector including women and the youth, and to empower women to engage in other fisheries and/or economic activities.

4. MANAGEMENT GOALS AND ACTIONS OF MUNICIPAL FISHERIES

4.1 Management Goals

The goal or higher level aim of this Fisheries Annex is to promote the sustainable development of Sarangani Bay’s municipal capture fisheries in such a manner that benefits from resource use are equitably distributed, environment-friendly fishing practices are undertaken, and there is maximum participation from stakeholder groups. This of course is in line with the primary management goal for SBPS, which is to promote its sustainable development through an ICM consistent with the Philippine Strategy for Sustainable Development and a Community-based Resource Management (E.O. # 263 dated July 1995). Hence, the Fisheries Annex shall help promote the social well-being of the people supported by a strong economy and sustained by a healthy environment.

Taking cue from the 2016 CNFIDP, which serves as the overall guide for fisheries management in the Philippines, the generic objectives of management that are applicable to municipal fisheries are given below:

1. Rationalize utilization of fishery resources;
2. Protect fishery habitats;
3. Reduce resource use and competition and conflict;
4. Promote competitiveness of fishery products;
5. Minimize post-harvest losses;
6. Enhance institutional capabilities;
7. Promote appropriate policies; and
8. Strengthen institutional partnerships.

In the context of Sarangani Bay, more specific objectives based on the key problems/issues identified for municipal fisheries and classified under the three EAFM dimensions are proposed below. These objectives are linked/associated with the fisheries problems/issues that are earlier tabulated in Chapter 3. We recognize though that one objective may address more than one problem.

These fisheries management objectives will all be properly aligned later with the PAMP's vision, mission, goals and objectives. The PAMP's management objectives are as follows:

- To conserve and protect existing coastal resources while restoring the damaged coral reef and mangrove areas by 20% for 5 years;
- To establish SPZ or conservation areas in at least 2% of the total area of Sarangani Bay for 5 years;
- To reduce illegal fishing methods and practices in 5 years;
- To identify and develop two sustainable alternative livelihood enterprises through eco-tourism and other related environmental linked projects by enhancing their skills and capabilities to generate additional income within 5 years; and
- To organize and strengthen coastal community associations/cooperatives to enable them to participate in community based-resource management; and (6) to increase the level of awareness and understanding on marine conservation and protection.

Obviously, the first and third objectives have bearings on the fisheries sector. Specifically for the Fisheries Annex, four ecological objectives are proposed:

- To reduce fishing effort to sustainable levels to tackle depleted fisheries resources or overfishing;
- To minimize use of destructive fishing gears to addresses illegal/destructive fishing methods, eliminate the catch of juveniles and reduce negative impacts of fishing on marine biodiversity;
- To conserve fishery habitats, which is directly related with the issue of 'degraded coastal/fishery habitats' and maximizing the rehabilitation of marine/fishery habitats particularly coral reefs, mangroves and seagrass beds; and
- To minimize pollution from terrestrial sources (e.g., nutrient/sediment run off,' 'sewage,' and 'dried up springs and flooding) and marine origins (e.g., pollution from shipping and maritime industries, and litter), and effects from the climate.

Five human (socio-economic) objectives were proposed:

- Maximize economic benefits from municipal capture fisheries. It directly addresses the issue of 'poverty (including livelihoods)', as well as 'population pressure'. Fishing households are considered as among the poorest of the poor. Therefore, the aim is to provide alternative/supplemental livelihoods that are appropriate to women and men stakeholders, to address their strategic and practical needs.
- Provide infrastructure/post-harvest facilities. This relates to these twin problems/issues: 'post-harvest losses' and 'lack of infrastructure support facilities' (building capacity of the women and men who will use these facilities will enable them to be more efficient in the use of their time and resources; this will impact more women who are the majority in this sector).
- Develop a more efficient marketing system. This addresses the issue of 'uncompetitive fishery products' (for women's empowerment, this could involve matching women fish traders and primary fish processors with buyers and wholesalers, but also ensuring good product quality).
- Promote equity among fisher groups and/or resource users. This is in conjunction with the problem of 'inequitable distribution of benefits from resource use.' Equity likewise relates with 'labor and gender' issues. There are unresolved issues related to labor, particularly in terms of compensation and human rights, as well as gender concerns involving men, women and children. This objective also covers the issue of 'repatriation of fishermen from Indonesia.' Although the concern is more transnational, this is being highlighted in the plan given that some municipal fishers form part of crew of the commercial fishers that intrude Indonesian waters. The various legal mandates on gender equality and women empowerment, including the local GAD code and action plans could help guide the agencies in implementing it.
- Reduce intra and intersectoral conflicts. This obviously relates with the 'conflicts of fisheries within and other economic sectors.'

The five governance objectives are geared towards the institutional improvement of the management of Sarangani Bay's municipal fisheries:

- To upgrade/enhance the institutional capabilities. This directly addresses the issue of 'limited institutional capabilities' regarding small-scale fisheries management and 'weak enforcement of fishery laws/regulations';
- To strengthen institutional partnerships. This addresses the issues of 'weak institutional partnerships.';
- To maximize public/stakeholder participation. This is linked with the problem of 'lack/limited community/public participation'—a gender lens needs to be applied to ensure inclusivity;
- To promote (or harmonize) appropriate policies. Its straightforward relationship is with 'inadequate/inconsistent fisheries policies'; and
- To develop and implement a sustainable CDT system that is specific to municipal fisheries. In a forthright manner, this pertains to the problem of 'lack or limited CDT.'

Specific monitoring and/or performance indicators will be developed later for these fisheries' management objectives. At this stage, however, some 'generic' indicators for the three EAFM dimensions are provisionally provided. For ecological dimension, these indicators may include the

following: minimized overfishing; sustainable utilization of fishery resources; coastal habitats are conserved; water quality standards are adhered to; and ecosystem services are maintained. Human dimension indicators may cover the following: viable employment/livelihood opportunities; sustainable income for fishers; resource use conflicts adequately managed; empowered communities; and active community participation. Gender sensitive indicators may include: recognition that women and men possess the same capacities to undertake the same type of job, women actively participating in the decisions about the use of natural resources, the number of women's organizations formally incorporated, and the number of women trained to assume responsibilities in power or decision-making positions.

In the case of good governance, the attainment of associated management objectives may be manifested by the following indicators: functional fisheries management bodies at appropriate levels; local laws enacted that support fisheries management; investment in natural resources management (allocation of administrative and financial resources); strong political will/leadership of government officials; clearly defined enforcement procedure and high degree of compliance; existence and adoption of fisheries management plan; horizontal and vertical coordination among agencies/institutions; high level of environmental awareness; and provision of incentives for deputized fish wardens and other fisheries management bodies.

The EAFM benchmarks and/or indicators of good fisheries governance developed by the ECOFISH Project may be adopted later for this purpose. The Project developed a 17-item EAFM benchmark that provides a framework to guide fisheries managers in effectively implementing the EAFM programs in their respective localities (ECOFISH Project 2013). These benchmarks provide guideposts for the various stages of implementation of a fisheries undertaking. The benchmarking framework goes as far back as the USAID's Coastal Resources Management Project (CRMP) (DENR-CMMO 2003).

The set of benchmarks are divided into two major groups: 11 basic requirements and 6 site-specific requirements. The 11 basic requirements relate to the following: (1) ecosystem boundaries established; (2) coastal marine habitat monitoring and management planning established; (3) fisheries monitoring and early fisheries management planning established; (4) fisheries law enforcement team and program established; (5) comprehensive fisheries management plan conducted and regularly updated; (6) fisheries management office established and operational; (7) fisheries registration and licensing system established; (8) network of MPAs established; (9) fisheries use zoning plan established; (10) local constituencies for fisheries management organized and actively involved; and (11) multi-institutional collaboration on coastal and fisheries resources management. Meanwhile, the site-specific requirements relate to these six parameters: (1) species-specific management measures established; (2) gear-specific management measures established; (3) mangrove management area established; (4) seagrass management area established; (5) revenue generation established; and (6) coastal environment-friendly enterprises established. Such benchmarking system operates at three levels in ascending degree of management performance: Level 1 - Programs Established; Level 2 - Programs Functional; and Level 3 - Programs Sustained and Results Realized. The higher the level attained, the better is the performance.

The PAMP adheres to the principle of environmental protection, conservation and sustainable resource utilization and the people-centered development. The following policies and/or elements form part of the basic development philosophy of PAMP: (1) the integrity of Sarangani Bay marine

and coastal ecosystems, their protection and the systematic and sustainable utilization of the resources and environment therein shall be ensured; (2) a balance between environmental protection and development, taking into consideration the carrying capacity of the Sarangani Bay ecosystems, shall be promoted; (3) the bay to be protected from pollution from all sources; and (4) the stakeholders shall be active participants in the various management undertakings for the bay. Hence, all these elements shall be considered in pursuing the management objectives for Sarangani Bay's municipal fisheries.

Only General Santos City has a project related to women-managed area, which involves the following interlinked activities: (1) conducting inventory; (2) planning preparation; (3) consultation; and (4) implementation. In this context, management actions refer to the proposed measures, interventions, projects or activities to address the identified issues/threats and/or attain the desired fisheries management objectives. There are two sets of management actions.

The first set of management interventions were proposed during the January 2017 stakeholder consultation. Eight six site specific projects or activities were identified during this event. Most actions are proposed for individual LGUs while a few are considered as provincial/inter-LGU projects. Hence, these actions are area-based projects or activities.

The management actions are listed based on the thematic number of the agreed consolidated actions from 'Capture Fisheries Sectoral Workplan' of the 2016 CNFIDP, as well as problems/issues identified. Out of the 19 agreed consolidated actions in the CNFIDP, 11 were considered (Table 26). Thirty nine 'generic' statements for the LGU-proposed management actions (synonymously referred to here as projects, activities or interventions) are crafted so that the 'common' proposals could be easily visualized/identified. Majority of these projects relate to four areas of agreed consolidated actions. The original set of actions are contained in the Workshop Proceedings. These were edited for consistency of format and/or logic. The revised set was sent to the municipal LGUs for their review and/or concurrence (Appendix III).

Table 26. Summary of initial sets of management actions (projects, activities or interventions) identified by the LGUs in Sarangani Bay based on the agreed consolidated action from ‘Capture Fisheries Sectoral Workplan’ of the 2016 Comprehensive National

Agreed Consolidated Action / specifics	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Province
No. 4 - Strengthen Anti-IUU fishing Measures								
1. Formulate policies/ ordinances relevant/related to IUU fishing		✓	✓	✓				
2. Conduct IECs and consultations relevant/related to IUU fishing			✓		✓	✓	✓	
3. Undertake law enforcement trainings, deputization and related capacity building			✓	✓	✓	✓		
4. Activate/strengthen/re-organize law enforcement teams	✓	✓	✓	✓	✓			✓
5. Conduct patrol of fishing grounds	✓		✓		✓			
6. Prosecute and penalize violators (enforcement of fishery laws)			✓		✓			
7. Provide legal support to law enforcement teams			✓		✓			✓
8. Provide logistical support to law enforcement teams			✓	✓				
No. 5 - Intensify Information, Education and Communication (IEC) Activities on resource conservation measures and compliance of fishery laws.								
1. Develop IEC materials (including local language translation)		✓	✓	✓				
2. Conduct IEC / undertake actual public dissemination about fisheries and related concerns	✓	✓	✓	✓	✓		✓	
3. Provide incentives and logistics for IEC		✓	✓					
No. 8 - Restore fishery habitats (mangroves, seagrasses, coral reefs, wetlands and inland bodies of water) through protection and rehabilitation including pollution control								

Agreed Consolidated Action / specifics	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Province
1. Identify fishery/marine habitats for protection and rehabilitation		✓	✓		✓			
2. Undertake on the ground protection and rehabilitation of fishery/marine habitats		✓		✓	✓		✓	✓
3. Establish marine protected areas or fisheries refugias (including open and closed seasons) with associated management planning			✓		✓	✓		✓
4. Conduct coastal clean-up, implement proper waste management and undertake pollution control measures			✓	✓	✓	✓	✓	✓
5. Conduct IEC/consultation related to habitat management and pollution control (including climate change)	✓		✓		✓	✓	✓	✓
6. Conduct scientific research and/or studies related to habitat management and pollution control			✓					
7. Develop appropriate policies related to habitat management and pollution control			✓					✓
8. Institutional/organizational strengthening related to habitat management and pollution control			✓			✓	✓	
No. 9 - Delineate and zone coastal land and water uses to resolve conflicting uses consistent with Comprehensive Land Use Plan					✓			
1. Delineate of coastal land and water uses			✓		✓		✓	
No. 11- Work for the passage of ordinances for the implementation of 10.1-15 km by small and medium scale commercial access subject to existing laws								
1. Formulation of necessary ordinance			✓		✓	✓		
2. Creation of TWGs			✓					
No. 13 - Promote use of appropriate fishing gears and boats/vessels								

Agreed Consolidated Action / specifics	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Province
1. Conduct consultations to determine appropriate fishing technologies and boats/vessels			✓		✓		✓	✓
2. Conduct trainings of new designs of fishing boats and vessels							✓	
3. Assist in the promotion/ distribution of upgraded design of fishing boats								✓
No. 14 - Protect spawning grounds and spawning cycles based on research and using a participatory process								
1. Conduct consultations to introduce open and close season of fishing within municipal waters	✓							
2. Intensify the conduct of IEC to protect spawning grounds	✓							
No. 15 - Strengthen/Facilitate/ Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial services and livelihood opportunities and other purposes especially for municipal fisherfolks								
1. Organize fisherfolks for livelihoods purposes		✓	✓	✓	✓			
2. List and prioritize poor beneficiaries among fishing households			✓				✓	
3. Conduct livelihood trainings and/or capacity building activities, including related IECs			✓		✓	✓		✓
4. Provide actual livelihood projects (including budget)	✓	✓	✓	✓	✓	✓	✓	
5. Accredite fishing associations and/or people's organizations			✓		✓		✓	
6. Provide post-harvest and related facilities	✓		✓		✓	✓	✓	✓
7. Provide resettlement areas		✓	✓					

Agreed Consolidated Action / specifics	Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan	Province
No. 16 - Improve boat/ vessel and gear licensing including compliance to catch documentation requirement								
1. Licensing of fishing boats			✓	✓	✓		✓	
No. 17 - Sustain political will among implementing agencies through synchronized and coordinated efforts								
1. Hire professional staff							✓	
No. 18 - Identify and establish women-managed areas								
1. Conduct consultation/inventory of women-managed areas				✓				
2. Plan preparation				✓	✓			
3. Plan implementation				✓	✓			

At this stage, it is stressed that these projects must be considered as more of project concepts or ideas. Some projects may still be merged or consolidated while others may still be divided into several projects. As such, it is possible to transform these projects later into full project proposal during the operational or detailed planning. This activity may be conducted by SBPS PAMB with the LGUs.

The second set of management interventions were proposed during the third day of the February 21-23, 2017 SCW validation workshop. Seventy projects, activities or actions were identified during this event. These actions have no geographic or spatial reference. Therefore, these are more of thematic in focus. Some proposed actions are for individual LGUs while a few are considered as provincial/inter-LGU projects. Hence, these actions are area-based projects or activities. Applicable management actions may be incorporated by the concerned LGUs later in their respective CRM/fisheries plan.

4.2 Management Actions by CNFIDP Agreed Consolidated Actions

4.2.1 Strengthen Anti-IUU Fishing Measures

All the six municipal LGUs and Sarangani's provincial government have proposed activities under this category. For Alabel, the on-the-ground action for IUU is to conduct patrol, apprehend, prosecute and penalize violators. To properly undertake these activities, there is a need to provide legal support on DFWs and also to conduct specialized training for law enforcement teams. A support activity is to conduct IEC on Municipal Ordinance 2000-18 and R.A. 10654. In the case of General Santos City, the field activity is the actual conduct of MCS. Prior to doing that, however, there is a need to: (1) activate the Bantay Dagat and/or Deputized Fish Wardens (DPW); (2) train and deputize enforcement team, including Fishery Law Enforcement Manual of Operations (FLEMOP); and (3) mobilize DFWs thru provision of logistic support that include patrol boats and communication facility.

Glan's thrust to combat IUU is to intensify IEC activities on resource conservation measures and compliance of fishery laws. The action for Kiamba against IUU fishing is partly legal in context. It aims for the formulation of policy/revision of fishery ordinance on banning the use of *sampán* and all other forms of destructive fishing in SBPS/Municipal Waters. It also proposes the crafting of policy and conduct consultation for Unified Fishery Ordinance for MAKIMA. Organizational strengthening is geared towards the creation of MAKIMA's TWG and reorganization of its Municipal Coastal Law Enforcement Team (MCLET).

Most activities of Maasim are legal in scope. These include the: conduct of consultation with legislative, concerned agencies and fisherfolks; enforcement of the fishery laws; creation of TWG for the crafting of unified fishery ordinance, crafting of policy and conduct consultation, crafting of unified fishery ordinance (Provincial Wide); and reorganization of MCLET/Fishery Law Enforcement Team (FLET). Maitum's anti-IUU fishing activities will focus on the activation of Bantay Dagat and the intensification of ensuing Bantay Dagat activities.

For Malapatan, anti-IUU fishing needs to be codified through a municipal fisheries ordinance. Part of the work is to conduct thorough discussion and deliberation prior to the proper enactment of the proposed ordinance. Another thrust is capability building and the subsequent provision of logistical support to the organized FLET of DFWs and Bantay Dagat Personnel. The banner activity of Sarangani Province is to "Institutionalize Task Force Sulong Kalikasan." While the Task Force's terrestrial component is already relatively strong, it shall now focus on strengthening the coastal marine component, including the fisheries. Hence, there will be a provision of appropriate technical/financial assistance on environmental enforcement teams.

While in the case of General Santos City, the field activity is the actual conduct of MCS. Prior to doing that, however, there is a need to: (1) activate the Bantay Dagat and/or DPWs; (2) train and deputize enforcement team including FLEMOP; and (3) mobilize DFWs thru provision of logistic support that include patrol boats and communication facility.

4.2.2 Intensify Information, Education and Communication (IEC) activities on resource conservation measures and compliance of fishery laws

Three municipal LGUs have proposed projects that are related to IEC. Activities range from conceptualization to dissemination. General Santos City aims to develop IEC Materials (local language) as well as conduct IEC. In Kiamba, it covers an array of activities related to consultation and conduct of IEC. Among the legislations that may require the conduct of consultation is RA 10654 and revisiting of Integrated Solid Waste Management (ISWM) Ordinance. Maitum proposes the conduct of IEC consultation to inform the FARMC members.

4.2.3 Restore fishery habitats (mangroves, seagrasses, coral reefs, wetlands and inland bodies of water) through protection and rehabilitation including pollution control

The provincial government and all municipal LGUs have activities related to habitat protection/rehabilitation, including pollution control. In Alabel, it includes the establishment of MPAs, identification of area for mangrove reforestation (including expansion) and conduct regular coastal clean-up and implement proper waste disposal. General Santos City proposes five projects: restore fishery habitats; mangrove planting; coastal clean-up; *scubasurero*; and coral planting. The intention is ultimately to restore the fish stocks through the rehabilitation or protection of their habitats.

Glan generically intends to implement science-based conservation and management measures to restore its natural habitats. On the terrestrial side, the aim is to implement reforestation projects to reduce sediments run off as well as implement soil and water conservation measures and land technology approach. In Kiamba, activities related to coral transplantation will be undertaken. There will also be intensification of ZOD projects. Maasim shall establish open and closed season for fishing to protect certain habitats. Appropriate MPAs and/or fish sanctuaries shall likewise be established. These actions will be associated with the conduct of IEC as well as stakeholder consultations and scientific research.

Maitum proposes an IEC on climate change. In Malapatan, management plans will be developed for MPAs to be consequently approved. Associated here is the strengthening of relevant POs. There will be a development and implementation of a waste management plan in relation to RA No 9003 and RA 9275. In this regard, there will be an IEC on proper waste disposal. Water quality monitoring shall likewise be undertaken.

On the side of the provincial government, several interlinked actions will be done. On the marine habitats, these will include the: (1) expansion of area for mangrove reforestation; (2) formulation of MPA management plans; (3) periodic collection of COT; (4) rehabilitation of coral reef thru coral gardening; and (5) fish breeding sanctuaries. On the aspects of pollution and environmental sanitation, these will cover the conduct of regular coastal clean-up and implementation of proper waste disposal. Regarding the terrestrial component, it will involve the harmonization of agricultural practices in uplands to reduce siltation. Relevant IECs shall be conducted with resident fisherfolks.

4.2.4 Delineate and zone coastal land and water uses to resolve conflicting uses consistent with Comprehensive Land Use Plan

Glan is the only municipality with proposal here. This is a marine spatial planning tool to resolve coastal land and water use conflicts.

4.2.5 Work for the passage of ordinances for the implementation of 10.1-15 km by small and medium scale commercial access subject to existing laws

Under this category, Maasim shall formulate a comprehensive municipal ordinance/unified fishery ordinance. In the case of Malapatan, there will be a creation of TWGs to approve a unified fishery ordinance.

4.2.6 Promote use of appropriate fishing gears and boats/vessels

Only Glan has a proposed intervention under this category. It shall conduct relevant consultations and/or workshops to determine the appropriate fishing technologies and boats/vessels. In addition, it shall conduct trainings of new designs of fishing boats and vessels.

The provincial government shall conduct consultation workshops to identify potential appropriate fishing technologies and boats/vessels. Moreover, it shall assist in the promotion/distribution of upgraded design of fishing boats from wood to fiber glass.

4.2.7 Protect spawning grounds and spawning cycles based on research and using a participatory process

Kiamba shall conduct a series of consultations to introduce open and closed season of fishing within municipal waters. The output could be a legislative action and/or revision of the current municipal fisheries code. Maitum, on the other hand, shall intensify the conduct of IEC to protect spawning grounds.

4.2.8 Strengthen/Facilitate/Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial services and livelihood opportunities and other purposes especially for municipal fisherfolks

Projects under this category are largely economic measures or those that are intended to alleviate poverty. General Santos City shall organize fisherfolks associations in coastal barangays with inland waters to prioritize the poorest beneficiaries. These marginalized residents shall be provided with livelihoods to uplift their socio-economic status. Glan proposes a mixture of economic-related projects. It is looking to develop an updated list of fisherfolks, organizations and associations in coastal barangays to prioritize the poorest sector. It shall facilitate the accreditation of organization to participate in planning and decision making, including facilitating access to credit. Included here is

the enhancement of convergence of livelihood/entrepreneurial programs. Other interventions relate to physical infrastructure. These include the provision of fisheries post-harvest facilities and fish landing facilities.

In Kiamba, it may entail first the organization of fisherfolks into some forms of fishing associations. Then, they will be provided with sustainable livelihoods to uplift their living condition. Certain groups shall be provided with decent and safe resettlement areas. In Maasim, projects may also involve the provision of sustainable livelihoods. Moreover, funding will be sourced out to provide relocation for illegal settlers. In Maitum, the intention is to provide similar livelihood projects that are very much suited for fisher-beneficiaries. The municipal LGU is also expected to provide reasonable AIP budget for local fishery sector. In addition, there is a need to establish an ice plant within the strategic area to reduce post-harvest losses.

One of Malapatan's intervention is to conduct livelihood-related trainings/seminars to fisherfolks. Direct assistance includes the distribution of fishing gears/paraphernalia, fingerlings and other support facilities. The provincial government's intervention relates to the provision of appropriate post-harvest facilities and equipment to reduce post-harvest losses. Likewise, it shall conduct training on value-adding of fishery products.

4.2.9 Improve boat/vessel and gear licensing including compliance to catch documentation requirement

General Santos City is the lone proponent under this category. It shall expedite the licensing of fishing boat 3 GT and below in support of CDT.

4.2.10 Sustain political will among implementing agencies through synchronized and coordinated efforts

Only Glan has an activity under this category. Professional staff will be hired to work in the field.

4.2.11 Identify and establish women-managed areas

Only General Santos City has a project related to women-managed area, which involves the following interlinked activities: (1) conducting inventory (WMA); (2) planning preparation; (3) consultation; and (4) implementation.

4.3 Management Actions Proposed During Stakeholder Consultation Workshop (SCW)

The proposed management actions are based from the presentations of problems/issues during the first two days of the workshop, comments during the open forum, and listings from the meta cards given by the participants. These were then subjected to a series of clustering followed by overlaying with the categorization system used in EAFM, CNFIDP and other literature. The resulting working document clustered all the issues identified into 27 items grouped under three classifications: (1) ecological well-being, (2) human well-being, and (3) good governance.

Participants were divided into three groups: (1) municipal fisheries, (2) commercial fisheries, and (3) post-harvest and marketing. Many municipal LGU members joined this session, including those who participated during Fisheries Annex in January 25-26, 2017. Each group selected three issues from each category which they collectively feel was most relevant to them and would therefore wish to focus on. After which, they identified actions on how these issues can be addressed.

The municipal fisheries group ran through the identified issues to level off understanding of each issue among the participants. Upon going over the listing of issues, the group decided to treat “Weak law enforcement” and “Inconsistent implementation of national policies and regulations” as one issue, as well as “Overlaps in policies, rules, and regulations,” and “Inadequate/inconsistent fisheries policies” as another. The issues were shortlisted by asking each participant to vote for 3 issues under each category. After selecting the top 3 issues per category, the group then identified the management actions that can be taken to address these issues. After which, the participants reconvened for the plenary presentation of the workshop outputs. Thirty seven management actions were identified to cover ecological well-being, human well-being, and good governance concerns.

4.3.1 Ecological Well-Being Management Actions

Four issues were selected under this category. The first issue is ‘climate change’ whereby three interlinked actions are proposed. The first action is the establishment of MPAs, which involves the protection and conservation of coastal habitats, particularly mangroves. Such MPAs will be linked with terrestrial environment, such as planting of trees and bamboos. The second measure relates to building capacities to disaster risk management. Specifics include the provision of rescue equipment and training on life saving techniques. The third action covers IEC and awareness programs.

The next prioritized issue is ‘catching of immature fish/juvenile fish’. Two measures are information-related: IEC against catching of juvenile fish and awareness programs. The two other actions are legal in context. One is full/strict implementation of existing laws, such as RA 8550 and RA 10654. There is also a need to create an ordinance for market denial of juvenile catch based on research on what constitutes a juvenile.

‘Excessive fishing effort’ was the third problem chosen. Seven overlapping actions were proposed. Four of these are input controls or regulatory in nature: (1) adoption of closed season method (species, time, and area specific) based on data complemented by alternative livelihood; (2) limit issuance of fishing licenses; (3) implement moratorium on the construction of new municipal fishing boats; and (4) registration of fishers. Another action proposed is to conduct an awareness program, as some small-scale fishers still have limited understanding of the depleted and/or declining stocks within Sarangani Bay. To reduce the fishing effort, there is a need to develop alternative livelihoods, including mariculture. Many municipal fishers cannot get out of capture fisheries because they cannot be employed anywhere else. Another proposed is to harmonize fisheries ordinances/regulations across the seven municipalities/city. Up to the present, there is still no bay wide policy.

4.3.2 Human Well-Being Management Actions

Several actions are proposed for the issue of ‘limited livelihood opportunities.’ Some are direct economic assistance that include: provision of sustainable livelihood options appropriate to the

situation of the community; allocation of more funds for livelihood projects; enhance access to credit; and provision of fishing gears. Other measures may be regarded as indirect support, such as aiding the fishing associations or cooperatives and bringing more investors as venture capitalists. Another action proposed involved capacity building, such as livelihood skills training.

To address the issue of ‘resource use competition and conflict,’ a proposed action is institutional in context through protected area community-based resource management. The two other measures relate to security of tenure as stated under the NIPAS law and enforcement of relevant laws and regulations dealing with property rights. For the concern about ‘labor and gender,’ the four specific management actions are: strengthen implementation of local ordinance; IEC and promotion on labor laws including definition of child labor in the context of the community (to consider adopting UNICEF definition); promote financial literacy programs; and standardize wages and inform financiers, operators and fisherfolks about it.

4.3.3 Governance Management Actions

Measures related to issue of ‘lack of/limited CDT’ support the current initiatives to create/promote CDT system. One specific proposal is to adopt or implement ordinance on catch documentation on municipal fishing boats (logsheets on boat, catch validators of landings, etc.) The CFLCs are likewise proposed for the municipal-level pilot-testing of the upcoming CDT system. There are four actions for the combined issue of ‘weak law enforcement and inconsistent implementation of policies’: (1) to provide logistical support to the LGUs, more specifically giving honorarium to Bantay Dagats or DPWs and providing them with insurance (through the Philippine Crop Insurance Corporation) due to the risks that they take during law enforcement activities; (2) to provide more trainings on court proceedings as many DPWs have limited formal education and minimal legal backgrounds; (3) to establish a baywide FLET, and possibly provide military style training; and (4) to harmonize the understanding of laws through appropriate IEC.

The combined issue of ‘overlaps in policies, rules, and regulations/inadequate or inconsistent fishery policy’ was also prioritized. The suggested action is to revisit all policies relating to the fisheries sector and make appropriate amendments. Of particular concern is the apparent overlap between the 1992 NIPAS Act and the 1991 Local Government Code. Two actions are proposed for the issue of ‘lack of limited community or public participation’: (1) to intensify the campaign on people’s participation; and (2) disseminate proper information with regards to existing fisheries policies.

5. CHAPTER 5. OPERATIONAL PLANNING, ANNEX ADOPTION AND IMPLEMENTATION

5.1 Designing of Institutional Arrangements

The appropriate Organization and Management (O&M) must be developed to effectively implement this Fisheries Annex. At this stage, what was agreed was to create a distinct ‘Fisheries Committee’ within PAMB. There are already existing committees and technical working groups (TWGs), such as a multi-agency Law Enforcement Committee.

Creating a 'Fisheries Committee' to implement the Fisheries Annex is only logical. This committee is to be incorporated in the current PAMB's structure reflected in earlier Figure 16 and represented by various PAMB members. This may be chaired by BFAR 12. Core members may include the agriculturists and MENROs of the municipal LGUs as well as the provincial agriculturist of Sarangani Province. PAMB may be open to other possible organizational modalities.

5.2 Operational Planning

This stage or phase will translate the Fisheries Annex's current projects into more operational terms to involve two sets of interlinked activities: (1) project development and (2) project prioritization. In a pragmatic sense, a project may be regarded as any sequence of tasks and/or activities, which must be completed within a given time period to attain specific objectives or identified targets. Projects may be regarded as the fundamental building blocks of development.

Project development means the translation of the proposed projects into implementable tasks or activities. The current set of proposed projects are more of project notes, ideas or concepts. Smaller projects could still be merged into more logical grouping. Alternatively, a few bigger projects could be divided or reconfigured into smaller ones. There are 86 projects clustered into 11 agreed consolidated actions of CNFIDP. Prioritization will involve the ranking of the projects – based on a set of agreed criteria – in terms of their degrees of urgency or importance.

5.2.1 Project Development

Each LGU shall sort out its final or agreed list of respective project concepts as indicated and/or described in Chapter 4. Municipal/city LGUs may have geography-specific projects. As may be needed, adjacent municipalities may develop common projects. Sarangani Province could develop projects involving two or more municipal LGUs – if not the entire bay.

Every project must be developed into a full or complete proposal. In this context, a full project proposal is readily implementable. As a stand-alone document, a project brief consists of 11 elements as follows: (1) project title; (2) site/coverage; (3) rationale/background; (4) goal and objectives; (5) expected outputs; (6) key activities; (7) schedule of activities; (8) Institutional arrangement; (9) indicative budget; (10) references; and (11) annexes.

The first element, "project title," is the distinctive name given to the project that describes broadly the scope of work to be undertaken. This title could be a succinct statement or a concise phrase that reflects the project's targeted results or outcomes. The second item, "site/coverage," pertains to the geographical location within Sarangani Bay. It may range from a specific municipal fishing ground up to the whole SBPS. The third element, "rationale/background" provides an overview that describes the specific problems, needs or opportunities to be addressed, a brief background and justification for initiating the project. This may also contain the project's anticipated economic, environmental and social impacts. Fourth, the "goal and objectives" describe what the project intends to achieve and/or bring about. The goal states the broad desired improvement over the long term. Usually, achieving a goal is associated with the attainment of two or more corresponding objectives. The objective describes the results to be achieved or changes that will occur in specific terms. It must be defined in terms of specific changes in behavior, status or conditions that will be

accomplished through the project. An objective is likewise associated with the acronym SMART: specific, measurable, attainable, realistic and time-bounded.

“Expected outputs” are the targeted deliverables upon successful completion of the project. As expected products or outcomes of the objectives, these must be stated in verifiable and/or quantifiable terms. The sixth element, “key activities” provides an enumeration of the actions and/or tasks to be carried out. These may be described in terms of methods or procedures and must likewise be linked with key outputs.

The seventh item is the “schedule of activities” specifies the temporal sequence of activities. Since this Fisheries Annex is considered as a mid-term plan (five-year period), 2017 may be regarded as the base year. “Institutional arrangement” provides the O&M on how the project will be executed or implemented on the ground. It briefly describes the agencies or organizations that will be involved in the project, including their roles and responsibilities. For example, the municipal LGU may take the lead but BFAR 12 and DENR 12 will provide the support role. This may also include the scheme or mechanism for project reporting, monitoring and evaluation.

The ninth item is the “indicative budget”, which provides an estimate of the total project cost in terms of million pesos (PHP). The costing could be further broken down into more specific categories such as personnel, maintenance and other operating expenses, and capital outlay. As needed, contingencies or overheads must be reflected. The tenth item could be the “References”, which will list the references quoted in the text. An “annex” is not normally part of a project proposal. It may be used, however, if there are voluminous materials or details that cannot be included (or will clutter) in the main document. Details of budget estimates can be relegated to an annex. Similarly, specifics of a methodology can also be appended.

5.2.2 Project Prioritization

There is a need to prioritize the entire set of project proposals taking in consideration cost implications and the time frame of projects. Neither the PAMB nor the individual LGUs have the organizational capacity to implement them simultaneously. Moreover, the PAMB would like to achieve the organizational targets/goals with an optimized cost/benefit ratio.

Project proposals may be prioritized using a set of established evaluation criteria. Such prioritization criteria may cover several dimensions. These include, but not limited to, ecological, governance and human dimensions. Ecological dimension’s criteria may cover contribution to sustainable harvesting of fishery resources and conservation of fishery habitats. Governance dimension may cover criteria related to degree of stakeholder participation, administrative efficiency and reduction of organizational conflicts. Human dimension’s criteria may include contribution to poverty alleviation and food security.

A more formal project prioritization matrix may be developed for this purpose. Weights or numerical values may be assigned to the agreed criteria.

5.3 Implementation of Early Management Actions

Implementation of priority projects follows after the formal prioritization process. Implementation modality will be dependent on the agreed scheme. Some projects may be implemented by individual LGUs. Other projects, particularly those cross-cutting or involving several municipalities, may be undertaken through the PAMB.

Among the key concern that needs to be ironed out is the interpretation of municipal fisheries within the context of the NIPAS system. As described in the institutional part, RA 8550/10654, RA 7160 and NIPAS may not be viewed as conflicting but complimentary. The LCEs are members of the PAMBs. Activities that are baywide in scope could also be readily pursued. An example is the crafting of a bay-wide or a unified fisheries code.

5.4 Adoption of Fisheries Annex

The Revised Draft of Fisheries Annex underwent a multi-stakeholder review during *A Writeshop for Finalization of the 'Fisheries Annex' of PMAP of SBPS* held in June 2017 with BFAR 12 providing the major writeshop logistics. As requested by DENR 12 in 2016, USAID Oceans has taken the coordinating role in crafting the Fisheries Annex up to this point. In summary, this planning document underwent three major revisions: 1st Draft – April 2017; Revised Draft – May 2017; and Final Draft – June 2017.

The SBPS PAMB approved this Fisheries Annex during 42nd EXECOM and based on Resolution No. 2017 – 025 on July 25, 2017. With the PAMB may formally adapting through written resolution the acceptance of this Final Draft “Fisheries Annex” as an operational translation of the PAMP with regard to the municipal fisheries. As may be needed, the legislative councils of the provincial and city/municipal LGUs surrounding Sarangani Bay may simply ‘affirm’ such PAMB resolution or each LGU may have its own formal endorsement.

5.5 Development of the Monitoring and Evaluation Scheme

Later on, a M&E system needs to be developed for this Fisheries Annex in conjunction with the PAMP. The M&E system’s component elements may include evaluation/performance indicators, reporting system, documentation processes, implementation mechanisms, and baseline data/information. The system will be needed for effective assessment of the Annex’s implementation through time. More specifically, the M&E shall track progress in achieving the goal, objectives and targets of the Annex, as well as provide accurate and timely feedback to implementing units/organizations.

Effective planning and implementation, as well as the M&E of the proposed and/or identified projects across Sarangani Bay are expected to strengthen the foundation towards sustainable fisheries development in the Philippines’ Learning Site. The bay’s municipal and provincial LGUs shall operationalize the above M&E system in collaboration with relevant partner organizations. There are M&E guides – such as the ECOFISH’s and socio-economic monitoring (Bunce and Pomeroy 2000; Bunce et al. 2003) – that may serve as handy references for this purpose.

Benchmarks are essential as they provide the reference point for assessing or evaluating the performance of fisheries management programs. At the municipal level, Table 27 shows the indicative EAFM benchmark scores. Once validated by authorized LGU representatives, these scores or values shall serve as reference point for future evaluation.

Table 27. Ecosystem approach to fisheries management governance benchmarking scoresheet that summarizes the performances of seven municipal/city LGUs in Sarangani Bay, Region 12, for 2017

		Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan
A. Basic Requirements								
1	Ecosystem boundaries established	1	2	2*	2*	2*	1*	2
2	Coastal marine habitat monitoring and management planning established	2	2	2*	2*	2*	2*	2
3	Fisheries monitoring and early fisheries management planning established	2	1	1*	2*	1*	1*	2
4	Fisheries Law enforcement team and program established	2	2	2*	2*	2*	2*	3
5	Comprehensive fisheries management plan conducted and regularly updated	2	1	2*	2*	2*	2*	3
6	Fisheries management office established and operational	3	1	2*	2*	2*	2*	1
7	Fisheries registration and licensing system established	3	2	2*	2*	2*	2*	3
8	Network of MPAs established	1	3	1*	2*	1*	1*	2
9	Fisheries use zoning plan established	2	3	1*	1*	1*	1*	3
10	Local constituencies for fisheries management organized and actively involved	3	2	1*	2*	1*	1*	3
11	Multi-institutional collaboration on coastal and fisheries resources management (CFRM)	3	2	1*	2*	1*	1*	3
B. Site specific requirements								
12	Species-specific management measures established	1	1	1*	1*	1*	1*	1
13	Gear-specific management measures established	2	1	1*	2*	1*	1*	1
14	Mangrove management area established	3	1	1*	1*	1*	1*	3
15	Seagrass management area established	1	1	1*	1*	1*	1*	2
16	Revenue generation established	3	3	1*	2*	1*	1*	3

		Maitum	Kiamba	Maasim	General Santos City	Alabel	Malapatan	Glan
17	Coastal environment-friendly enterprises established	3	3	1*	2*	1*	1*	3
	Total score	37	31	23	30	23	22	40

Note: values in asterisks are based on the secondary literature and will be subjected to validation and/or confirmation of authorized LGU representatives. As described in earlier Chapter 4, the interpretations of governance benchmark are as follows: Level 1 - Programs Established; Level 2 - Programs Functional; and Level 3 - Programs Sustained and Results Realized.

5.6 Financing the Fisheries Annex

Finances or funding allocations for the Fisheries Annex may be sourced out from a variety of sources. Foremost source is the PAMB itself from the fees that it has collected for the use of the SBPS' natural resources and coastal spaces. Examples are fees that are collected from tourism establishments.

The DENR itself, through the BMB, may provide funding for the Fisheries Annex's implementation. The BMB may have operational funds for its NIPAS sites. In particular, a portion of funds coming from the Coastal and Marine Ecosystems Management Program may be utilized to finance selected projects and/or activities that are contained in the Fisheries Annex. Similarly, BFAR may also provide funding for the Fisheries Annex's implementation with the LGUs.

Both the provincial and municipal LGUs along SBPS may finance certain projects. There are certain procedural activities, though, that need to be undertaken. First, relevant projects need to be integrated first in the respective CRM/Fisheries Plans of these LGUs. Secondly, the identified projects need to go through the annual investment planning of the LGUs.

Other possible funding sources are donor agencies. These may include Asian Development Bank, World Bank and GIZ. Project proposals for possible funding may be submitted to international NGOs with interests in fisheries and CRM.

Figure 16. PAMB Resolution on the Approval of Fisheries Annex



Excerpts from the Minutes of the 42nd Executive Committee Meeting of Sarangani Bay Protected Seascape-Protected Area Management Board (SBPS-PAMB) held at Sydney Hotel, Pioneer Avenue, General Santos City on July 25, 2017 at 9:00 o'clock in the morning.

Resolution No. 2017-025

Series of 2017

RESOLUTION APPROVING 'FISHERIES ANNEX' AS THE FISHERIES MANAGEMENT COMPONENT OF THE PROTECTED AREA MANAGEMENT PLAN (PAMP) OF THE SARANGANI BAY PROTECTED SEASCAPE (SBPS) IN REGION 12, PHILIPPINES

WHEREAS, the Presidential Proclamation No. 756 dated March 5, 1996 declared the Sarangani Bay as a Protected Seascape (SBPS) that is governed and administered by the Protected Area Management Board (PAMB), a multi-sectoral groups implementing the NIPAS Act 7586 of 1992 and its revised implementing rules and regulations (DAO 2008-26) towards the protection and conservation of the coastal and marine resources for the benefits and enjoyment of the present and future generations;

WHEREAS, the Protected Area Management Plan (PAMP) serves as the primary basis for the preparation of the SBPS's annual Work and Financial Plan to protect and conserve the globally significant economic, biological and socio-cultural values of Sarangani Bay Coastal and Marine resources into perpetuity for the enjoyment of present and future generations.

WHEREAS, the PAMB is currently updating its PAMP for the time period 2016-2021. This PAMP does not have a specific fisheries management component to address the Sarangani Bay's municipal fisheries.

WHEREAS, the PAMB, through the Department of Environment and Natural Resources (DENR, Region 12) has requested the USAID Oceans and Fisheries Partnership (USAID Oceans) to provide a technical assistance to spearhead the process for crafting the 'Fisheries Annex' as the Fisheries Management Component of PAMP that will specifically address the issues, concerns and opportunities that are related to the management of municipal or small-scale fisheries;

WHEREAS, USAID Oceans in partnership with BFAR works to strengthen regional cooperation to combat illegal, unreported, and unregulated (IUU) fishing, promote sustainable fisheries, and conserve marine biodiversity in the Asia-Pacific region which is in line with this Fisheries Annex;

WHEREAS, this Fisheries Annex supports BFAR program in mainstreaming Ecosystem Approach to Fisheries Management (EAFM) thrust of strengthening ecosystem-wide fisheries management planning;

WHEREAS, the Fisheries Annex is not a stand-alone document. It takes into account the relevant plans fisheries/integrated coastal management (ICM) and development plans of the municipal/provincial local government units (LGUs). At the national level, it is guided by the Comprehensive National Fisheries Industry Development Plan (CNFIDP);

WHEREAS, the USAID Oceans – through collaboration with the Protected Area Management Board of SBPS, Bureau of Fisheries and Aquatic Resources (BFAR) Region 12 and other stakeholder groups as well as the provincial/municipal LGUs -- organized these three workshops/writeshops in General Santos City (GSC), which crafted this Fisheries Annex of the Sarangani Bay Protected Seascape -- Protected Area Management Plan (SBPS-PAMP);

WHEREAS, the PAMB acknowledges the special contribution of the USAID Oceans for its role in spearheading the preparation of this Fisheries Annex as well as providing catalytic funding, without which this planning document would not have been made possible;

NOW, THEREFORE, BE IT RESOLVED, that the PAMB hereby endorses the Fisheries Annex as the Fisheries Management Component of PAMP that will specifically address the issues, concerns and opportunities that are related to the management and sustainable development of municipal or small-scale fisheries;

RESOLVED FURTHER that this Fisheries Annex shall be legitimized, adopted and implemented by the Local Government Unit -- Office of the Municipal Agriculturist (LGU-OMAG);

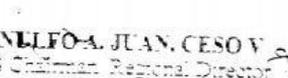
RESOLVED FINALLY, that the PAMB Executive Committee is vested with the full authority of the Board approving the Fisheries Annex to the updated SBPS-Protected Area Management Plan and resolved also to furnish copy of this Resolution to all Local Government Units along the coast of Sarangani Province and the City of General Santos as well as other relevant agencies and or organizations that make up the PAMB *en banc*;

Unanimously approved this 25th day of July 2017 at Sydney Hotel, General Santos City, Philippines.

We hereby certify to the correctness of the foregoing resolution.


ISKAK G. DIRATUAN
Supervising EMS/ PA Supt.

Approved:


REYNALDO A. JUAN, CESOV
PAMB Chairman, Regional Director



6. BIBLIOGRAPHY

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APPENDIX I – Contributors

List of participants from the Workshop for Crafting the 'Fisheries Component' of Protected Area Management Plan (PAMP) of Sarangani Bay Protected Seascape (SBPS), SunCity Suites, General Santos City, January 25-26, 2017.

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APPENDIX II – Summary List of Municipal/City/Provincial Fisheries Ordinances related to CRM and Environmental and Natural Resources Management in Sarangani Bay

City/Municipality & Province	Ordinance Number	Title	Year Approved
Maitum, Sarangani Province	Ordinance No. 21	Fishery Ordinance of the Municipality of Maitum, Sarangani Province.	1993
	Ordinance No. 04	An Ordinance Prohibiting Commercial Fishing and Active Fishing Gear Provided Herein for Fishing Activities Within the Municipal Waters of Maitum, Sarangani Province.	1994
	Ordinance No. 01	An Ordinance Adopting the Integrated Solid Waste Management System of the Municipality of Maitum, Sarangani.	1998
	SB Resolution No. 2014-011	Resolution adopting the Coastal Resource Management Plan of the Municipality of Maitum, Sarangani	2014
	Resolution No. 2000-103	Resolution declaring May as the Month of the Ocean	2000
	Municipal Ordinance No. 21, Series of 1993	An Ordinance to Regulate Fishing within the Municipal water of Maitum, Sarangani Province.	1993
	Resolution No. 68 – September 2 1991	Resolution creating the Committee on Bangus Fry award in the Municipality of Maitum, South Cotabato.	1991
Kiamba, Sarangani Province	Ordinance No. 06-084	Basic Municipal Fisheries Ordinance of Kiamba, Sarangani Province	2006
	Ord./Res No?	Resolution adopting the Coastal Resource Management Plan of the Municipality of Kiamba, Sarangani Province	?
	Municipal Ordinance NO. 06-084 (2006) (AMENDED MUNICIPAL ORDINANCE NO. 05-082)	An Ordinance for the Utilization, Development, Conservation, Protection and Management of Fishery and Aquatic Resources in the Municipality of Kiamba Sar. Prov. And other Purposes”	2006
	Resolution No. 79:	Joint Resolution granting one year extension for Bangus Fry concessionaire of this municipality and pay the same amount.	
	MO-39 (Aug. 16, 1994)	An ordinance prohibiting commercial fishing gears provided herein to operate in the municipal water of Kiamba.	1994
	MO-23 (Feb. 11, 1992)	An ordinance regulating bangus fry catchers from discarding of any species in-shore, Municipality of Kiamba.	1992
	Resolution No. 77/ MO-10 (07-25-99)	An Ordinance prohibiting the use of fishing outfit called “likom-likom” within 1 mile range from the seashore of the municipality of Kiamba that causing destruction to the “awa” and its fry.	

City/Municipality & Province	Ordinance Number	Title	Year Approved
	Ordinance No. 5 Series of 1983	An ordinance designating an area for the erection of fish corral in the municipality	1983
	MO-23 (Feb. 11, 1992)	An ordinance regulating bangus fry catchers from discarding of any species in-shore, Municipality of Kiamba.	1992
	Resolution No. 99-055	A resolution requesting the SB of Kiamba, Sarangani Province to adopt the creation of FARMC in the municipality and barangays, their composition and functions.	
	Resolution No. 99-159	A resolution requesting the DENR to transfer by MOA the management and control of marine lands/salvage zone within the territorial jurisdiction of the municipality to LGU-Kiamba.	
	Resolution No. 67	Designating the white sand beach as a community-based tourism area, Municipality of Kiamba, Sarangani.	April 26, 1993
	Resolution No. 02-109	Resolution urging the Barangay Councils of coastal barangays to allocate annual CRM fund for the operation and activities of their respective BFARMCs.	
	Resolution No. 02-146	Resolution for the implementation of the Integrated Solid Waste Management Program.	
	Resolution No. 03-473	An ordinance adopting RA 8749, The Philippine Clean Air Act of 1999.	
	Resolution No. 03-130	Resolution expressing the Local Government of Kiamba to avail the Sewerage Treatment Facility sponsored by DENR.	
Maasim, Sarangani Province	Resolution 13-13-073	Adopting the five-year Integrated Coastal Management Plan (ICMP) to Ensure the Sustainable Development of the Municipality's Coastal Environment and Resources	2013
	Resolution 15-13-045	Adopting the Kamanga Marine Eco-Tourism Park and Marine Sanctuary Plan of the Municipality of Maasim, Sarangani Prov.	2015
	M.O (06-020)	Establishing Kamanga Marine Eco-tourism Park and Sanctuary	
	M.O (06-021)	Establishing Colon Fish Sanctuary	
	Executive Order NO. 533	Adopting Integrated Coastal Management as a National Strategy to ensure the sustainable development of the Country's Coastal and Marine Environment and Resources and Establishing Supporting Mechanisms for its implementation.	
General Santos City	Ordinance No. 10	The Fisheries Code of the City of General Santos and for Other Purposes ("City Fisheries Code of 2009")	2009
		Integrated Coastal Resource Management Plan of General Santos City (2014-2019)	(Proposed 2013)
	(Ordinance No. 07, Series of 2005).	Registration of Fishing Vessels	2005
Alabel, Sarangani Province	Mun. Ordinance 2000-18	Municipal Fisheries and Coastal Zone Ordinance (of the Municipality of Alabel, Province of Sarangani)	2000
	Draft Ordinance 11-2015	Municipal Fisheries and Integrated Coastal Zone Management Ordinance (MFIM) Ordinance	2015
	?	Coastal Resource Management Plan of Alabel, Sarangani Province	2005

City/Municipality & Province	Ordinance Number	Title	Year Approved
	DRAFT ORDINANCE NO. 11-2015	"Municipal Fisheries And Coastal Zone Ordinance For The Development, Conservation, Protection And Management Of Fisheries And Aquatic Resources And Coastal Zones In The Municipality Of Alabel, Province Of Sarangani And For Other Purposes".	2015
	MUNICIPAL ORDINANCE NO. 2000 - 18	"Municipal fisheries and coastal zone ordinance for the development, conservation, protection and management of fisheries and aquatic resources and coastal zones in the Municipality of Alabel, Province of Sarangani And for other purposes".	2000
	Ordinance/ Resolution No. 15	An Ordinance Establishing A Fish Sanctuary, Its Maintenance And Protection At Baybay Kawas, Kawas, Alabel, Sarangani Province	1999
	Ordinance (10-2010-062)	Alabel Ecological Solid Waste Management Ordinance	2010
	Ordinance 2008-048 as amended by 10-2010-058	Alabel Septage Management Ordinance	2008
Malapatan, Sarangani Province	Mun. Ord. No. 3-89	An Ordinance Regulating the Catch of Fish within the Municipal Waters of Malapatan	1989
	Mun. Ord. No. 01-94	An Ordinance Prohibiting Commercial Fishing Activities Within the Municipal Waters of Malapatan.	1994
	Resolution No. 2001-22	A Resolution Adopting and Implementing the Integrated Coastal Resource Management Plan of the Municipality of Malapatan, Sarangani Province, as Recommended by the Municipal FARMC by Virtue of Resolution No. 2000-01.	2001
	Ordinance 01-2006	An Ordinance Prohibiting the Use of 'Likom' and 'Unay' for Commercial Fishing within the Municipality of Malapatan, Sarangani Province and Providing Penalty for Violations Thereof.	2006
	Executive Order NO. 533	Adopting Integrated Coastal Management as a National Strategy to ensure the sustainable development of the Country's Coastal and Marine Environment and Resources and Establishing Supporting Mechanisms for its implementation.	
	Ordinance No. 02-2006	An Ordinance requiring the owners and/or operators of motorized Pump Boats/Motorboats and Vintas with capacity of 3 GT, or less, operating within the Municipality of Malapatan, Sarangani Province, to register their respective units with the Municipal Government of Malapatan and have its registration number in the prescribed size and color be printed in both sides of the unit for proper identification purpose and providing penalties for violations hereof.	2006
	Ordinance No. 08-2006	An Ordinance establishing a fish sanctuary along the coastal area of the municipal water of Malapatan, Province of Sarangani.	2006
	Resolution No. 2000-01	Resolution endorsing the Municipal Coastal Resource Management Plan to the Sangguniang Bayan of the Municipality of Malapatan, Sarangani Province, for adoption and implementation.	2000

City/Municipality & Province	Ordinance Number	Title	Year Approved
	Resolution No. 2001-22	A resolution adopting and implementing the Integrated Coastal Resource Management Plan of the Municipality of Malapatan, Sarangani Province, As recommended by the Municipal Fisheries and Aquatic Resource Management Council by Virtue of its Resolution No. 2001-01.	2001
	Resolution No. 2002-14	Resolution requesting the National Mapping and Resource Information Authority (NAMRIA) through the Director of the Coastal and Geodetic Survey Department to delineate/delimit the Municipal waters of the Municipality of Malapatan, Province of Sarangani, using as technical guidelines the provision of Administrative Order NO. 17 Issued by the Department of Environment and Natural Resources, Series of 2001.	2002
	Ordinance No. 04 Series of 1992	An ordinance Prohibiting the cutting of any kind of trees within the distance of 30 meters along the river banks in the Municipality of Malapatan, Sarangani Province unless they have prior permit with the Mayor and providing Penalties for violations thereof.	1992
	Ordinance No. 03 Series of 1994	An Ordinance Amending Order No. 2 Series of 1973 Prohibiting any person for Rowing, Disposing and or dumping any form of waste or garbage at the shoreline, creek of river banks, Roadside corals, streets, highways, park and plazas in market place or school premises or churchyards and in similar other public places in the Municipality of Malapatan, Sarangani Province.	1994
	Ordinance No. 04 Series of 2006	An Ordinance establishing a Septage treatment plant in the Municipality of Malapatan, providing standards for its management, maintenance and operation and for other purposes.	2006
	Ordinance No. 03 Series of 1994	An Ordinance Amending Order No. 2 Series of 1973 Prohibiting any person for Rowing, Disposing and or dumping any form of waste or garbage at the shoreline, creek of river banks, Roadside corals, streets, highways, park and plazas in market place or school premises or churchyards and in similar other public places in the Municipality of Malapatan, Sarangani Province.	1994
Glan, Sarangani Province	Ordinance 2000-04	An Ordinance Providing for the Sustainable Management Development and Conservation of the Glan Municipal Waters and Its Coastal and Fishery Resources.	2000
	Mun. Ord. No. 20-013	An Ordinance Regulating the Mounting of Fish Shelter "PAYAO" Within the Municipal Waters of Glan, Sarangani Province and Providing Penalties for Violation Thereof.	2015
	Mun. Res. No.____	Resolution Adopting the Coastal Resource Management Plan of Glan, Sarangani Province	2005
	Mun. Res. No.____	Resolution Adopting the Integrated Coastal Resource Management Plan of Glan, Sarangani Province	2015
	RESOLUTION No. 97-09	Organizing a Composite Team to conduct Ocular Inspection in coastal areas for purposes of Zonal Survey of Bangus Fry Zones of this municipality and for other purposes.	
	RESOLUTION No. 2005-23	Adopting Executive Order No. 305 of the President of the Philippines entitled "Devolving to Municipal and City Government the Registration of Fishing Vessel 3 GT and below.	

City/Municipality & Province	Ordinance Number	Title	Year Approved
	A Resolution to Adopt an Ordinance Amending No. 97-01 Entitled,	Prohibiting the Use of Compressor or Scuba diving Tanks & Paraphernalia in Fishing and Providing Penalties for Violation thereof.	
	Municipal Ordinance No. 20-015	An ordinance prohibiting/banning of non-resident of the municipality of Glan to operate fishing nets and other forms of passive fishing gear including the on-board pumpboats/fishing boats carrying their equipment within the municipal waters of Glan and be penalized accordingly.	
	Municipal Ordinance No. 20-003	“An ordinance penalizing any person/persons who does not report their boat (bangka), pumpboat, seacraft, commercialized or non-commercialized boat- found to be floating / drifting in seashore with abandoned crew and for other purpose.	
	Municipal Ordinance No. 20-001	“An ordinance amending certain provision of article of the Revised Municipal Revenue Code of 2006 (Tax Ordinance No. 2006-003) as amended to be cited as “An Ordinance Granting	
	Municipal Ordinance No. 20-003	“An ordinance penalizing any person/persons who does not report their boat (bangka), pumpboat, seacraft, commercialized or non-commercialized boat- found to be floating / drifting in seashore with abandoned crew and for other purpose.	
	Municipal Ordinance No. 2000-01	A Requiring Auxiliary Invoice for every transport of fish and fishery products from the municipality of Glan to other place and for other purposes.	2000
	Municipal Ordinance No. 2000-04	“An ordinance providing for the Sustainable Management Development and Conservation of the Glan Municipal Waters and its Coastal and Fishery Resources	
	Municipal Ordinance No. 20-001	An ordinance amending certain provision of article of the Revised Municipal Revenue Code of 2006 (Tax Ordinance No. 2006-003) as amended to be cited as “An Ordinance Granting	
	Municipal Ordinance No. 20-003	“An ordinance penalizing any person/persons who does not report their boat (bangka), pumpboat, seacraft, commercialized or non-commercialized boat- found to be floating / drifting in seashore with abandoned crew and for other purpose.	
	Municipal Ordinance No. 99-01	“Prescribing stickers to all Registered weight and measures Pumpboats and Skylabs otherwise known as Habal-Habal operating in this municipality providing penalty for violation thereof and for other purposes.	
	Municipal Ordinance No. 97-05	An ordinance prohibiting any Bangus Fry (Kawag-kawag) catcher to throw, pour on the sand, land or elsewhere small fish or other marine lives caught in pursuit of their business, providing penalty for violation thereof and for other purposes.	
	Municipal Ordinance No. 97-06	An ordinance prohibiting Fishing and/or Gathering of Marine Lives, Cutting of all kinds of Trees, as well as navigating of Seacrafts powered by engine within the Fish Sanctuaries of Glan, providing penalties therefore and for other purposes.	
	Municipal Ordinance	Prohibiting the use of a Compressor or Scuba Diving Tank in any method of fishing in this municipality and providing penalties for violation thereof.	1997

City/Municipality & Province	Ordinance Number	Title	Year Approved
	No. Series of 1997		
	Municipal Ordinance No. 96-02	Prohibiting the catching of coral fish either for consumption and/or for aquarium purposes and providing penalties for violation thereof.	
	Municipal Ordinance No. 03 series of 1994	Prescribing an assign color of all motorized pumpboats/motorboats and vintas with capacity of 3 GT or less operating within the municipality of Glan.	1994
	Municipal Ordinance No. 009 series of 1993	An ordinance banning the quarrying of pebbles along the seashores of the municipality of Glan, imposing penalty for violation.	1993
	Municipal Ordinance No. 92-002	An Ordinance prohibiting “ <u>LIKOM</u> ” fishing within the municipal waters of this municipality and providing penalty for violation thereof” (March 23, 1992)	
PAMB Resolution	Resolution No. 2017-02 Series of 2017	Resolution Granting PAMB Clearance To The Jet Ski Exhibition Project At Queen Tuna Park, Brgy. Dadiangas South On March 18, 2017 Subject Only To The Conditions And Restrictions Set-Out In This Clearance	February 2, 2017
	Resolution No. 2017-03 Series of 2017	Resolution Enacting A Pamb Policies, Conditions And Restrictions On The Conduct Of Festival Ceremonies Along The Sarangani Bay And Similar Events And Require The Applicants To Secure Pamb Clearance In Reference To Project Description Incorporating The Garbage Collections And Disposal Measures	March 14, 2017
	Resolution No. 2017-04 Series of 2017	Resolution Recommending The DENR Bids And Award Committee (BAC) To Award The Bacud Rehabilitation Project To The Single Bidder	February 2, 2017
	RESOLUTION NO. 2017 -05 Series of 2017	Resolution Approving The F.Y 2017 Work And Financial Plan For Sarangani Bay Protected Seascape In The Amount Of Four Million Five Hundred Thousand Pesos (Php4,500,000.00).	March 14, 2017
	Resolution No. 2017-15 Series of 2017	Resolution Creating A SBPS-Pamb Investigating Committee On The Issues And Allegations Of IUU Fishing Within Sarangani Bay Protected Seascape	March 14, 2017

Source: WorldFish 2017c, update

APPENDIX III – Proposed Action Plans of Municipal and Provincial LGUs in Sarangani Bay

Alabel

Issue/ Problem	Agreed Consolidated Actions (See List)	Name of Project/ Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Illegal Fishing	4 - Strengthen anti-IUU fishing Measures	Conduct IEC on Municipal Ordinance 2000-18 and R.A. 10654	OMAG, BFAR & PCG	Community Fisherfolks Informed.					
		Conduct patrol, apprehend, prosecute and penalize violators.							
Weak Law Enforcement	4 - Strengthen anti-IUU fishing Measures	Provide legal support on DFWs	OMAG & BFAR	Law enforcement team trained and strengthened					
		Conduct specialized training for law enforcement teams							
Depleted fishery resources or Overfishing	Restore fishery habitats	Establish MPAs	MENRO, OMAG, DENR & BFAR	Fishery resources sustained					
		Identify and expand area for mangrove reforestation							
Marine Litter	8 - Restore fishery habitats (mangroves, seagrasses, coral reefs, wetlands and inland bodies of water) through protection and rehabilitation including pollution control	Conduct regular coastal clean-up and implement proper waste disposal	DENR, MENRO, OMAG & BFAR	Decreased marine pollution					

General Santos City

Issue/ Problem	Agreed Consolidated Actions (See List)	Name of Project/ Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Depleted Fisheries Resources/ Overfished	8 - Restore fishery habitats through protection and rehabilitation including pollution control	Missing Project/ Activity/ Intervention?	CENRO, O CAG and BFAR	Fishery resources restored					
Illegal/ Destructive Fishing	4 - Strengthen anti-IUU fishing Measures	Activate Bantay Dagat	BFAR, LGU and OCAG	Illegal fishing minimized and Deterrent enhanced					
		Licensing of fishing boat 3 GT and below	LGU and OCAG	Licensed boats					
Degraded Coastal Fishery Habitat	8 - Restore fishery habitats through protection and rehabilitation including pollution control	<ol style="list-style-type: none"> 1. Mangrove planting 2. Coastal clean-up 3. Scubasurero 4. Coral planting 	BFAR, LGU, CENRO and LGU-OCAG	Fishery resources rehabilitated and protected					
	15 -Strengthen/Facilitate/ Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial services and livelihood opportunities and other	<ol style="list-style-type: none"> 1. Organize fisherfolk and coastal barangays with inland waters to prioritize poorest of poor beneficiaries 	BFAR, FLDT and LGU-OCAG	Population identified and organized with livelihood programs					

Issue/ Problem	Agreed Consolidated Actions (See List)	Name of Project/ Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
	purposes especially for municipal fisherfolks.	2. Provide livelihoods		Uplifted socio-economic status					
	18 - Identify and establish Women-Managed Areas	1. Conduct inventory (WMA) 2. Plan preparation 3. Consultation 4. Implementation	BFAR, LGU-Gensan and OCAG	Missing output ?					
Weak enforcement of Fishery Laws/ Regulation	5 - Intensify Information, Education and Communication (IEC) Activities on resource conservation measures and compliance of fishery laws	1. Develop IEC Materials (Local Language) 2. Conduct IEC	BFAR, OCAG, CENRO Info/QRT	Well informed and aware fisherfolks					
	4 - Strengthen anti-IUU fishing measures	1. Train and deputize enforcement team including FLEMOP 2. Conduct MCS	Missing lead ?	Missing output ?					
		Mobilize DFW's thru provision of logistics support (Patrol boat, communication facility, etc.)	Missing lead ?	Missing output ?					

Kiamba

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Depleted Fishery Resources/ Illegal/ destructive fishing methods	14 - Protect spawning grounds and spawning cycles based on research and using a participatory process	Conduct consultation with Legislative and fisherfolks	LGU	Legislative action/ Revision of Municipal fishery code		X			
	4 - Strengthen Anti-IUU fishing Measures	Formulation of policy/revision of fishery ordinance	LGU-SB			X			
	5 - Intensify IEC activities on resource conservation measures and compliance of fishery laws	Conduct IEC /consultation	LGU-SB			X			
Degraded Fishery Habitat/Coral Bleaching	8 - Restore Fishery Habitats (mangroves, seagrasses, coral reefs, wetlands and inland bodies of water) through protection and rehabilitation including pollution control	Coral Transplantation Project	LGU	LGU-Lead/ PLGU/DENR/BF AR		X			
Marine Litter and Sewage	5 - Intensify IEC on resource conservation measures and compliance of fishery laws	Revisit ISWM Ordinance	LGU	Informed Citizenry	X	X	X	X	X

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
	8 - Restore Fishery Habitats (mangroves, seagrasses, coral reefs, wetlands and inland bodies of water) through protection and rehabilitation including pollution control								
Poverty	15 - Strengthen/Facilitate/ Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial services and livelihood opportunities and other purposes especially for municipal fisherfolks	Provide decent and safe resettlement areas	LGU-BFAR	Fisherfolks Relocated				X	
		Organization of fisherfolks	LGU-BFAR	Organized				X	
		Provide sustainable Livelihood	LGU-BFAR	Uplift living condition					X
Inconsistent Fishery Policies	4 - Strengthen Anti-IUU Fishing Measures	Creation of MAKIMA TWG	BFAR	Unified Fishery Ordinance		X			
		Crafting of Policy and conduct consultation							
Weak Law enforcement	4 - Strengthen Anti-IUU Fishing Measures	Reorganize MCLET	OMAG-BFAR/PAMB	Organized and informed MCLET and FARMC	X				

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
	5 - Intensify IEC Activities on resource conservation measures and compliance of fishery laws	Conduct Consultation on RA 10654	LGU	Registered Fisherfolks and Boats	X				
		Provide incentives and logistics (Radio, uniform, etc.)			X				
		Fishermen and Boat Registration		X	X	X	X	X	

Glan

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Depleted fishery resources or overfishing	4 - Strengthen Anti-IUU fishing measures	Intensify IEC activities on resource conservation measures and compliance of fishery laws	BFAR/O PAG/ OMAG	IEC Intensified	X	X	X	X	X
		Delineate and zone coastal land and water uses to resolve conflicting uses with Comprehensive Land Use Plan	DENR-NAMRIA	Delineated Maps		X			

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Illegal/destructive fishing methods	12 - Promote the use of appropriate fishing gears and boats/vessels	Conduct consultation/workshop /identify/determine potential appropriate fishing technologies and boats/vessels	BFAR/O PAG/ OMAG	Consultation conducted and passive & active gears identified	X				
		Conduct trainings of new designs of fishing boats and vessels	BFAR/ OPAG/ OMAG	Trainings conducted	X				
Degraded coastal/fishery habitats	8 - Restore fishery habitats (mangroves, seagrasses, coral reefs, wetland & inland bodies of water) through protection & rehabilitation pollution control	Implement science-based conservation and management measures	BFAR/ DENR/ OPAG/ OMAG	Natural habitat restored	X	X	X	X	X
Nutrient/ sediment run off	8 - Restore fishery habitats (mangroves, seagrasses, coral reefs, wetland & inland bodies of water) through protection & rehabilitation pollution control	Implement reforestation project	DENR/ OMAG	Sediment run off reduced	X	X	X	X	X
		Implement Soil and Water Conservation Measures and Land Technology Approach	DENR/ OMAG	Soil, Water and land Conserved	X	X	X	X	X

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Poverty (Including Livelihoods)	15 - Strengthen /facilitate/capacitate organization of registered fisherfolks cooperative and association to enhance access to financial services and livelihood opportunities and other purposes especially for municipal fisherfolks.	establish updated list of fisherfolks, organizations and associations in coastal barangays within land waters to prioritized poorest of the poor based on the Community-Based Monitoring System (CBMS)	BFAR/ OPAG/ OMAG	Updated list of fisherfolks from the Fisherfolks Registration (Fish-R)	X	X			
		Facilitate accreditation of organization to participate in planning and decision making including facilitating access to credit	OMAG	Accredited organization and associations	X				
		Enhance convergence of livelihood/ entrepreneurial programs	OMAG	Enhanced livelihood/ entrepreneurial programs	X	X	X	X	X
Post-Harvest Losses		Provide fisheries post-harvest facilities Post-Harvest Facilities (PHF)	BFAR/ OPAG	provided PHF	X	X	X	X	X
Lack of Infrastructure Support Facilities		Provide fish landing facilities	BFAR/ OPAG	Fish landing provided	X	X			

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Limited Institutional Capabilities	17 - Sustain political will among implementing agencies through synchronized and coordinated efforts Legislative measure for the creation of plantilla position	Hire professional staff to work in the field	OMAG	professional staff hired		X			

Maasim

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Illegal/Destructive use of fishing gears(fine mesh nets),Intrusion of commercial fishing vessels	4 - Strengthen Anti-IUU Fishing measures	Conduct consultation with Legislative, concern agencies and fisherfolks Enforce the fishery laws	LGU	Legislative action from SB/Unified Fishery Ordinance Formulated		X			
	13 - Promote use of appropriate fishing gears and boats/vessels; 11 - Work for the passage of ordinances for the implementation of 10.1-15 km by small and medium	Formulation of comprehensive municipal ordinance/unified fishery ordinance	LGU-SB/ PLGU/ DENR/ BFAR/ PASU			X			

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
	scale commercial access subject to existing laws								
Depleted Fishery Resources or overfishing	8 - Restore fishery habitats (mangroves, seagrasses, coral reefs, wetlands and inland bodies of water) through protection and rehabilitation including pollution control	Conduct IEC/consultation, scientific research Established open and closed season Established MPAs/Sanctuaries	LGU/SB, BFAR, DENR			X			
Poverty	15 -Strengthen/Facilitate/ Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial services and livelihood opportunities and other purposes especially for municipal fisherfolks	Provide relocation for illegal settlers	LGU-BFAR, DENR	Fisherfolks Relocated				X	
		Organization of fisherfolks	LGU-BFAR	Organized Fisherfolks				X	
		Provision sustainable Livelihood	LGU-BFAR	Uplift living condition				X	

Issues/ Problems	Agreed Consolidated Action	Name of Project/Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Inconsistent Fishery Policies	4 - Strengthen anti-IUU fishing Measures	Creation of TWG for the crafting of unified fishery ordinance	BFAR, DENR/ PAMB/ BFAR	Unified Fishery Ordinance		X			
		Crafting of Policy and conduct consultation Crafting of Unified Fishery Ordinance (Provincial Wide)							
Weak Law enforcement	4 - Strengthen anti-IUU fishing measures	Reorganize MCLET/Fishery Law Enforcement Team(FLET)	OMAG-BFAR/ PAMB	Organized and deputized MCLET/FLET	X				
	5 - Intensify IEC Activities on resource conservation measures and compliance of fishery laws	Conduct Consultation on RA 10654	LGU	Registered Fisherfolks and Boats	X				
		Provide incentives and logistics (Radio, uniform, etc.)			X				
Fishermen and Boat Registration				X	X	X	X	X	

Maitum

Issue/ Problem	Agreed Consolidated Actions (See List)	Name of Project/ Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Depleted Fisheries Resources/Overfished	5 - Intensify IEC activities on resource conservation measures and compliance of fishery laws	Conduct consultation	MENR O	FARMC informed					
Illegal/Destructive Fishing	6 - Strengthen IUU Measures	Activate Bantay Dagat	MENR O	FARMC informed Reduced illegal/Destructive Fishing					
Degraded Coastal Fishery Habitat	14 - Protect spawning grounds and spawning cycles based on researched and using a participatory process	Intensify the conduct of IEC	MENR O	Protected spawning grounds					
Nutrient/Sediment Runoff	15 - Intensify IEC Activities on resource conservation measures and compliance of fishery laws	Conduct of training Re-Upland farming good Agri-Practices	OMAG, MENR O	Minimized Nutrient/Sediment Runoff					
Storm Surge	15 - Intensify IEC Activities on resource conservation measures and compliance of fishery laws	IEC on climate change	MENR O & OMAG	Storm Surge mitigated					
Poverty	15 - Strengthen/Facilitate/ Capacitate organization of registered fisherfolk multi-purpose Cooperatives and associations to enhance access to financial	Provide fishery similar livelihood project	OMAG, MENR O & D.A	Poverty reduced					

Issue/ Problem	Agreed Consolidated Actions (See List)	Name of Project/ Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
	services and livelihood opportunities and other purposes especially for municipal fisherfolks.								
Uncompetitive Fishery Products	15 -Strengthen/Facilitate/ Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial services and livelihood opportunities and other purposes especially for municipal fisherfolks	Provide reasonable AIP budget for local fishery sector.	MENR O	More competitive Fishery Products					
Post-Harvest Losses	15 -Strengthen/Facilitate/ Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial services and livelihood opportunities and other purposes especially for municipal fisherfolks	Established Ice Plant within the strategic area.	MENR O & LGU	Post-Harvest Losses reduced					
Sea Piracy (Ambak Pari)	4 - Strengthen Anti- IUU fishing Measures	Intensify Bantay Dagat Activities	MENR O	Sea Piracy reduced					

Malapatan

Issue/ Problem	Agreed Consolidated Actions (See List)	Name of Project/ Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
Encroachment of commercial fishers in the Municipal waters and use of illegal fishing methods.	4 - Strengthen Anti-IUU fishing measures	Capability building and logistics support to the organized FLET of DFW's and Bantay Dagat Personnel. Conduct throughout discussion and deliberation prior to the proper enactment of the proposed ordinance.	LGU & BFAR LGU: (SB/OMAG/OPAG) & BFAR	Codified Municipal Fisheries Ordinance		X	X		
Depleted fishery resources.	8 - Restore fishery habitats (mangroves, seagrasses, coral reefs, wetlands and inland bodies of water) through protection and rehabilitation including pollution control	Formulation and passage of MPA's Management Plan and strengthen of PO's.	LGU, BFAR & OPAG	Approved MPA Management Plan(s)		X	X		
Poverty	15 -Strengthen/Facilitate/ Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial	Conduct IEC/training/Seminar to fisherfolks. Distribution of Fishing Gears/ Paraphernalia,	LGU, BFAR & OPAG	Increased real income of fisherfolks		X	X	X	

Issue/ Problem	Agreed Consolidated Actions (See List)	Name of Project/ Activity/ Intervention	Lead	Output	2017	2018	2019	2020	2021
	services and livelihood opportunities and other purposes especially for municipal fisherfolks	fingerlings and other support facilities							
Water Pollution	8 - Restore fishery habitats (mangroves, seagrasses, coral reefs, wetlands and inland bodies of water) through protection and rehabilitation including pollution control	Implement waste Management Plan - i.e.: R.A No 9003; R.A No. 9275 (PCWA) Water quality monitoring. IEC on proper waste disposal, etc.	LGU & DENR	Increased biodiversity, good sanitation and human disease prevented		X	X	X	X
Unclear institutional role delineation and overlapping mandate.	11 - Work for the passage of ordinances for the implementation of 10.1-15 km by small and medium scale commercial access subject to existing laws	Creation of TWGs IECs	LGUs, NGAs, NGOs, POs and Academe	Approve unified fishery ordinance of SARGEN			X	X	X

Sarangani Province

Issues and Problem	Agreed Consolidated Action	Name of Project Activity Intervention	Lead	Output
Illegal/ destructive Fishing Method	13 - Promote use of appropriate fishing gear & boats/vessels	Conduct consultation workshop to identify potential appropriate fishing technologies and boats/ vessels	OPAG & BFAR	Reduced illegal fishing activities
		Assist in the promotion/ distribution of upgraded design of fishing boats from wood to fiber glass		
Degraded coastal fishery habitat	8 - Restore fishery habitat thru protection and rehabilitation including pollution control	Conduct fora with local fisherfolk.	PENRO, DENR & MENRO	Improved health of the coastal/ fishery habitats
		Expands area for mangrove reforestation.	PENRO, Task Force & DENR.	
		Formulation of MPA Management plan.		
		Periodic collection of COT & UW Clean-up.		
		Conduct regular coastal clean-up & implement proper waste disposal.		
		Harmonized agricultural practices in uplands to reduced siltation.		
		Rehabilitate coral reef thru coral gardening & fish breeding sanctuaries and inland bodies of water.		
Uncompetitive fishery product	15 - Strengthen/ Facilitate/ Capacitate organization of registered fisherfolk multi-purpose cooperatives and associations to enhance access to financial services and livelihood opportunities and other purposes especially for municipal fisherfolks	Provision of Post-harvest facilities & equipment.	OPAG, OMAG & BFAR	Reduced post-harvest losses. Value-added products.
		Conduct training on value-adding of fishery products		
Weak enforcement of fishery laws/ regulations	4 - Strengthen IUU fishing measures	Institutionalize Task Force Sulong Kalikasan	PENRO; Task Force; DENR	Task Force Institutionalized
		Provide technical/ financial assistance on environmental enforcement teams	PENRO; Task Force; DENR	assistance provide to environmental enforcement teams