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WORLD MARITIME UNIVERSITY

Malmö, Sweden

**MARINE SPATIAL PLANNING (MSP) IN THE
PHILIPPINES – AN APPROACH TOWARDS
LONG TERM SUSTAINABLE OCEAN
GOVERNANCE AND RESOLVING FUTURE
CONFLICT: THE CASE OF BALAYAN BAY,
BATANGAS**

GARRY DIMAYA LAYNESA

Philippines

A dissertation submitted to the World Maritime University in partial
fulfilment of the requirements for the reward of the degree of

**MASTER OF SCIENCE
in
MARITIME AFFAIRS**


(OCEAN SUSTAINABILITY, GOVERNANCE AND MANAGEMENT)

2021

Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature): 
(Garry D. Laynesa)

(Date): 21 September 2021

Supervised by: Professor Clive Schofield

Supervisor's affiliation: WMU-Sasakawa Global Ocean Institute
World Maritime University

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Abstract

Title of Dissertation: **Marine Spatial Planning (MSP) in the Philippines – an approach towards long term sustainable ocean governance and resolving future conflict: the case of Balayan Bay, Batangas**

Degree: **Master of Science**

MSP has become the global standard for integrating multiple human activities within a specific marine area as demand for space continues to grow, resulting in conflict between and among its users. In the Philippines, MSP is still in its early implementation stage, established through NGO and Government collaboration. This study of the marine spatial planning process in the Philippines focuses on Balayan Bay's case in the province of Batangas.

This dissertation aims to provide a critical evaluation and analysis on the Marine Spatial Planning approach in Balayan Bay and, in particular, how it helps resolve conflicts between stakeholders, specifically the fisheries sector from the nine coastal municipalities of Balayan bay. By taking the Balayan Bay as the case study of MSP, critically evaluating its apparent success that can replicate elsewhere in the country for potential long-term sustainable ocean governance and management. This research aims to assess and identify the Philippines' present ocean governance's limitations, issues, and gaps. Analyze the existing national legal framework, legislations, institutions, and practices in ocean governance and how it affects the MSP in Balayan Bay. Finally, to objectively provide a recommendation based on this research and critical analysis concerning how MSP in the Philippines resolves future conflicts between its different users.

A semi-structured interview was used as a qualitative method. The municipal agriculture and planning officers from the nine municipalities were the primary respondents for this study. They contributed valuable information that resulted in identifying four themes that aid in answering the research questions. Finally, it served as the foundation for the development of several recommendations for implementing MSP in other parts of the country to resolve future conflict and ensure long-term sustainable ocean governance.

KEYWORDS: long-term sustainability, Marine Spatial Planning, ocean governance

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List of Abbreviations

ABNJ	- Areas Beyond National Jurisdiction
ADB	- Asian Development Bank
ASEAN	- Association of Southeast Asian
BFAR	- Bureau of Fisheries and Aquatic Resources
CLUP	- Comprehensive Land Use Plan
CMSP	- Coastal and Marine Spatial Planning
CM	- Coastal Management
CRM	- Coastal Resource Management
CSO	- Civil Society Organization
DA	- Department of Agriculture
DENR	- Department of Environment and Natural Resources
DOT	- Department of Tourism
DOTr	- Department of Transportation
EAFM	- Ecosystem Approach to Fishery Management
EEZ	- Exclusive Economic Zone
ICM	- Integrated Coastal Management
ICZM	- Integrated Coastal Zone Management
ICMSUP	- Integrated Coastal and Marine Spatial Use Plan
LC	- Local Communities
LGC	- Local Government Code
LGU	- Local Government Unit
MARINA	- Maritime Industry Authority
MAO	- Municipal Agriculture Office
MSP	- Marine Spatial Planning
MPA	- Marine Protected Area
MPDC	- Municipal Planning Development Coordinator
NGA	- National Government Agency
NGO	- Non-government Organization
NIPAS	- National Integrated Protected Areas System
PCG	- Philippine Coast Guard
PD	- Presidential Decree
PNP	- Philippine National Police
PNP-MARIG	- Philippine National Police – Maritime Group
PPA	- Philippine Ports Authority
PO	- Peoples Organization
RA	- Republic Act
USAID	- United States Agency for International Development

CHAPTER 1: INTRODUCTION

1.1 Background

The ocean supplies essential commodities and services for human survival. According to 2nd World Ocean Assessment (2021), oceans are under rising strain due to climate change, acidification, eutrophication, biodiversity loss, pollution, over-exploitation, and illicit activity. One of the most critical challenges is climate change, caused by carbon dioxide (CO₂) emissions mostly from coal, oil, and gas combustion. The ocean's major role as a 'sink' for excess CO₂ and heat emissions from human activities leads to ocean warming, acidification, and oxygen depletion (Herr & Galland, 2009). Biodiversity loss, sea-level rise, and severe weather events are some "direct repercussions of climate change" (Staudinger et al., 2013).

While increasing human activity in the water contributes to pollution and eutrophication (Caddy & Griffiths, 1995), overlapping human interactions within a single area presents a more difficult sustainability management dilemma for the marine ecosystem. Uncontrolled tourism, resource exploitation, coastal development, increasing shipping activity, renewable energy development, and land-based operations are just some of these activities. "When not properly positioned, these activities might create conflicts amongst users across location and time, reducing the potential to provide valuable services" (Collie et al., 2013). For many years, several management systems have been developed and implemented globally with the explicit goal of harmonizing the balance between sustainable ocean governance and the commodities and services given by the ocean (Sarda et al., 2014). Possibly, the notion of coastal and marine management was internationally recognized in 1992 at the Earth Summit in Rio de Janeiro, as part of Agenda 21, Chapter 17, as a system combining an all-inclusive approach through a collaborative development process to handle complex marine challenges (UNSD Agenda 21, 1992). Tracing its origins, the MSP is a development of the ICZM (Jay, 2010).

According to Jay (2007), "Marine spatial planning (MSP) is becoming established globally as an approach by which coastal nations can better manage their internal and territorial waters." MSP significantly emerged as a novel approach in governing marine affairs (Kidd et al., 2020). Similarly, the application of MSP is now used in the EEZ and ABNJ as human activities are increasing in these maritime areas (Ardon et al., 2008). The active sectors in ABNJ include fishing, shipping, cable pipe laying, and deep-sea mining operations and explorations (Altwater et al., 2019). MSP is a comparatively novel concept to properly manage the planning of marine

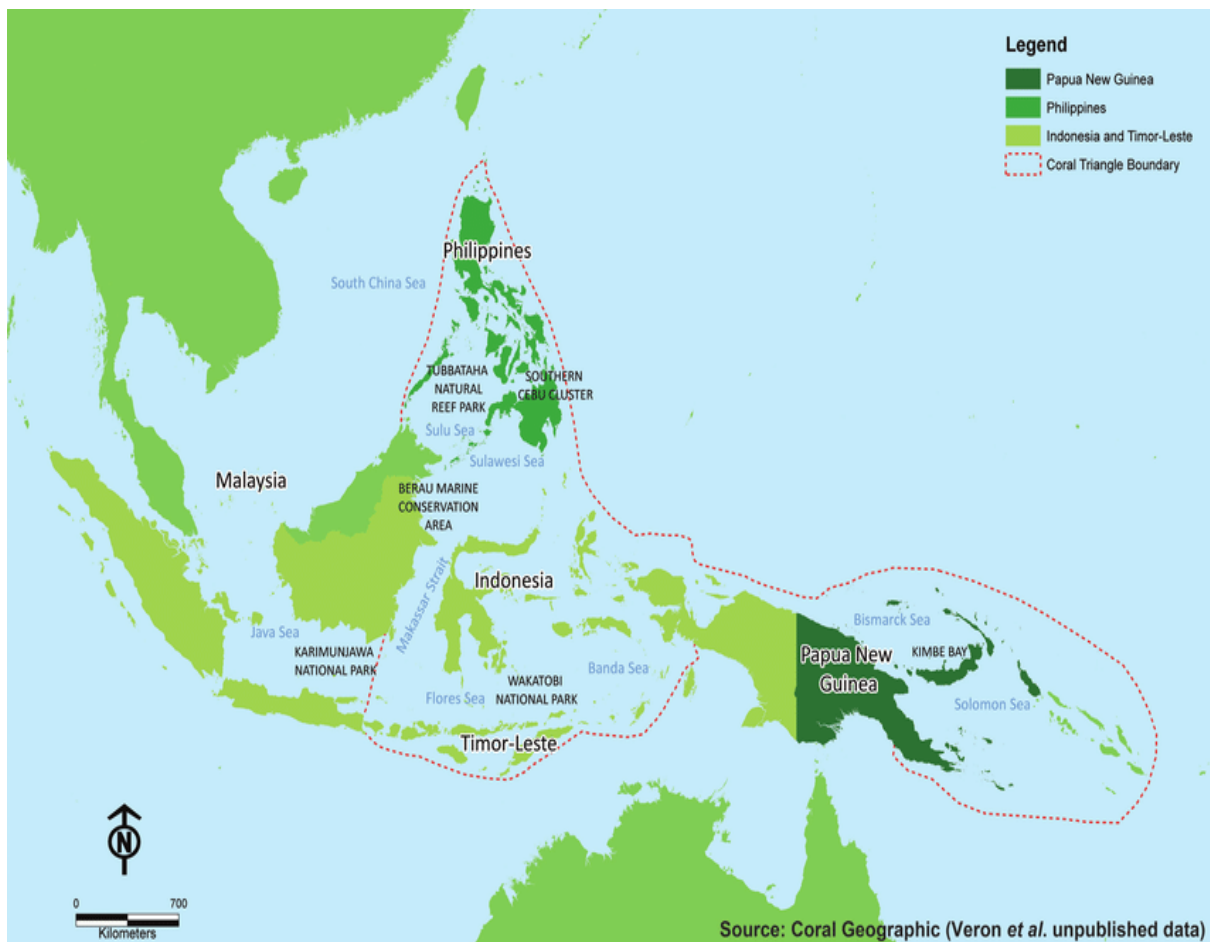
areas to resolve conflicts between traditional and emerging sea users (Laffoucriere, 2013). If not all, almost all marine waters worldwide are now multi-use by multi-stakeholders. The need to manage the marine space effectively, integrating all its users while maintaining sustainable ocean governance, is becoming a challenge to concerned countries regardless of their maritime areas (Winther et al., 2020). As a result, an appropriate management strategy is critical to balance the interests of multiple parties operating in the same marine region.

The application of MSP in ocean management and governance allows the government to foresee the potential for conflict more clearly (Laffoucriere, 2013). The MSP concept aims to help settle multiple-use objectives and interests between different groups (Ehler, 2008 and Finke et al., 2020). They were initially introduced for marine environmental protection “founded on ecosystem approach, MSP is aimed for comprehensive management of different – often – conflicting – uses and the preservation of the natural process of marine space” (Zervaki, 2019). When properly implemented, MSP enables both conservations of marine biodiversity and economic use of the ocean (UNESCO, 2017). Coastal nations are encouraged to adopt MSP in their maritime domain but developing a policy varies differently depending on the States' requirements (Drankier, 2012 & Jay, 2015).

1.2 Philippine Geographical and Governance Land and Seascape

The Philippines is an archipelagic country consisting of over 7,107 islands with a total estimated area of 300,000 square kilometers. Its primary islands are Luzon, Visayas, and Mindanao (ASEAN - CBD, 2015). With a coastline of 36,289 kilometers, it is ranked number five globally in terms of coastline length (WEPA, 2003). With more than 7,000 islands, numerous bays, gulfs, and islets, the country is one of the archipelagic States with a distinct coastline (Figure 1). On land and in water, the country is endowed with natural resources. It is regarded as the world's mega-biodiversity country (Ureta et al., 2017), as it is located within the Coral Triangle (CT) (Figure 2), “the area with the highest coral reef biodiversity in the world” (Pinheiro et al., 2019). The entire maritime environment is a key factor in the growing economy. In 2009, the maritime industry's estimated total contribution, including domestic shipping and the fishing sector, was Php 210.39 billion, while Philippine fisheries alone generated a gross value added of Php 183.1 billion and Php 193.2 billion in 2011 and 2012, respectively, representing 1.89% and 1.83% of GDP (NSCB, 2003; Azanza et al., 2017). Additionally, the ocean provides essential commodities and services for human survival.

Figure 2: Coral Triangle Region



Source: Coral Triangle Region, White (2010).

The Philippines is heavily reliant on the vast earnings generated by maritime habitats. In particular, the country recognizes the importance of “coastal areas in the environment and society as a source of livelihood as part of the goods and services generated by the maritime environment” (CBD, 2020). Economic activity and national development are intrinsically tied to ocean use and maritime activities (both goods and services). For Filipinos who live along the coast, fishing is their primary source of income. According to a study taken by the Philippine Ocean (2015), “the Philippines is one of the top fishing nations globally, with an estimated yearly fish catch of more than 2 million metric tons and a market valued at 3 billion US dollars.” More than half of this yield emanated from the small fishing sector, representing 40-60% of the total catch. A minor fishing industry, commonly known as marginalized fisheries, operates in municipal water within 15 kilometers of the shoreline, employing motorized fishing boats weighing less than three gross tons (FAO, 2005).

The devolution of authority to the Local Government in using their respective municipal waters and their responsibility to manage it will be further discussed in Chapter 3. Nevertheless,

“managing small-scale fisheries in a developing country like the Philippines” poses quite a challenge due to weak governance at the local level, poor management (Purcell & Pomeroy, 2015), and lax implementation of local fishery ordinances governing the 15 kilometers of municipal waters. In addition, the country's archipelagic configuration has necessitated developing a maritime transport network, which includes building associated harbor structures, shipbuilding, and other facilities and services connected to shipping to link its islands.

One of the country's primary concerns is to develop an efficient domestic shipping industry compliant with the standard set forth by the appropriate maritime authority. Currently, the country has 1,250 ports “(821 commercial ports and around 429 fishing ports)” (Dimailig et al., 2011). Furthermore, various human “activities, such as overfishing, coastal development” (Carlson et al., 2019), pollutants from land-based activities, and uncontrolled tourism, continue to endanger the marine environment (Belim et al., 2012).

1.3 Philippine Marine Spatial Planning: The Case of Balayan Bay

In the Philippines, coastal management regimes arguably only began in the late 1970s. It eventually evolved into integrated coastal management, and in the 1980s, localized marine protected areas were adopted through an experiment with community-based management of coastal resources (White et al., 2006). Although the ICM brought a promising start, persistent challenges in ocean governance and management implementation continue to manifest themselves in “resource degradation, questioning the exercise of stakeholder involvement and rising resource conflicts” (Larsen et al., 2010). Resource degradation results from uncontrolled human actions such as overutilization of fisheries, damaging fishing devices, and unsuitable shoreline development (DA-BFAR, 2004; White et al., 2006). The lack of proper integration plans, overlying policies, weak data organization, and contradictory jurisdictional provisions are attributes of these failures (Eisma et al., 2005; Mercado, 2011; Galvez, 2015). The Philippines' pressure on marine resources continues (Tupper et al., 2015), requiring essential management strategies with the possible application of MSP as a tool to solve environment destruction, overexploitation, and other threats on marine and coastal ecosystems in which the local communities are dependent on these resources. The ocean's traditional users, such as fishing, shipping, coastal tourism activities, and the emergence of new players will continue to pressure the ocean to dominate one over the other.

1.4 Purpose of the Study and Research Questions

The study will evaluate and analyze the MSP approach in Balayan Bay and how to resolve stakeholder conflicts, particularly in the fisheries sector. By taking the Balayan Bay as the case study of MSP critically evaluating its apparent success that can replicate elsewhere in the country for potential long-term sustainable ocean governance and management, this research aims to accomplish the listed objectives:

1. Assess and identify the Philippines' present ocean governance's limitations, issues, and gaps.
2. Examine the different maritime activities and their management approaches locally, specifically in Balayan Bay.
3. Analyze the existing national legal framework, legislations, institutions, and practices in ocean governance and how it affects the MSP in Balayan Bay.
4. Provide recommendations based on this research and critical analysis concerning how MSP in the Philippines resolves future conflicts between its different users.

This study will attempt to address the following research questions:

1. How has MSP's application helped resolve or reconcile conflicting activities and uses between stakeholders (Fishing sectors from different Municipalities, Tourism, and domestic shipping sectors) of marine space among stakeholders in Balayan Bay?
2. What are viewed as the significant impacts of MSP in Balayan Bay to the different stakeholders?
3. What are the most challenging aspects of the MSP process, and how has this been addressed?
4. How can the MSP processes in Balayan Bay be improved in the future?

1.5 Methodology

Relevant and significant information for this study was derived from two standard data collection methods. As a result, both primary and secondary data/information collection methods were used. Moreover, the researcher will conduct semi-structured interviews through zoom or other online platforms the participants prefer, such as WhatsApp, Viber, and Messenger.

Participants from the local fishery sectors from the nine municipalities along Balayan Bay will be identified through the assistance of the Philippine Coast Guard Region VI-A, respective municipal fishery officers, and municipal planning development coordinator.

The concept of MSP and sustainable ocean governance provides enormous academic papers and scholarly studies. The secondary data may come from various sources, including but not limited to books, academic papers, articles, journals, reports, or sources from a literature review with relevant information. This literature will be reviewed in Chapter 2 of this dissertation.

1.6 Research Structure and Organization

This dissertation will compose seven chapters. Chapter 1 will briefly introduce the topic and a description of the study, including its methodology. As noted above, Chapter 2 will review the existing written research related to the field (published journals, articles, books, and reports). Chapter 3 will discuss the present Philippine Ocean Governance framework and management, including several sub-topics. Chapter 4 discusses Balayan Bay's case as an MSP model in the Philippines, its potential, and forecast possible challenges if such an approach may be adopted nationwide. Sub-topics in this chapter will include some of the critical aspects of MSP concerning the Balayan Bay case. Chapter 5 will have two main topics: the interview's conduct and process and results from the survey undertaken through the research. Chapter 6 provides the discussion and recommendation. Finally, Chapter 7 is the conclusion.

CHAPTER 2: REVIEW OF ASSOCIATED LITERATURE

This chapter discussed some of the existing similar literature of MSP. In particular, it focuses on contributions covering relevant topics such as the history of MSP and its emergence and evolution from the earlier Integrated Coastal Zone Management approach. The chapter also includes a discussion of some of the earliest successful applications of MSP, namely the “case of the Great Barrier Reef in Australia” (Langlet and Rayfuse, 2018). This chapter will discuss MSP and provide accounts of its successful implementation from several selected countries, where MSP approaches are still being initiated and implemented. It further seeks to identify gaps or conflicts based on the available literature reviews, which may require some work or further research studies.

2.1 Marine Spatial Planning (MSP)

As noted in chapter 1, human activities have directed to the substantial increase in the demands placed on ocean space over the years, resulting in multiple spatial conflicts. Consequently, MSP has been identified as a critical integrated framework for promoting sustainable ocean governance (IOC/UNESCO 2021). In recent years, MSP has increasingly been promoted as a strategy that can address multifaceted conflicts in different maritime areas (Tuda et al., 2014). According to Chircop (2013), “drawing on long-standing terrestrial or land-use planning, MSP seeks to bring a more spatially specific dimension to the regulation of marine activities by setting out preferred geographical patterns of sea us.” Therefore, the MSP is ideal as an all-encompassing planning method that considers all factors in a given ocean or coastal space area. Additionally, Douvere (2008), the underlying premise is that designating specific areas for specific purposes at specific times can assist in resolving conflicts, leading to “achieve ecological, economic, and social objectives.”

MSP is progressively regarded as attaining sustainable maritime use by managing and resolving conflicts between competing uses, thus enhancing natural environment fortification. (Moore et al., 2017). MSP has “become the planning process of choice to determine what, where, and when human activities should occur in marine areas” (Ehler, 2020).

2.2 The early application of Marine Spatial Planning (MSP)

It was four decades ago when MSP emerged as a conservation management approach (Day, 2002). “During the years, various countries have started to use MSP or ocean zoning to reduce conflicts and use coastal and marine resources more sustainable” (Douvere et al., 2007). The zoning plan of Australia’s Great Barrier Reef Marine Park (GBRMP) in 1975 is one of the best-known early applications of MSP. “The Great Barrier Reef Marine Park Act 1975”, No. 85, 1975 can be regarded as an early example of MSP (Day, 2002; Santos et al., 2019). The primary concern in “protecting the Great Barrier Reef from offshore oil drilling and phosphate mining was a key driver for establishing the marine park in the late 1960s and early 1970s” (Ehler, 2020). At the same time, other threats included, and continue to include, effluence from shipping, pollution from land-based, mainly agricultural overflow, fishing, and tourism activities.

The GBRMP “management is based on multiple-use, with zoning as a fundamental component of marine spatial planning” (Kenchington & Day, 2011). The GBR zoning is required by the 1975 GBRMP law, which expressly defines the uses permitted in which parts of the area. The zoning allows reasonable activities in a determined area and regulates the appropriateness of numerous extractive activities (Day, 2002). Thus, Australia’s approach permits multiple activities to provide a set of standards of protection for explicit areas (Douvere et al., 2007).

“In 1998, the GBRMPA began the Representative Areas Program (RAP) to determine significant habitat types in the GBRWHA and develop a new zoning plan to protect representative areas of each habitat type” (Dryden et al., 2008). The RAP is a vital strategic tool for conserving representative examples of the full spectrum of biodiversity (Kenchington & Day, 2011). According to Kenchington & Day (2011),

The RAP developed a draft zoning plan considering all the operational planning principles. This provided a robust basis for public consultation as required by the GBRMP Act. More than 31,500 written representations were provided in two formal phases of public participation. The revised zoning was markedly different from the draft plan due to the public comments and came into effect in July 2004.

MSP is a vital part of the integrated management method for the GBR, which has improved significantly over the last three decades (Day, 2015). This illustrates the importance of stakeholder engagement in MSP, including the need for adjusting the zones defined in such plans in the light of periodic consultations. The number and diversity of submissions made

during the re-zoning process also underscore the challenge inherent in attempting to reconcile competing marine uses through MSP.

2.3 Emergence of MSP from Coastal Base Management

MSP does not appear at a specific time or place. Instead, it arose due to the integration of interests surrounding a particular problem, just like any other management technique. In this instance, we're addressing the delicate balance between preservation and growth of “three-dimensional marine space over a fourth dimension, and the development of processes, techniques, and tools to avoid or manage conflicts among activities that use marine space” (Ehler, 2020). Various methods have been introduced to resolve conflicts between various coastal resource stakeholders, such as ICZM and EBM (Tuda et al., 2014). While these approaches improved coastal states' conservation and integrated management capabilities, new conflicts emerge as our demands for coastal and marine space and resources grow. (Tuda et al., 2014). Conflicts over marine space are intensifying, necessitating the development of more effective strategies for balancing preservation and management with consideration of the social and economic requirements.

The concept of MSP was initially stirred in the development of MPA. “However, more recent attention has been placed on managing the multiple uses of marine space, especially in areas where conflicts among users and the environment are already clear” (Douvere, 2008). Therefore, MSP is one strategy that can assist in resolving conflicts in coastal areas (Tuda et al., 2014).

2.4 What is Marine Spatial Planning (MSP)?

There is no generally accepted meaning. However, a helpful example of a definition of MSP is provided in the E.U. Directive on MSP as:

a process by which the relevant Member State's authorities analyze and organize human activities in marine areas to achieve ecological, economic, and social objectives.

While IOC - UNESCO provided a more elaborate definition of MSP as:

a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that usually have been specified through a political process. Characteristics of marine spatial planning include ecosystem-based, area-based, integrated, adaptive, strategic, and participatory. Marine spatial planning is not an end in itself, but a practical way to create and establish a more rational use of marine

space and the interactions among its uses, to balance demands for development with the need to protect the environment, and to deliver social and economic outcomes in an open and planned way.

In the CBD context, “Marine Spatial Planning is regarded as a framework that provides a means for improving decision-making as it relates to the use of marine resources and space” (CBD-GEF, 2012). Because it is an integrated, inclusive process that aims to balance the often-divergent needs of many stakeholders, including marine species, populations, and habitats, it deserves time, patience, financial resources, and effective leadership (Katona et al., 2017). “MSP is a process, not a tool; it is never done; it is a commitment to continue planning into the future. After all, planning can only deal with the future” (Ehler, 2020).

MSP is defined in most peer-reviewed articles as a practical method for planning and organizing the use of coastal zones for the profit of humans and the marine environment (Santos et al., 2019). Ocean space has historically been where many activities unfold, predominantly without any overarching management mechanism or approach over ocean space and its users. This situation undoubtedly results in conflict with inevitable severe consequences on the ocean (Josse et al., 2019). Therefore, the MSP serves as a strategic tool in improving outcomes in managing people's maritime activities (Tuda et al., 2014). Consequently, MSP is becoming increasingly important in developing zoning and distribution arrangements that resolve multiple-use conflicts worldwide. (Day, 2002; Tuda et al., 2014).

The remainder of this chapter is dedicated to reviewing literature related to selected examples of MSP implementation globally. The countries selected for the literature review are those that have significantly made progress in their MSP implementation. They are among the pioneering nations that took the giant leap in ocean management and governance through MSP. Countries are selected from different regions worldwide in which the following focus and issues were considered in selecting them:

- Legal framework and administrative support;
- Implementation of MSP;
- Result of MSP concerning maritime activities and marine environmental protection;
and
- Present progress.

2.5 Implementation of MSP worldwide?

MSP “is widely acknowledged as going beyond the sector-by-sector approach to ocean management” (Douvere and Ehler, 2009). Ideally, it replaces such sector-specific approaches with a unified and streamlined process that promotes more balanced growth (Santos et al., 2020). Most MSP initiatives are motivated primarily by environmental concerns rather than concerns about the overall management of conflicts between uses or users (Douvere et al., 2007). The MSP is steadily becoming known worldwide as a method by which countries apply to manage their maritime jurisdiction better and, in other including their extensive EEZ as defined in chapter 1 and continental shelf areas (Schaefer & Barale, 2011; Jay, 2017). Coastal nations are encouraged to adopt MSP in their maritime dominion, while the legislation is developed in a way depending on the States' requirements (Drankier, 2012 & Jay, 2015).

MSP has evolved over the last two decades from a practical method to ocean-based sustainable development (Zaucha & Gee, 2019). “From a few pioneering examples of the implementation of MSP by 2005, today, over 75 countries are experimenting with MSP as a practical approach toward ecosystem-based marine management” (Ehler, 2020). By 2030, a significant portion of the EEZ worldwide as an established MSP (Ehler 2017).

Despite MSP's continuing development, recognition, and practice worldwide, countries that reach the implementation stage are still comparatively low. For example, it was recorded in 2017 that out of 60 MSP initiatives, “37% were at the pre-planning stage, 33% at the plan preparation stage”, about 19% with an accepted plan, while 11% had progressed towards revisiting their plans (Ehler, 2017). According to Santos et al. (2019), “MSP is already in place (i.e., approved by the government) in 22 countries that together represent almost 27% of the world’s EEZs.” Countries that have completed and are awaiting approval of their marine spatial plans will almost certainly have established MSP in the future. The European Union's coastal states, in particular, can be included in this category because of their mandatory compliance on MSP by 2021. (European Commission, 2014). “Initially started in Australia, then China, Germany, the Netherlands, Belgium, and the United Kingdom, MSP has now spread to over 75 nations—half of the 152 countries of the world with marine waters” (IOC-UNESCO, 2019).

2.5.1 MSP implementation in ASIA

The MSP development is considered diverse due to the different settings in which it is approved (Nakornchai et al., 2019). “Eight Asian countries have MSP initiatives, including Bangladesh, Cambodia, China, Indonesia, Myanmar, the Philippines, Thailand, and Vietnam” (Ehler, 2020).

In Asia, China is among the pioneers in MSP. Its initiative started 30 years ago and is one of the most developed MSP (Santos et al., 2019); for this reason, China was chosen as an example of MSP in the Asian region. Their MSP significantly transformed since it started in 1989. MSP in China began as marine functional zoning and is presently in its third stage. From 1989 until 1995, purposely, it identifies the “dominant functions” for selected sea areas (Ehler, 2020). However, it has no established legal authority but lays the groundwork for the ensuing MFZ plans (Fang et al., 2011). From 1998 to 2003, the revision of the first generation leads to becoming the second marine zoning at the national, provincial, and municipal, or county levels (Ehler, 2020). Subsequently, NMFZ was approved by the state in 2002 National Marine Function Zoning (Yu and Li, 2020) “after the zoning system was acknowledged in the *Law on the Management of Sea Use* in 2004” (Li, 2006). “In coastal provinces, autonomous regions, and municipalities (except Shanghai),” the timeline for the implementation was set in 2010 (Ehler, 2020).

The MSP initiatives in China are unique since they integrate two different marine spatial planning frameworks but are not carried out independently. The MMFZP is more comprehensive and set in the higher tier. In contrast, MFZ defines the marine area's dominant function and utilization scope (Tang et al., 2020).

2.5.2 MSP implementation in Africa

“Over the past five years, Africa has become a center of MSP initiatives, particularly as a process to develop a blue economy” (African Union, 2019). MSP initiatives are underway in at least ten countries, including Seychelles. With a fully implemented MSP plan, Seychelles arguably leads the way. Meanwhile, South Africa's MSP is still in its early stages. Correspondingly, both Angola and Namibia have been engaged in planning analysis while the rest are pre-planning (IOC-UNESCO, 2018).

The Seychelles Marine Spatial Planning (SMSP) initiative was launched in 2014 to plan and manage a balanced, sustainable sea for long-term use. The SMSP is a government-led

partnership with NGOs to address various marine challenges and support national strategies (SMSP, 2021). Its MSP is anchored to its national laws, policies, and priorities, providing an overall goal for the MSP initiatives. The “Government of Seychelles set a goal for protected area expansion of 50% of all terrestrial areas and 30% of the Exclusive Economic Zone, including 15% in ‘no take’ areas” (SMSP, 2021). Thus, their MSP process will be the first complete MSP “in the Western Indian Ocean” (Claudet et al., 2008).

In South Africa, the “Marine Spatial Planning Act No. 16 of 2018” provides the legal basis for MSP (IOC-UNESCO, 2018). Their MSP initiative aims to achieve high-level interests for the good of people and the marine environment (Ministry of Environment, Forestry, and Fisheries, 2019). Their ocean is split into smaller areas to make manageable and sufficiently relevant marine area plans aligned on their objectives. The MSP program is part of a more extensive program covering the Benguela Current region and establishing sustainable ocean use. The lead agency for the MARISMA program is the Benguela Current Commission, located in Namibia.

2.5.3 MSP in Europe

“Among the most important drivers for MSP in Europe is the European legislation on nature conservation as part of the E.U. contribution in implementing the 1992 Convention on Biological Diversity” (Douve et al., 2007).

An integrated Maritime Policy was published in October 2007, which provides a method to maritime issues. In addition, MSP has been recognized as an essential pillar of the new European Commission maritime policy (Commission of European Community, 2007). Furthermore, a roadmap for MSP was published in 2008, outlining the ten critical principles for MSP. A unified MSP in all EU waters is a necessary precondition for the ongoing growth of maritime economic activities. Furthermore, “it provides a neutral process to arbitrate between conflicting or competing activities or interests” (Ehler, 2020).

In 2014, the EU became well-known as the epicenter of an MSP revolution, thanks to various programs that invested significantly in pilot projects, experiments, and education. In addition, “the European Union took the bold step of proposing and passing EU-wide legislation on MSP—a game-changer in advance of MSP in Europe and the world” (Ehler, 2020). As a result, each coastal state should develop a national maritime spatial plan under the MSP Directive no later than 31 March 2021 (European MSP Platform, 2020). However, at the moment, MSP

implementation is happening at different rates or stages across Europe, either in preparation, adoption or already in the review process.

2.5.4 MSP implementation in Americas

In the American Region, Canada, Mexico, and the United States of America had implemented marine spatial planning with different degrees of success (Ehler, 2020).

In Canada, its initiatives on ocean management, which is not formally marine spatial planning (Chircop, 2013), started with introducing the Ocean Act in 1995. The Oceans Act, proclaimed in 1997, provides the legal framework for a cohesive approach to marine management (Gunton and Rutherford, 2010). Through this, “Canada was the first country to adopt comprehensive legislation for integrated ocean management” (Ehler, 2020). In 2002, Canada’s Ocean Strategy defined the key elements for managing its marine areas and ecosystems, including estuarine. Later, through Canada’s Ocean Action Plan from 2005-2007, the making and establishment of the LOMA were identified and set as priorities for integrated management planning (Fisheries and Oceans Canada, 2012).

After its legislation for ocean administration, it enacted a few other strategies and initiatives, such as the Ocean Strategy in 2002, Action Plan in 2005, and Health of the Ocean Initiatives in 2007 (Chircop et al., 2013). Although these strategies indicate its commitment to protecting the maritime environment and its sustainability, “progress on developing and implementing integrated management plans for these five areas has been slow but steady” (Ehler, 2020).

MSP “efforts in the USA are most advanced at the subnational level” (Portman, 2011). The history of their MSP in 1969 when the “Stratton Commission (the Commission on Marine Science, Engineering and Resources) released its report, *Our Nation and the Sea: a plan for national action*, a comprehensive, forward-looking report that reviewed the status of most areas of American ocean policy” (IOC-UNESCO, 2017).

When the Coastal Zone Management Act was enacted in 1972, funding for coastal zone management plans was allocated (Chircop, 2013). Although the State waters were included, the program on coastal planning is the focus of the 34 States (Ehler, 2020). In current years, the limitation of fragmented ocean governance has stimulated multi-sector governance employing strategies and methods, including CMSP (Chircop et al., 2013).

“In June 2009, U.S. President Obama sent a memorandum to executive departments and federal agencies establishing an Interagency Ocean Policy Task Force, led by the White House Council on Environmental Quality” (Ehler, 2020). In addition, an E.O was issued last 2010, “Stewardship of the Ocean, Our Coasts and the Great Lakes,” stressing the necessity to organize regional ocean plans that Regional Planning Bodies will implement. (Chircop, 2013). According to Ehler (2020), “Coastal and marine spatial planning (CMSP) was one of the nine priority objectives in the recommendation.” The report includes a national framework, a classification of CMSP, an explanation of why CMSP is necessary, and a description of its geographic scope (Ehler, 2020).

2.6 Review of various experiences on Marine Spatial Planning worldwide

The comprehensive academic and political confirmation is evident in the many MSP initiatives established globally, most in EU countries, North America, Africa, and several countries in Asia (Carneiro, 2013). Therefore, for this literature review, some of these countries were selected from different regions worldwide to highlight their experiences in the MSP process and analyze them based on the following noteworthy aspect, which is a crucial factor in its implementation.

2.6.1 Legal Framework and Administrative Support

“Sound policy and institutional frameworks are critical to the success of any MSP initiative” (Santos et al., 2018). MSP has been gaining policy support from national leaders since the government is the leading authority to implement ocean planning protection and sustainability initiatives. As a result, “national and subnational marine spatial planning legislation is becoming increasingly common, particularly in countries with large economies, including many European, North American, and Asian nations” (IUCN, 2020). In addition, many organizations distinguish MSP as a measure to achieve a broader societal objective, including prospects for the progress of economic activities (Jay, 2017).

The MSP in the E.U. approach is more holistic than other regional communities. The E.U. landscape for MSP involves countless legislation and policies focusing mainly on promoting a specific type of usage of marine space (Qui et al., 2013). The MSFD, which is the current policy of the E.U. community, is the legal base for implementing MSP. The holistic approach of the E.U. community is the key to the success of MSP implementation (European

Commission, 2021) and provides various benefits in this regard. Furthermore, the Directives, provides the commitment for the Member States, will boost uniformity in implementing ocean management in the different European maritime space. It reduces the economic cost of non-coordination and addresses the cross-border dimension issues of countries sharing the same sea basin. For the market aspect, MSP establishes standard and easy documentation systems and reduces the expenses of monitoring procedures, “providing a transparent and reliable planning framework” (European Commission, 2008).

There is no perfect marine spatial planning law that will work for every country (IUCN, 2020). Instead, an MSP act must be tailored to the country’s requirements and environmental setting. For example, China’s legal system on the management of the maritime started in 1993 by adopting “permit and user-fee systems to regulate sea-use activities of foreign investors who utilize the sea areas of China for commercial purposes” (Li, 2006). Subsequently, numerous problems arose, which the government prompted to revise and formulate legislation that will be tailored fit to address the emerging needs. As a result, various measures were carried out to implement the law in which the “concept and legislative requirements evolved over the years” (Li, 2006).

The essential success of MSP depends on national legislation and political provision. According to Ehler (2008), “MSP should be implemented as a statutory, enforceable process rather than a non-binding one.” Thus, marine spatial planning is generally best implemented through standalone legislation, administered by the government Ministry and Department responsible for environmental protection, fisheries, ocean governance, or, less commonly, planning (IUCN, 2020). For example, in Canada and South Africa, both countries enacted their respective legislation and policy for ICM. However, the marine spaces were divided into smaller sub-regional areas to effectively facilitate the plan's development, management, and implementation.

They consider the country’s need and readiness to legislate a law on MSP or complement its existing legal framework. The new law ensures that any new plan will contain the necessary and desired legal elements; most countries with successful MSP see this as the more suitable approach. However, even in the absence of legislation, some jurisdictions still establish. The design is being devised in parallel with, or even before, the development and enactment of a new law. The Seychelles MSP initiative is a partnership between the national government and non-government organizations. While MSP Policy and Bill are for approval, the country

initiates a framework, which creates various committees and holds a stakeholder workshop (IOC-UNESCO, 2020)

2.6.2 Importance of various stakeholders to MSP process

Stakeholder engagement in MSP is critical but challenging due to the high number of stakeholders with competing interests (Keijser et al., 2018). Consequently, all of the countries selected for this chapter emphasized stakeholder involvement is vital in the MSP process. Furthermore, the involvement of stakeholders encourages a sense of ownership of the plan that stimulates trust between them (Pomeroy and Douvère, 2008), thereby creating harmony and eliminating conflicts.

Government agencies mainly lead Marine Spatial Planning; however, its success depends on the involvement of the stakeholders. According to Langlet and Westholm (2019), “participation is fundamental to the ecosystem approach as both a knowledge acquisition process and a means of ensuring the engagement of concerned actors, thereby enhancing the understanding and acceptance of policies and measures.” In addition, they provide valuable knowledge in the MSP process that is critical to the policymaking process. For example, in the re-zoning of GBRMPA, there are numbers, and diversity of submissions made during the re-zoning process by the stakeholders highlight the challenge inherent in attempting to reconcile competing marine uses. Appropriately engaging the stakeholder is one of the keys to successful MSP for most countries (Santos et al., 2016).

2.6.3 The different initiatives to improve MSP

There are numerous MSP implementation approaches worldwide, demonstrating that no single model for such an approach applies to all, and some of the approaches are briefly presented in this chapter. Moreover, there are vast differences in its implementation in every nation, the respective framework for its integration into broader governance systems, and the preparation methods. However, whatever the country's goals and objectives in the MSP process require constant progress and development to address emerging issues and concerns on the environment, economy, political and administrative deviations.

There is uneven development of MSP processes in line with professional endorsements “but are dependent on varying national and even sub-national, political, geographical, and

socioeconomic contexts” (Flannery et al., 2014). Most of the country's MSP initiatives were provided by dedicated legislation highlighting the policy importance of MSP. There is a rising acknowledgment that appropriate legislation is required to apply MSP effectively (Jay et al., 2013). A governance system requires continuous consideration and the capacity to adjust to the emerging changes and conditions to remain resilient and sustainable over time (Santos et al., 2014).

Monitoring and evaluation should be carried out to assess the extent of its development, and its goals and objectives are achieved according to the set timeline. Given Australia's long history of MSP, appropriate evaluation help in the progress of the GBRMP. For example, Jay (2017) “a re-zoning of the park in 2004 in the light of the experience gained; this introduced a more comprehensive system of control over its use, such as more stringent zoning measures, including a substantial increase in no-take zones.” Additionally, sufficient resources and political support are essential for MSP to achieve its aim. Sufficient financing is necessary through the national government delegated to enforce MSP. “This may be supported with revenue from marine activities in some contexts, as exemplified by MSP in China” (Jay, 2017). Resources may also be in the form of government and non-government partnerships, such as the case of Seychelles MSP.

2.7 Summary

This chapter presented a brief overview of the MSP initiative through some selected countries in different regions worldwide. Although, these countries are some of the leading and pioneering in the MSP process. Their MSP process has evolved and gone through various legislative and administrative changes to address new emerging challenges in the utilization of marine space. Emerging conflicts over marine space necessitate a coordinated approach to ocean usage to maintain the stability of environmental stewardship, preservation, and productivity expansion. Simultaneously, most MSP initiatives are motivated by environmental protection, socio-economic development, or the blue economy. Nevertheless, the “process for carrying out MSP varies from place to place due to different geographies, marine pressures, legal requirements, planning cultures,” among others (Jay, 2017).

The review of the selected countries in this chapter is not comprehensive. It focuses only on some essential principles of MSP to link it to the experience of the Philippine MSP initiative trying to answer the research question presented in chapter 1. The discussion in this chapter

provided more specific features of MSP, such as national legal framework, legislations, institutions, and practices in ocean governance and management, which the Philippines can potentially apply in the future.

This chapter provided a review of MSP in an international setting, taking the various experiences of different countries worldwide; the next chapter will focus mainly on the Philippines. A review of the Philippine experience of the integrated coastal management system and the recent MSP initiatives at the local level. The potential of Philippine MSP and how it will progress, considering the different experiences of other countries presented in this chapter.

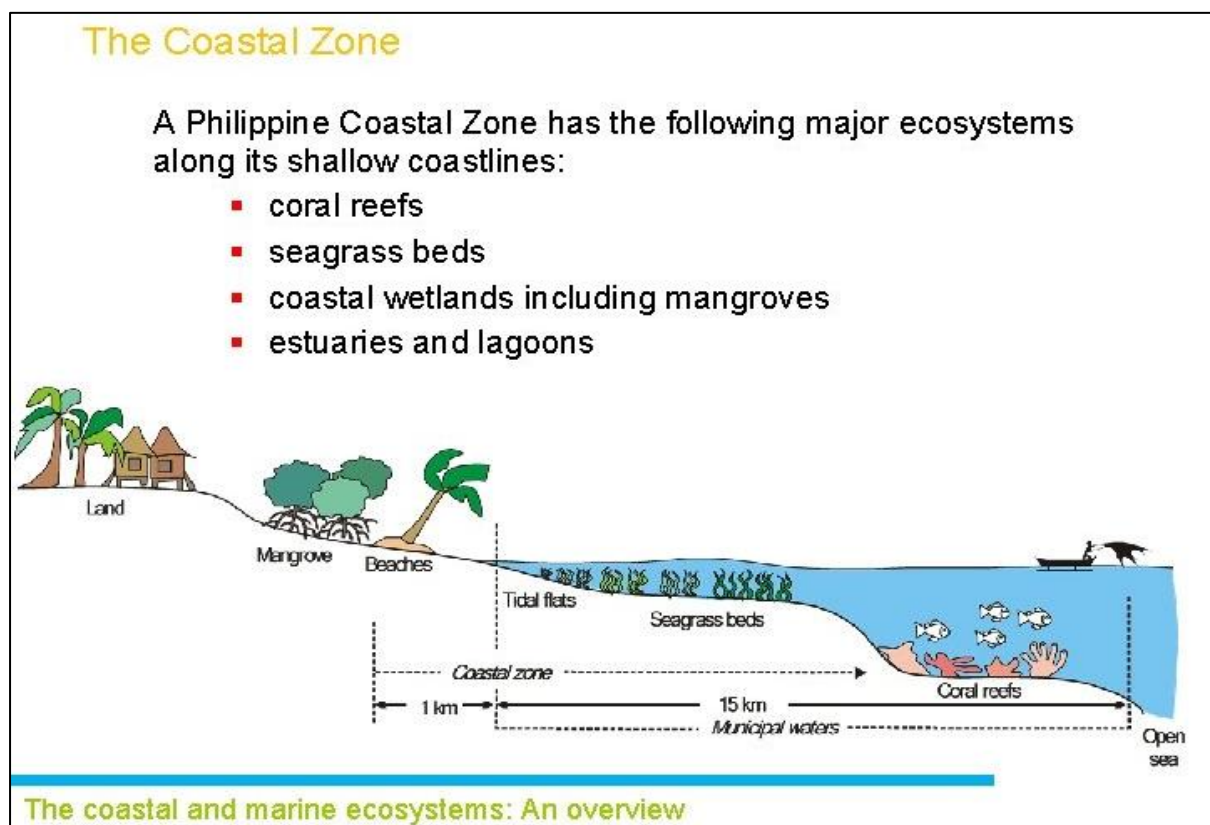
CHAPTER 3: PHILIPPINE COASTAL MANAGEMENT AND GOVERNANCE

This chapter will explore the Philippine coastal and marine areas—their history and present coastal management and governance activities. This chapter will discuss some of the legal and policy structures governing coastal management, protection, and conservation. Additionally, it will include a discussion on coastal management development policies and implementation mechanisms. Finally, this chapter will discuss the various tasks or functions assigned to government and non-governmental organizations in the country's coastal management program.

3.1 Philippine Coastal and Marine Areas

The country's coastline, which includes over 7,100 islands, is one of the world's longest (World Bank, 2005). It has a varied range of environmentally significant and commercially critical marine resources that can help the country in various ways (DENR, 2001). This diversified coastal zone is home to various ecosystems, including mangrove forests, seagrass beds, coral reefs, wetlands, beaches, estuaries, and lagoons (Figure 4).

Figure 3: Philippine Coastal Zone



Source: <https://slidetodoc.com/the-coastal-and-marine-ecosystems-an-overview-learning/>

These habitats are critical for the continued production and sustainability of fisheries (Cochrane, 2002). The Philippine marine areas are highly valued socioeconomically, and many development activities are concentrated therein (Junio-Meñez, 2007). Several of these advancements have occurred over the years, including establishing marine infrastructures such as ports, dockyards, and inshore support facilities. Tourism has also made a significant contribution to the development of coastlines, as it generates significant revenue for the government (Pilapil-Añasco & Lizada, 2014). Its coastal development includes proximity to beach hotels, rest stops, beach resorts, and eateries. Coastal lands have been reclaimed to develop commercial and industrial infrastructure, including coastal residential neighborhoods. The aquaculture sector has been steadily expanding, transforming enormous stretches of near-shore land into fishponds. In the Philippines, aquaculture includes brackish and freshwater fishponds, fish pens, and cages in fresh and marine waters and mariculture of oysters, mussels, and seaweed (BFAR, 2018). Figure 4 below shows the major species produced in Aquaculture Fisheries in 2018. The vast majority of fishponds (239 323 ha) in the Philippines are brackish water ponds formed by mangrove swamps. (FAO, 2021). Land is a valuable commodity in the Philippines, so converting good agricultural land into fishponds is uncommon because it reduces the land's market value.

Figure 4: Major Species produced in Aquaculture Fisheries, 2018

Species	Quantity (MT)	Percent (%)
Seaweeds	1,478,301	64.15
Milkfish	303,402	13.17
Tilapia	277,006	12.02
Shrimps/Prawns	47,060	2.04
Others	198,597	8.62
Total	2,304	100.0

Source: DA-BFAR, Philippine Fisheries Profile, 2018

Philippine coastal and marine areas are critical to the Filipino people's daily requirements. It was estimated in 2012 that about 55.3 million people live in coastal areas and the highest population density in Asia. In the Philippines, around 4,500 new residents were recorded (Azanza et al., 2017). Therefore, coastal communities have become increasingly reliant on marine areas for their livelihood and daily food supply. The fishing industry alone provides livelihood and food for millions of people. In 2010, the fisheries and aquaculture industries employed approximately 1.5 million people nationwide, producing 3.1 million tons of fish, mollusks, shellfish, and other marine products (FAO, 2014). Most of these marine products are being distributed and consumed locally. The fishing industry sector in the country is composed of fish caught in saltwater (marine fish), inland caught fish, and aquaculture fish. Marine caught fish is either from municipal water, which is within the 15 km jurisdiction of the municipalities, and the commercial fisheries caught beyond the municipal waters. Figure 5 shows the total fish production in the Philippines by sector last 2018. The aquaculture subsector produced 2.3 million MT, or approximately 53% of total fish production, followed by municipal fisheries, which produced approximately 25.1%, and commercial fisheries, which produced approximately 21.7% (BFAR, 2018).

Figure 5: Philippine Total Fish Production by sector, 2018

SECTOR	Quantity (Metric Ton)	% To total fish production	Value Current Prices (‘000 P)	% To total
Aquaculture	2,304,365.31	52.9	110,329,337.84	41.6
Municipal Fisheries	1,106,071.84	25.4	93,974,457.31	35.4
Commercial Fisheries	946,437.62	21.7	61,044,889.18	23.0
Total	4,356,874.77	100.0	265,348,684.33	100.0

Source: DA-BFAR, Philippine Fisheries Profile, 2018

The coastal and marine ecosystem can provide sustainable marine products (food) and services, including defense from storm surges, improved quality of water, transportation, and recreation with proper management (World Bank, 2005).

3.2 Philippine Coastal Management: Orientation and Overview

According to White et al. (2006), “The Philippines has one of the richest experiences of integrated coastal management (ICM) of any country in the world, beginning in the late 1970s. The country defined its coastal zone in 1978 and has evolved an ICM system since that time”. The institutionalization of the ICM was the national level response of the Philippines to address the growing issue of marine ecosystem decline and degradation (Larsen et al., 2010). As a result, it has over 30 years of experience managing, conserving, and protecting coastal areas, primarily through local-level initiatives. (Balgos and Pagdilao, 2002).

The country's coastal management was established to address various problems and concerns regarding the marine environment and resources. The alarming issues contributing to the widespread decline of coastal resources are the unregulated exploitation of ocean resources such as fish stocks and other aquatic resources. In addition, marine pollution caused by intensified development of agro-industrial industry and exploitation of forest and mineral resources resulted in coastal habitat destruction (DENR et al., 2001).

Due to widespread concern about the depletion of marine resources, several factors affected the evolution of CM in the country (DENR et al., 2001). The succeeding sub-topic will discuss factors that influence the development and evolution of the Philippine coastal management, such as enacting different policies, delegation of authority to the LGUs, and the significant involvement of NGOs, leading to numerous successful coastal areas management programs.

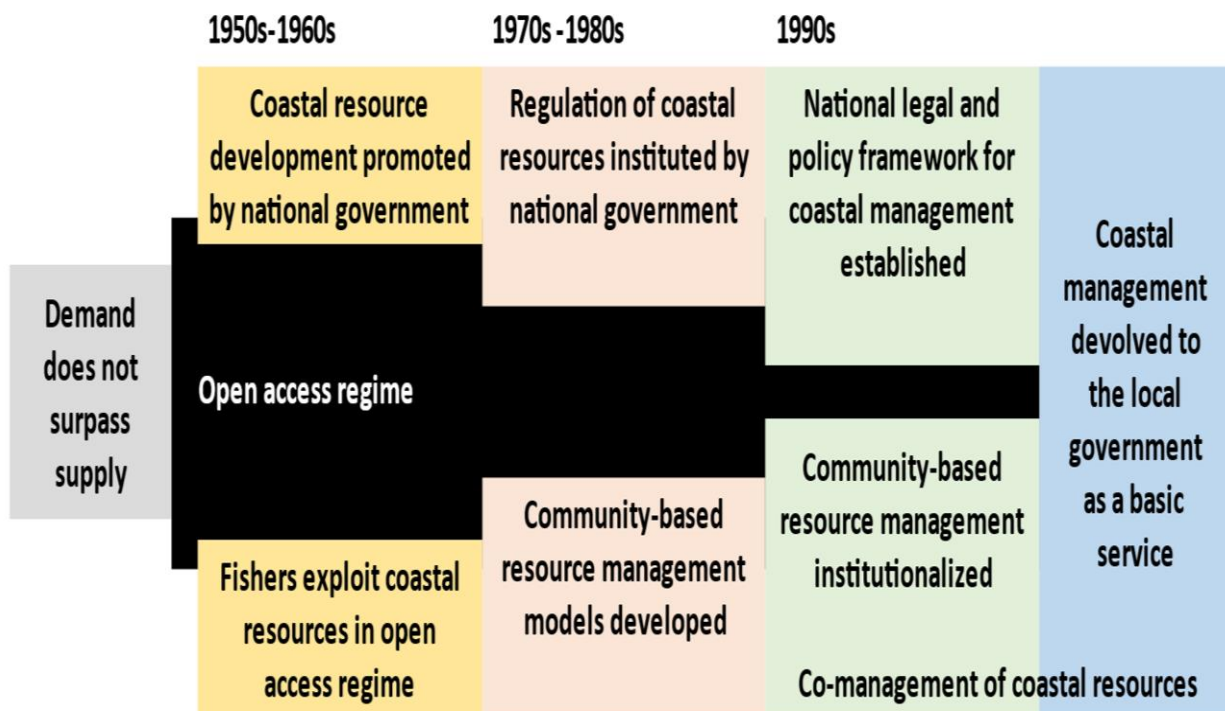
3.2.1 Community-Based Coastal Resource Management (CBCRM) Project

The CBCRM project in the Philippines has grown significantly over the years (Israel, 2001). The LGC of 1991 and the Fisheries Code of 1998 conferred authority on the LGU to manage their municipal waters. (Israel, 2001). It “is generally implemented under the co-management framework. The central element of co-management is the empowerment of the community of local resource users (e.g., fishers, NGOs, CSOs, and POs, among others) by enabling them to participate, control and influence institutional decisions affecting their lives” (Maliao et al.,

2009). This approach is viewed to resolve conflicts between natural and human resources in coastal areas (Juinio-Meñez, 2002). While the CBCRM does not preclude the government from participating, its immediate improvement is the active engagement of the LC, which makes the CBCRM a more cohesive and participatory approach (Israel, 2001). “In the Philippines, a major component of the CBCRM program is the establishment of marine protected areas (MPAs)” (Maliao et al., 2009). The dynamic involvement of locals in the CBCRM process is in socioeconomic assessment, preparation of the management plan, and formulation of municipal ordinance or resolution (Juinio-Meñez, 2002). During the early years of the CBCRM project in the Philippines, it was initiated mainly by NGOs or academic organizations with outside support (DENR et al., 2001).

In the Philippines, the CRM approach evolved from top-down during the 1970s and 1980s before devolving to the local level in 1996, shown in Figure 6 (CRMP, 2004). The LGC of 1991, the National Integrated Protected Area System (NIPAS) Act of 1992, and the Philippine Fisheries Code of 1998 provide the legal framework for shifting the approach to decentralize coastal management.

Figure 6: Evolution of Coastal Resource Management in the Philippines



Source: Philippine Coastal Resource Management Plan, 2001

3.2.2 Donor Assisted Integrated Coastal Management Project

The donor-assisted ICM project in the Philippines in the 1990s provided the foundation for ICM (DENR, 2013), built from the community-based model approach (DENR et al., 2001). Some of these donor-assisted projects (Table 1) were funded by an international organization in partnership with NGAs. According to White et al. (2006), “These programs have ranged in size from narrow to wide geographic boundaries covering more than 1000 km of coastline and from low levels of financial support to multi-million-dollar assistance over five or more years”.

Table 1: Donor ICM projects in the Philippines

Name of Project	Donor	Project area and description
The Central Visayas Regional Project (CVRP)	World Bank	<ul style="list-style-type: none"> - 1984 to 1992 - One of its components was watershed management, including nearshore fisheries development in four provinces. Interventions included mangrove reforestation, coral reef protection, and marine sanctuary establishment, artificial reef and fish aggregating device installation, and mariculture.
The Marine Conservation and Development Program (MCDP)	USAID	<ul style="list-style-type: none"> - 1984 to 1986 - Three small islands in Central Visayas - This relatively small project generated important examples for community-based coral reef management that exemplified the potential sustainable use of coral reef fisheries and habitat
The Lingayen Gulf Coastal Area Management Program (LGCAMP)	USAID & ASEAN	<ul style="list-style-type: none"> - 1986 to 1992 - This project was the first attempt at ICM in the Philippines and addressed one enormous gulf in northern Luzon composed of 2 provinces and 20 municipalities. The project first generated a comprehensive database for planning, which included reliable fisheries data to measure required fishing reduction needs since the most severe problem in the area is overfishing.
The Fisheries Sector Program (FSP)	ADB	<ul style="list-style-type: none"> - 1991 to 1997 - This large program attempted to generate and implement CRM plans in 12 bays known for their rich fisheries, management problems, and the growing poverty of coastal residents. The program tested the ability of the DA to incorporate community-based management as a mainstream approach to CRM.
The Coastal Environment Program (CEP)	National Government Program through DENR	<ul style="list-style-type: none"> - Started in 1993 - Implemented by the regional offices of DENR, it emphasizes community participation and focuses on national marine protected areas (MPA). The CEP is the only national government program to promote the entire coastal environment management, including water quality, mangrove protection, reforestation, and shoreline land use. This project is not solely focused on fishery management.
The Coastal Resource Management Project (CRMP)	USAID	<ul style="list-style-type: none"> - It started in 1992 and ended in 2002 - This project was designed to build on the lessons of past projects and address the current realities about the need to improve coastal management around the country efficiently to address the increasing problems and the demands for technical assistance. - The CRMP promotes coastal management as an essential service of local governments and attempts to provide assistance to stimulate local government initiatives and improve support for community-based management regimes.
The Fisheries Resource Management Project	ADB	<ul style="list-style-type: none"> - It started in 1998 and will continue beyond 2003 - It is being implemented through the DA-BFAR and represents the most significant effort by the government to improve coastal management in the country. - The program is a continuation of the fisheries sector program that addresses the need for CRM in 12 bays.

Source: DENR 2001, Philippine Coastal Management Guidebook Series No.1, P. 28

The Philippines' experience in partnership with various NGOs in numerous Coastal Management projects that began more than four decades ago has enriched the government's and stakeholders' knowledge in marine conservation and protection. In addition, it benefitted the country in terms of capacity building and the funding requirements for its sustainability and long-term management. Furthermore, most of this project provides additional support and actively involves the LGU and local community to participate as it promotes a sense of ownership to the community.

3.3 Philippine Legal and Jurisdictional Framework for Coastal Management

The Philippine plan, legal, and jurisdictional structure for CM have evolved and changed in response to emerging coastal challenges. A legal framework is essential for integrated coastal management so that government policy and other relevant laws will be enforced (Eisma et al., 2005). The Philippine system and regulatory frameworks on the utilization and management of coastal resources span more than 70 years, beginning with the enactment of the Fishery Act in 1932 as the first government initiative (DENR et al., 2001). Balgos and Pagdilao (2002) highlight other major national laws that comprised the legal framework of the coastal management system of the country, such as:

- the 1987 Philippine Constitution;
- the Fisheries Decree of 1975 (Presidential Decree (P.D.) 704);
- the Philippine Environmental Code (PD 1151 and 1152);
- the Local Government Code of the Philippines (RA 7160);
- the National Integrated Protected Areas System (NIPAS) Act of 1991 (RA 7586); and
- the Philippine Fisheries Code of 1998 (RA 8550).

The 1987 Constitution establishes the hierarchy of all laws and provides general guidelines for enacting additional legislation. It provides the basic legal framework for managing, protecting, and conserving its natural resources within its maritime jurisdiction. Therefore, all national laws, rules, and regulations must be consistent in the provision of the Philippine Constitution. In addition, Constitution contains critical provisions that enable local communities to participate in the formulation and execution of local policies and the governance of coastal resources (Mayo-Anda, 2016).

The first fishery act of the Philippines was introduced in 1932, also known as the Fishery Act of 1932 (Aquino et al., 2013). The formulation of the policy was to limit the trade on importation and exportation of marine resources with the U.S. by granting permits by the government to access fishing areas. In 1974, the national government promulgated Presidential Decree (P.D.) No. 534 addresses the increasing problem of unregulated fishing both by commercial fishing and local fisherfolks, which resulted in decreased fish stock and environmental degradation (Aquino et al., 2013). Severe punishment of life imprisonment and high penalties were imposed in violation of this policy. The following year “the Fisheries Decree of 1975 (PD 704) revised and consolidated all laws and decrees about fishing and fisheries to accelerate and promote the fishery industry’s integrated development and keep the country’s fishery resources in the optimum productive condition through proper conservation and protection” (Balgos and Pagdilao, 2002). As a result, the BFAR assumed authority and became the government agency responsible for supervising, preserving, developing, and protecting the country's fishery and aquatic resources.

The concern for the environmental threat of the Philippines brought about the issuance of the Presidential Decree (P.D.) No. 1151 and No.1152, enacted in 1977, and the significant start of establishing the Philippine Environmental Policy. The goal of PD 1151 is to make environmental impact assessments and statements mandatory. As a result, as prescribed in the policy to protect and preserve the Philippine environment, EIA became mandatory for all projects, regardless of proponents (FAO, 2021). Similarly, PD 1152 summarizes environmental policy in its entirety, emphasizing key provisions on air and water quality, land use management, ecological sustainability, and waste management. Thus, PD 1152 balances economic growth and rational exploitation of natural resources by establishing a comprehensive environmental policy.

The RA 7160, or the Philippine Local Government Code (LGC) of 1991, established a critical regulatory regime for Philippine coastal management by initiating various governmental accountabilities for national and local government (White et al., 2006). Important Provisions of RA 7160 include devolution to local government level the primary responsibility for coastal resource management within their municipal water or within the 15 km. The LGUs have the authority to plan and undertake sustainable coastal development within the limit of their capability financially and administratively (White et al., 2006). The LGU “benefited from this code because their municipal waters were expanded from 7 km to 15 km from the shoreline”

(Balgos and Pagdilao, 2002). A year after the LGC of the Philippines was enacted, Congress passed RA 7586, the 1992 National Integrated Protected Areas System (NIPAS) Act.

The NIPAS Act of 1992 addresses the various negative impacts of human activities, such as exploitation of resources, increasing populations, and pollutions. It provides the guidelines, “general principles, and procedures for establishing and managing protected areas” in the country (La Viña et al., 2010). In addition, the Act allows the LGU to identify areas with high marine biodiversity and classify them as protected areas to maintain their natural biological, and physical environment. “A special management body called the Protected Area Management Body (PAMB) is then constituted, comprised of representatives from the National Government, Local Governments Concerned, and the private sector or affected communities, which is tasked with the formulation of management plans to ensure the conservation and sustainable management of the protected area” (DENR et al., 2001).

In 1998, the national government enacted RA 8550, otherwise known as the Philippine Fishery Code of 1998, which became the legal basis for establishing, developing, managing, and protecting marine resources to sustain the growing seafood requirement of the country’s increasing populations (DENR, 2001). “The Code integrates all laws relevant to fisheries and recognizes the principles of ensuring rational and sustainable development, management, and conservation of fisheries and aquatic resources consistent with the primary objectives of maintaining a sound ecological balance, protecting and enhancing the quality of the environment” (Balgos and Pagdilao, 2002). In addition, the law expressly requires the use of coherent coastal area administration. It establishes a sound policy agenda and institutional framework for long-term sustainability in managing fisheries resources (Balgos and Pagdilao, 2002). Another necessary provision of the law is that it promotes and protects the local fisherfolks at the municipal level giving them rights and priority to fish within the 15 km limit of municipal water (Aquino et al., 2016).

The Philippine system on laws concerning coastal management, from national down to local governance, is relatively creating a complicated hierarchy of legislative and executive mandates across various government agencies (DENR et al., 2001). The hierarchy of laws is illustrated in Figure 2, with the Philippine Constitution at the top; thus, all policies, guidelines, and other practices must be consistent with the Constitution's provisions.

3.4 Various government organizations responsible for coastal management

Numerous government organizations regulate and implement the Philippines' current government legislation concerning coastal environment and management activities. As a result, the country has “more than 20 government units exercise separate management powers and mandates over coastal uses and sectors” (World Bank, 2005). The different executive branches of the government have the authority and responsibility to implement all laws and treaties within the mandates. The authority to enforce may be stipulated in the law or issuing appropriate order through Executive Order, Administrative Order, or Memoranda signed by the President of the Philippines (DENR et al., 2001). In addition, the heads of departments may also issue Department Administrative Orders (DAO) to the agencies that fall under their jurisdiction regarding the Department's policies, guidelines, and regulatory requirements.

3.4.1 National Level

Both the DENR and DA-BFAR govern the Philippine CRM. In addition, they “both share a number of other major responsibilities including providing technical assistance, training and extension services, and assistance to local government units such as in establishing marine sanctuaries” (Balgos and Pagdilao, 2002). They also provide policy guidelines in coastal resource management implementation under the national law.

The DENR is the government agency charged with developing, conserving, and managing the country's natural resources, including land, forest, minerals, wildlife, and water (Balgos and Pagdilao, 2002). DENR is also responsible for issuing licenses, permits, and certifications pertaining to the country's natural resource utilization. The BFAR is the responsible agency for fishery resources development, formulating and implementing fishery resource policies. In addition, BFAR is the agency with the mandate on the implementation of the Philippine Fishery Code.

Additional NGAs involved in coastal management include the Maritime Industry Authority (MARINA), the Philippine Port Authority (PPA), and the Philippine Coast Guard (PCG), all of which are under the DOTr. The MARINA regulates domestic shipping and provides policy for the maritime industry. The PPA is in charge of all port development in the country. The PCG, which is the third arm service of the country, is mandated to carry out maritime safety through inspection of foreign and domestic ships, maritime security, and marine environmental protection function. In addition, the Departments of Tourism, Interior and Local Government,

and Finance are also NGAs that are actively involved in coastal management in the Philippines, mainly through collaboration with LGUs.

Table 2: Other NGAs involve in Coastal Management in the Philippines

OFFICE/AGENCY	RESPONSIBILITIES
PHILIPPINE NATIONAL POLICE (PNP)	<ul style="list-style-type: none"> • Strict enforcement of RA 10654 and other fishery, zoning, environmental, and other related ordinance and national laws • Filing and monitoring of appropriate charges to violators • Arrest of lawless elements which violate fishery, zoning, environmental, and other related ordinance and national laws
PNP- MARITIME GROUP (PNP-MARIG)	<ul style="list-style-type: none"> • Act as the lead agency and oversee the implementation of BERT Oplan • Share and exchange pertinent information related to coastal and marine law enforcement • Maintain close coordination with other concerned agencies on inter-operability requirements if necessary
PHILIPPINE COAST GUARD (PCG)	<ul style="list-style-type: none"> • Conduct regular coastal and underwater cleanup and mangrove planting • Conduct seminar and IEC on proper garbage/ waste disposal • Coordinate with LGUs for other marine and environmental activities • Conduct seaborne patrol and enforce all applicable laws • Coordinate with other law enforcement agencies for the implementation of mission and function • Act as liaison for the database of the registered fishing vessel specifically on commercial and foreign vessels that might encroach Balayan Bay • Monitor all illegal activities within the maritime jurisdiction • Provide navigational skills training
BUREAU OF FISHERIES AND AQUATIC RESOURCES (DA-BFAR)	<ul style="list-style-type: none"> • Provides technical and logistical support in terms of fisheries management, regulatory and fishery law enforcement
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)	<ul style="list-style-type: none"> • Provide technical assistance related to MPAs, ICM, mangrove rehabilitation, and management • Issuance of Environmental Compliance Certificates (ECCs) • Monitor compliance to coastal development regulations
DEPARTMENT OF TOURISM (DOT)	<ul style="list-style-type: none"> • Monitor compliance to marine tourism areas, ecotourism guidelines, small island development guidelines

Source: DENR 2001, Philippine Coastal Management Guidebook Series No.1

3.4.2 Regional Level

All the NGAs “have regional and provincial offices through which they conduct their field operations” (Balgos and Pagdilao, 2002). The responsibility of the regional offices is essential in the execution of national laws. In addition, they provide guidelines at the local level through capacity building, education and training, and public awareness. The regional office also facilitates communications from the LGU and provincial level reports and recommendations which may require national attention or support. They can also provide funds through special programs or projects from local initiatives concerning community-based coastal management (Balgos and Pagdilao, 2002).

3.4.3 Local Level (Municipality and City)

In the Philippines, “the responsibility to implement the laws for the majority of activities that influence the terrestrial and coastal marine zones out to 15 km offshore is under the LGUs of the cities and municipalities” (DENR et al., 2001). The passage of RA 7160, also known as the Local Government Code of 1991, empowered LGUs to develop and manage their respective marine areas. “This current legal and policy framework for coastal management creates new institutional roles and responsibilities for national and local governments (municipal, city, and province), non-government organizations, academe, and people’s organizations” (White et al., 2006). The LGU can formulate local legislation and ordinances concerning marine resources management, such as establishing fishing zones, declaring MPAs, imposing fees, rentals, and penalties (Balgos and Pagdilao, 2002).

The Philippine Fishery Code of 1998 provided the LGU the authority to create their own Municipal/City Fisheries and Aquatic Resources Councils (MFARMCs) (Balgos and Pagdilao, 2002). Additionally, the council, which functions as an advisory panel to the LGU, is composed of local officials and representatives from various stakeholders, including NGOs, academia, POs, CSOs, and NGAs, with field offices in the Philippines.

The LGU may have a clear and fluid mandate and authority in coastal resource management. There is still much to address at the municipal level, as most local government units lack the necessary resources to enforce the laws they administer (DENR et al., 2001). Among other challenges and weaknesses in the LGU is the inadequate support of the NGAs in terms of technical and funding requirements, as this is common in developing countries (DENR et al., 2001)

Table 3: LGU level and their responsibilities in Coastal Management

OFFICE/AGENCY	RESPONSIBILITIES
PROVINCIAL GOVERNMENT- ENVIRONMENT AND NATURAL RESOURCES OFFICE (PG- ENRO)	<ul style="list-style-type: none"> • Assist LGUs in the implementation of MSP • Monitor and evaluate results of the implementation of projects and programs related to MSP
LOCAL GOVERNMENT UNIT (LGU)	<ul style="list-style-type: none"> • Review and update Marine Spatial Plan • Finalize Coastal and Water Use Zones of the LGUs • Adopt/ formulate a zoning ordinance • Take the lead in enforcing fishery, zoning, environmental, and other related ordinance and national laws and regulations • Conduct IEC • Provide necessary logistics for the operation of Bantay Dagat
BANTAY DAGAT	<ul style="list-style-type: none"> • Protect the municipal waters by conducting regular seaborne/ foot patrol operations • Provide or act as a witness on the case relative to operations and apprehensions conducted by the team • Attend and participate capacity building activities

Source: DENR 2001, Philippine Coastal Management Guidebook Series No.1

Figure 7: Hierarchy of Laws governing Coastal Management in the Philippines

Types of issuances in the Hierarchy of importance
<ul style="list-style-type: none"> ▪ Constitutions ▪ Republic Acts and International Treaties ratified by the Philippine Congress ▪ Commonwealth Act, Public Act ▪ Presidential Decree or Executive Order (Approved and signed by the President) ▪ Letter of Instructions and Presidential Proclamations ▪ Administrative Orders (Department or Ministry Level) ▪ Ordinances (Local Government Unit)

Source: CRMP, 2004. The Coastal Resource Management Project-Philippines 1996-2004

3.5 Summary

In terms of coastal management, the country has a plethora of national legislation, guidelines, and restrictions that have been in place for decades. Most of these laws are presently being implemented by various NGAs and LGUs concerning the 15 km limit of municipal waters.

Most of the current laws are mandated to carry out by a specific Department created for such purposes as the DENR and BFAR to manage the country's resources. In comparison, the LGU enjoys local autonomy with the supervision of no less than the President through the DILG. Table 4 shows the various legislation in the Philippines about coastal management for more than 30 years (La Viña et al., 2010; Aquino and Correa, 2014). The approval of EO 533, which is the Adoption of ICM as a national policy signed by the President last 2006, is one of the most important regulations to date on coastal management.

Table 4: Timeline of various legislation in the Philippines related to coastal management

Year	Law
<i>Nov 29, 1989</i>	Resolution No. 37: The Cabinet approves the Philippines Strategy for Sustainable Development, as initiated by DENR
<i>Oct 10, 1991</i>	Republic Act No. 7160: Local Government Code
<i>Jun 01, 1992</i>	Republic Act No. 7586: National Integrated Protected Areas System Act
<i>Jun 29, 1992</i>	DENR Administrative Order No. 1992-25: NIPAS Implementing Rules and Regulations
<i>Jun 04, 1997</i>	National Biodiversity Strategy and Action Plan
<i>Jul 28, 1997</i>	Republic Act No. 8435: Agriculture and Fisheries Modernization Act of 1997 (AFMA)
<i>Feb 25, 1998</i>	Republic Act No. 8550: Philippine Fishery Code
<i>2001</i>	Philippine Biodiversity Conservation priority-setting program
<i>Jul 30, 2001</i>	Republic Act No. 9147: Wildlife Resources Conservation and Protection Act
<i>Aug 31, 2004</i>	DENR Administrative Order No. 2004-32: Revised Guidelines on the establishment and management of Community-Based Program in Protected Areas
<i>Oct 14, 2005</i>	DENR Administrative Order No. 2005-21: Revised Guidelines on the Establishment and Management of Integrated Protected Areas Fund
<i>Jun 06, 2006</i>	Executive Order No. 533: Adoption of ICM Policy as a national strategy to ensure the sustainable development of the country's coastal and marine environment and resources and establishing supporting mechanism for its implementation
<i>May 09, 2007</i>	Joint DENR-NCIP Memorandum Circular No. 2007-01: Management of Overlapping Protected Areas and/or their Buffer Zones and Ancestral Domains/Lands
<i>Jul 25, 2007</i>	DENR Administrative Order No. 2007-17: Rules and Regulations Governing Special Uses within Protected Areas
<i>Sep 08, 2008</i>	DENR Administrative Order No. 2008-17: Amending Section 10 of DAO No. 25 Series of 1992 and Providing Criteria in the Identification and Procedures in the Delineation and/or Demarcation of Management Zones within Protected Areas
<i>Dec 24, 2008</i>	DENR Administrative Order No. 2008-26: Revised Implementing Rules and Regulations of Republic Act No. 7586 or the National Integrated Protected Areas System (NIPAS) Act of 1992
<i>Feb 27, 2015</i>	Republic Act No. 10654: Amending Philippine Fishery Code of 1998

Source: (La Viña et al., 2010); (Aquino and Correa, 2014)

This chapter provided an overview of the Philippine context for coastal management—a brief description of its marine resources and the current management of those areas. The evolution and progress of ICM from community-based resource development started through the donor-assisted project. The Philippine experience in the coastal management approach demonstrates that it should be continuously evolving to address emerging issues and challenges as our marine resources and coastal areas continue to suffer from human activities resulting in numerous negative impacts.

There are numerous laws, regulations, and policies in coastal management being implemented by various government agencies at all levels. “The Philippine government has always relied principally on regulatory mechanisms to manage the marine and coastal zones, particularly to control activities, allocate resources among users and potential users and resolve conflicts among competing values” (Eisma et al., 2005).

The Philippine Constitutions and LGC allow local communities and other members of the sectors to formulate, plan, implement, and manage natural resources in the country (Mayo-Anda, 2016).

CHAPTER 4: MSP in BALAYAN BAY

The applicability of MSP to developing countries provides various challenges due to limitations on essential data and socio-economic issues. However, Balayan Bay may provide a valuable case study of this approach in a developing country context. Therefore, this research aims to provide a critical evaluation and analysis of MSP in Balayan Bay to assist the Philippines in considering steps towards institutionalizing a national approach to long-term sustainable ocean governance. Additionally, this case study may offer valuable insights and potential best practices for application elsewhere, including in other developing countries, whilst acknowledging that each situation and case is impacted by its own unique set of geographical, environmental, historical, legal, political, and socio-cultural circumstances.

Balayan Bay is a large bay in the southern Tagalog province of Batangas, which is part of the main island of Luzon (Figure 8). There are nine (9) Coastal Municipalities along its coast (Lemery, Balayan, Mabini, Calaca, San Luis, Taal, Tingloy, Bauan, and Calatagan) (Figure 9). It stretches between 23 to 28 kilometers wide. Indeed, it has been noted that:

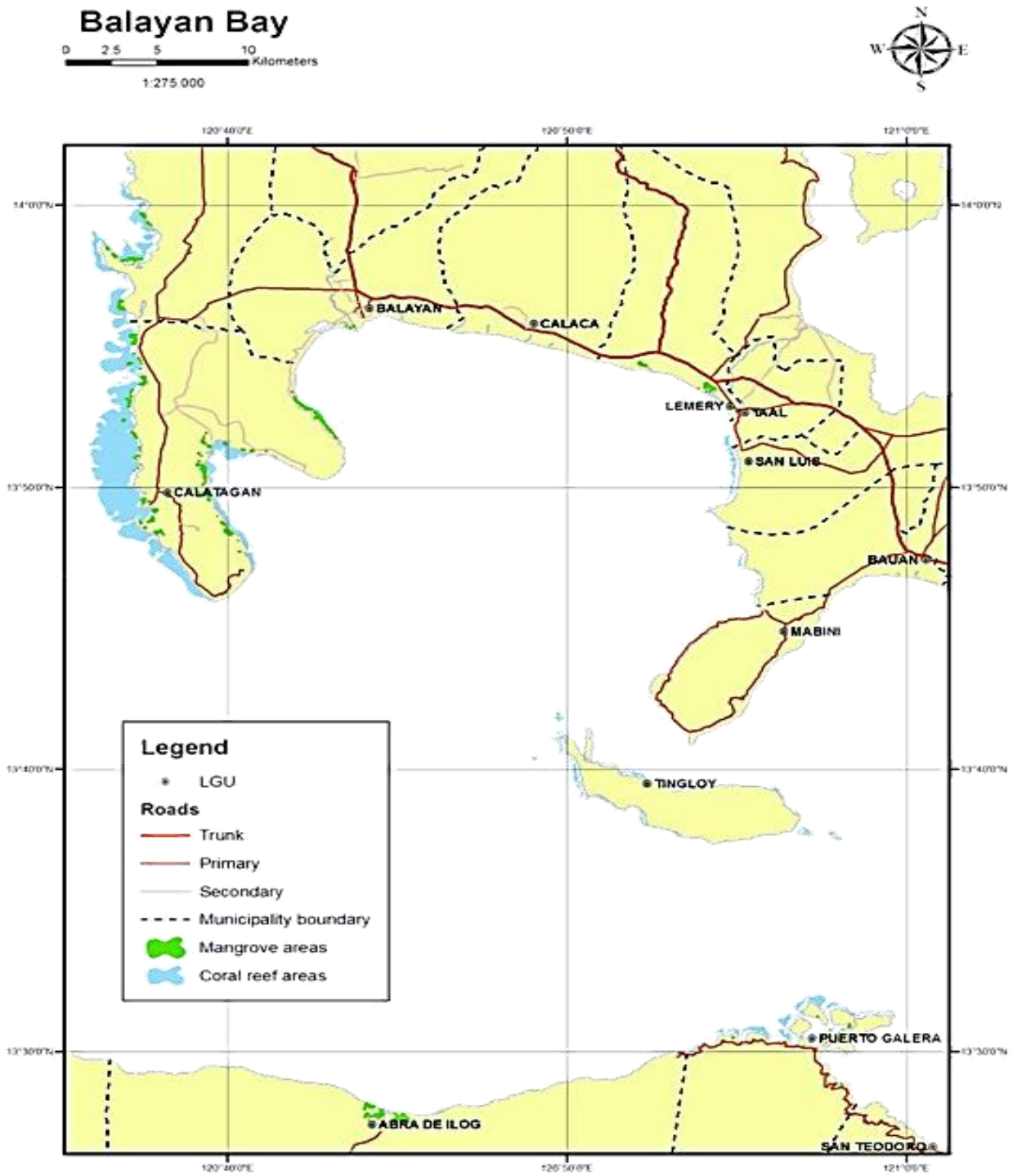
“Balayan Bay hosts a multitude of coastal and sea-based activities, including a fishery characterized by multiple gear types and operations from both the municipal and commercial fishing sectors” (Bacalso & Armada, 2015).

Figure 8: Philippine Map with insert Balayan Bay map



Source: Lira et al., 2020

Figure 9: Map of Balayan Bay



Source: ICMSUP Balayan Bay, 2017

The bay contains designated areas for mariculture, maritime tourism, pleasure, and transit, and navigation. While these activities generate significant revenue for Balayan Bay residents, they also create a potential for conflict due to their competing claims on the bay's limited shore and

marine area (Bacalso and Armada, 2015). To resolve the conflict over the fisheries sector's activities in the bay, LGUs and ECOFISH Project Philippines, a US-funded non-governmental organization (NGO), and others saw the application of MSP and Fisheries zoning as a way to resolve the numerous conflicting demands for the coast and marine water usage. Additionally, the country's initial implementation of MSP is viewed as a viable long-term mechanism for implementing the Integrated Fisheries Management Strategy (Department of Agriculture [DA], 2017). As a result, it was chosen as a case study and prospective example of best practice for this research.

4.1 Establishment of MSP in Balayan Bay

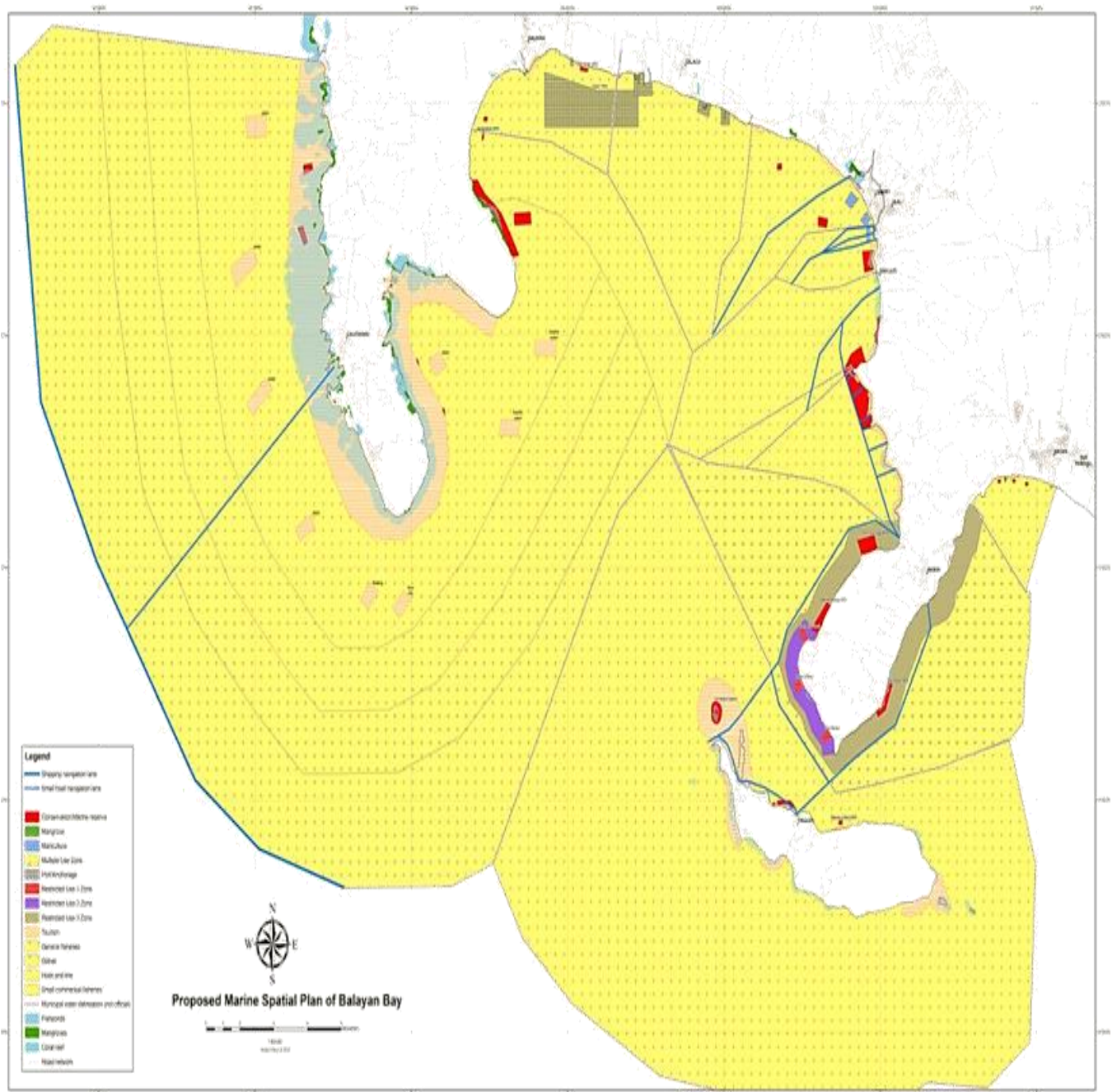
The MSP project in Balayan Bay is the result of a five-year collaboration between an NGO, the above-mentioned ECOFISH Project and the government. The first MSP Workshop was held March 17-19, 2015. The workshop informed participants on the fundamental concepts of MSP approaches to coastal zoning areas and establishing institutional capacity for their application within the structure of ICM. Furthermore, the application of the ecosystems approaches to “fisheries management to resolve issues” (DA-BFAR, 2004).

The MSP of the coastal and municipal waters of the Balayan Bay draws from the experiences of earlier sea use-zoning and marine spatial planning initiatives in the Philippines and other countries (MPP-EAS 1999, Day 2002, Courtney and Wiggin 2003, Doherty 2003, Bataan Coastal Care Foundation Inc.2007, Douvere and Ehler 2009, Ehler and Douvere 2009, Agardy, di Sciara, et al. 2011). The formulation of the ICMSUP for Balayan Bay was based on the potential utilization and water uses as identified in various workshops initiated by the Ecosystems Improved for Sustainable Fisheries (ECOFISH) Project of the DA-BFAR to different LGUs along Balayan Bay.

The purpose of the ICMSUP in the municipal waters of the Balayan Bay focal area municipalities is to zone into seven main categories, which may refer to “coastal and marine zones.” In addition, these main use zones may be further subdivided into sub-zones where the partners have identified conflicts or potential conflicts with other activities under the same category. Figure 10 shows the coastal zoning of Balayan Bay as proposed by the respective LGUs and stakeholders. The Balayan Bay MSP mentions zoning as another tool for addressing coastal and fisheries management issues. However, because of its comprehensive spatial scope,

zoning serves as a consolidating and harmonizing tool for all other management activities that would otherwise be carried out independently. Through sea use zoning within the overall context of MSP, the different activities, their management, and their potential impacts can be viewed and evaluated in a more integrated manner. The different activities, their management, and their potential impacts can be viewed and evaluated in a more integrated manner through sea use zoning within the overall context of marine spatial planning.

Figure 10: Proposed MSP in Balayan Bay



Source: ICMSUP Balayan Bay, 2017

During the MSP process, another significant outcome is identifying all human activities in Balayan bay and how these activities may access or be allowed in the different zones of the bay. Table 5 show the various activities and the restriction of each to the different zones. The restriction in the different zone was categorized into five conditions. 1. Allowed within buffer zones only, guided by MPA ordinances of respective LGUs; 2. Use only installed mooring buoys; 3. With permit/license from the specific office concerned; may be required to pay certain fees; 4. In coordination with the LGUs, POs, or operators (in the case of private business entities) and 5. In designated areas only within the zones.

Table 5: Different activities in Balayan Bay and their restriction to various zone

Activities	Capture Fisheries Zone	CONSERVATION		MARITIME and RELATED ACTIVITIES		CULTURE		Marine Tourism and Recreation Zone
		MPAs	Mangrove Rehabilitation	Shipping and Navigation	Anchorage, Wharves,	Mariculture Zone	Inland Aquaculture Zone	
Hook and line Fishing	Yes 3	Yes (limited) 1	N/A	No	Yes (limited) 3,5	Yes (limited) 3,5	N/A	No
Gillnet fisheries	Yes 3	No	No	No	No	No	N/A	No
Squid Fisheries (jigs, nets)	Yes 3	No	No	No	No	No	N/A	No
Stationary fishing gears, such as fish corrals	Yes 3	No	No	No	No	No	N/A	No
Fishing using pots (ex. fish pots, crab pots, squid pots)	Yes 3	No	Yes (crab pots) 3,5	No	No	No	N/A	No
Spear fishing	Yes 3	No	No	No	No	No	N/A	No
Installation/deployment of fish aggregating devices (FADs)	Yes (limited) 5	No	No	No	No	No	N/A	Yes (limited) 5
Gleaning (non-commercial, for household consumption)	Yes	Yes (limited) 1,3	Yes (limited) 3,5	No	No	No	N/A	No
Bangus fry collection	Yes (limited) 5	No	No	No	No	No	N/A	No
Game fishing	Yes 3	No	No	No	No	No	N/A	No
Seaweeds culture	No	No	N/A	No	No	Yes 3	N/A	No

Activities	Capture Fisheries Zone	CONSERVATION		MARITIME and RELATED ACTIVITIES		CULTURE		Marine Tourism and Recreation Zone
		MPAs	Mangrove Rehabilitation	Shipping and Navigation	Anchorage, Wharves,	Mariculture Zone	Inland Aquaculture Zone	
Culture pens & cages for fish and other fishery products	No	No	Yes (limited to aquasilviculture) 3,5	No	No	Yes 3	N/A	No
Rearing/farming of culture species; Aquasilviculture	No	No	Yes (limited) 3	No	No	Yes (limited) 3	Yes (limited) 3	No
Docking and anchorage	No	Yes (limited) 1,2	Yes (limited) 5	No	Yes	No	N/A	Yes (limited) 5
Passage of small vessels	Yes	Yes (limited) 1	Yes (limited) 5	Yes	Yes	Yes (limited) 5	N/A	Yes
Passage of large vessels	No	No	No	Yes	Yes	Yes	N/A	No
Recreational diving (SCUBA)	No	Yes (limited) 1,3	N/A	No	No	Yes	N/A	Yes (limited) 5
Recreational swimming, snorkeling	No	Yes (limited) 1,3	Yes (limited) 3,5	No	No	Yes	N/A	Yes
Operation of non-motorized recreational water crafts (kayak, paddleboat)	No	Yes (limited) 1,3	Yes (limited) 3,5	No	No	Yes	N/A	Yes
Operation of motorized recreational water crafts (jetskis, etc.)	No	No	No	No	No	Yes	N/A	Yes (limited) 5

Activities	Capture Fisheries Zone	CONSERVATION		MARITIME and RELATED ACTIVITIES		CULTURE		Marine Tourism and Recreation Zone
		MPAs	Mangrove Rehabilitation	Shipping and Navigation	Anchorage, Wharves,	Mariculture Zone	Inland Aquaculture Zone	
Recreational tours (incl. island hopping, mangrove walks, bird watching, etc.)	No	Yes (limited) 1,3	Yes (limited) 1,5	No	No	Yes (limited) 4,5	Yes (limited) 4,5	Yes
Human settlements	N/A	No	No	N/A	No	No	N/A	Yes (limited) 5
Establishment and operation of industries	No	No	No	No	No	No	No	No
Establishment and operation of beach resorts and related establishments	No	No	No	No	No	No	No	Yes 3
Education, research and monitoring	Yes 4	Yes 4	Yes 4	Yes 4	Yes 4	Yes 4	Yes 4	Yes 4

Source: The integrated Coastal and Marine Spatial Planning Use Plan of Balayan Bay

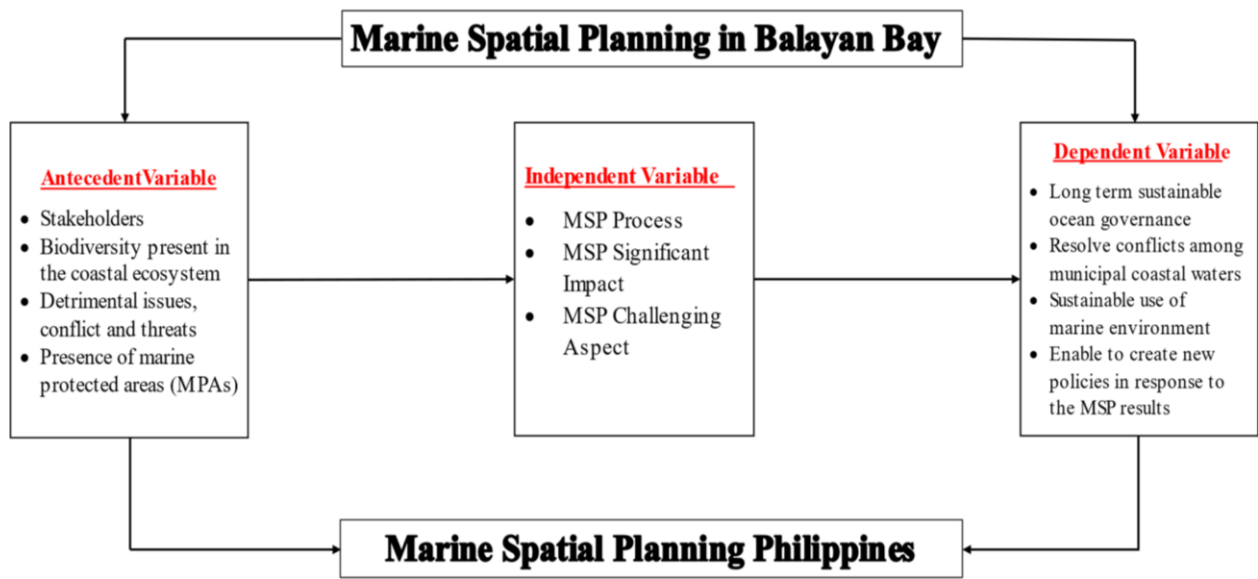
The human activities listed and the different access permitted in the different zones should be integrated into the respective LGU ordinance based on the ICMSUP. In addition, the MSP's impact is expected to be further integrated with existing Comprehensive Land Use Plans (CLUPs), including updated hazard maps, vulnerability assessment maps, risk maps, and their associated action plans for compliance with the ICM and EAFM frameworks. The integration aims to strengthen the relationship between the terrestrial, coastal, and marine environments in Balayan Bay and Batangas Province in general. Figure 11 illustrates the LGU developing a comprehensive municipal development plan integrating both CLUP and municipal CRM plan. The seaward boundary of 15 kilometers from the shoreline includes coral reefs, algal flats, seagrass beds, and other soft-bottom areas, as defined in Republic Act 8550 or the Philippine Fisheries Code (1998) and as amended by Republic Act 10654. Additionally, this plan encompasses the coastal land area one kilometer inland from the high tide line, including mangrove swamps, brackish water ponds, nipa swamps, estuarine rivers, mudflats, sandy beaches, and rocky shores (RA 8550, as amended by R.A. 10654).

4.2 Theoretical Framework illustrating Balayan Bay MSP

The present study will assess the significant outcomes of MSP by examining the case of Balayan Bay in Batangas as a model for other coastal areas in the Philippines and the significant relationship between the process and challenging aspects of MSP, and its relevant output gave the demographic characteristics of MSP. Three (3) variables comprise the framework: antecedent, independent, and dependent. Figure 12 illustrates the case of Balayan Bay MSP through the theoretical framework, which may apply in other regions in the country.

The model illustrates how MSP is used in Balayan Bay as a model for all coastal areas in the Philippines. Although different areas may have unique issues and concerns and peculiarities in other surroundings, this framework may aid planning, using Balayan bay as a base model.

Figure 11: Balayan Bay MSP Theoretical Framework



4.2.1 Antecedent Variables

The antecedent variable is composed of demographic characteristics specific to the Balayan Bay case, such as stakeholders from various municipalities, biodiversity present in the marine ecosystem, negative issues, conflict, and threats, the budget allocated for MSP activities, and the presence of marine protected areas (MPAs) in the various municipal coastal waters. These variables may affect the relationship between the two variables, or they may affect the two variables separately without directly affecting the independent and dependent variables. Stakeholders include direct users of coastal and marine spaces (such as fishermen, coastal communities, resort owners, and fishing vessel operators), representatives from various local government units, and representatives from various government agencies responsible for marine waters management. The coastal ecosystem's biodiversity includes mangroves, coral reefs, and seagrass. These three ecosystems are mutually dependent on one another for the conservation of fishery resources. In addition, coral reef and mangrove ecosystems provide habitat for various organisms, including nurseries and feeding grounds for many of the region's commercial fish species, as well as a storm shelter and recreational value.

According to this study, biodiversity resources such as fisheries, coral reefs, shellfish, seagrasses/seaweeds, and mangroves benefit coastal communities in Balayan Bay both directly and indirectly. The Balayan Bay is a haven for biodiversity. The presence of charismatic species such as spinner dolphins, sea turtles, and sperm whales demonstrates the Bay's biological diversity (ICMSUP, 2017). Detrimental issues, conflict, and threats have resulted

from uncontrolled human and economic activities and less transparent, uncoordinated, and inefficient governance, threatening biodiversity and coastal/marine productivity. Conflicts over resources also occur frequently between small-scale and commercial fishers, tourist resorts, and indigenous fishing communities. The absence of proper demarcation of municipal water and ambiguous distinctions between productive and functional zones result in inefficient overlapping and multiple uses of the Bay. While the establishment of MPAs has been used to address problems of declines in fisheries and the destruction of coral reefs

4.2.2 Independent Variable

The independent variable in this study represents the processes, significant impact, and challenging aspects of Marine Spatial Planning in the case of Balayan Bay. The MSP process entails zoning and establishing the nine coastal municipalities that makeup Balayan Bay. Calatagan Municipality is located on the Calatagan Peninsula. The towns of Balayan, Calaca, Lemery, Taal, San Luis, Bauan, Mabini, and Tingloy border the Balayan Bay. Each of the nine municipalities mapped out the respective zoning of their municipal water, as shown in Figure 12 to Figure 20 (ICMSUP Balayan Bay, 2017).

Figure 12: MSP of LGU Calatagan

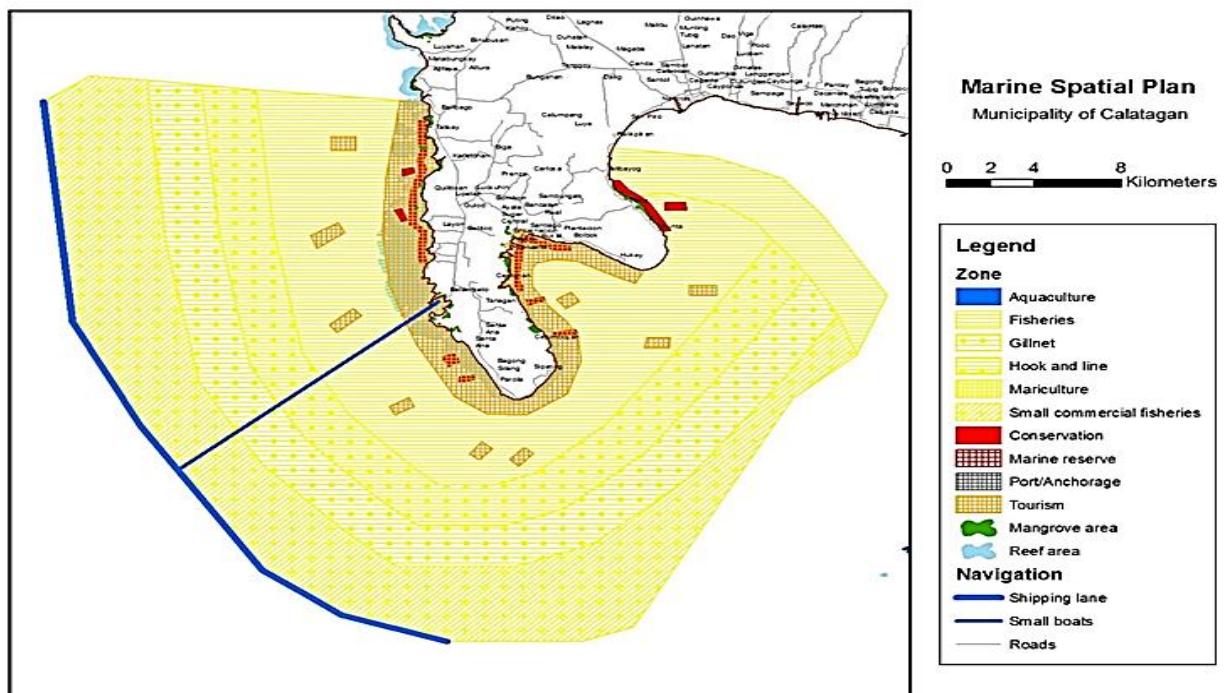


Figure 13: MSP of LGU Balayan

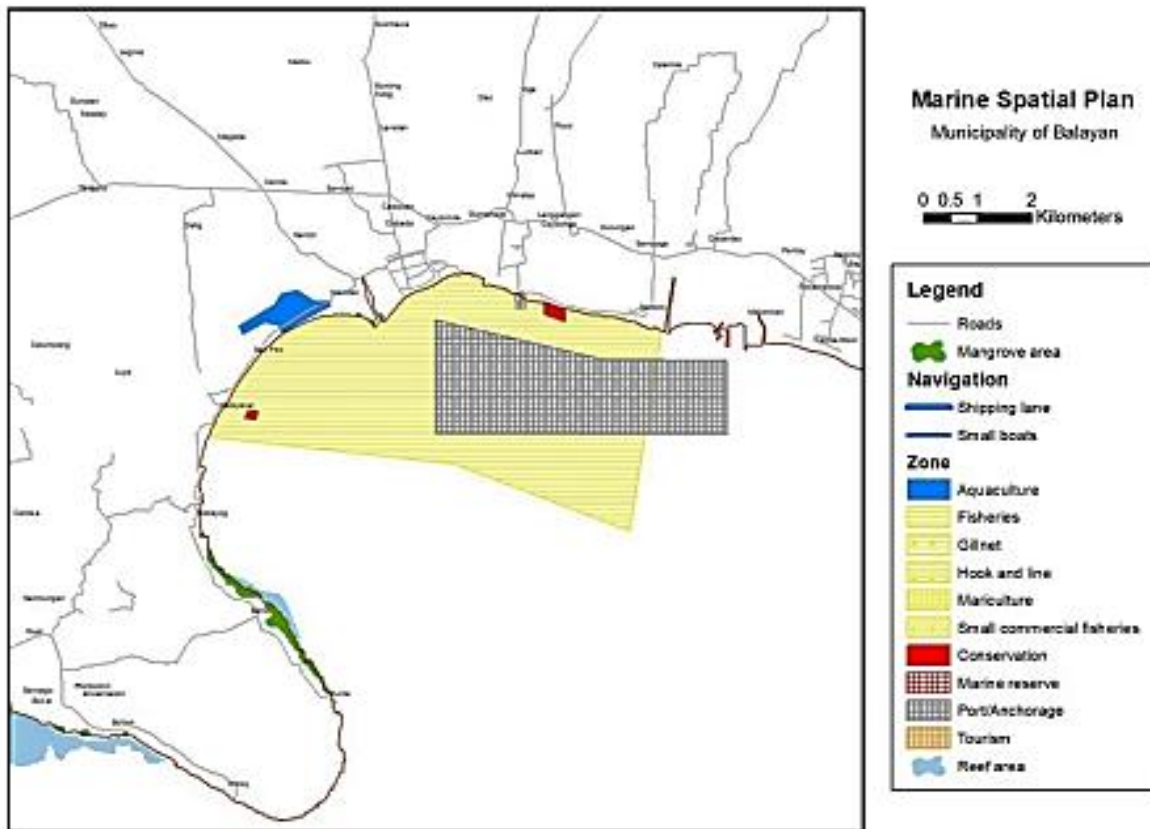


Figure 14: MSP of LGU Calaca

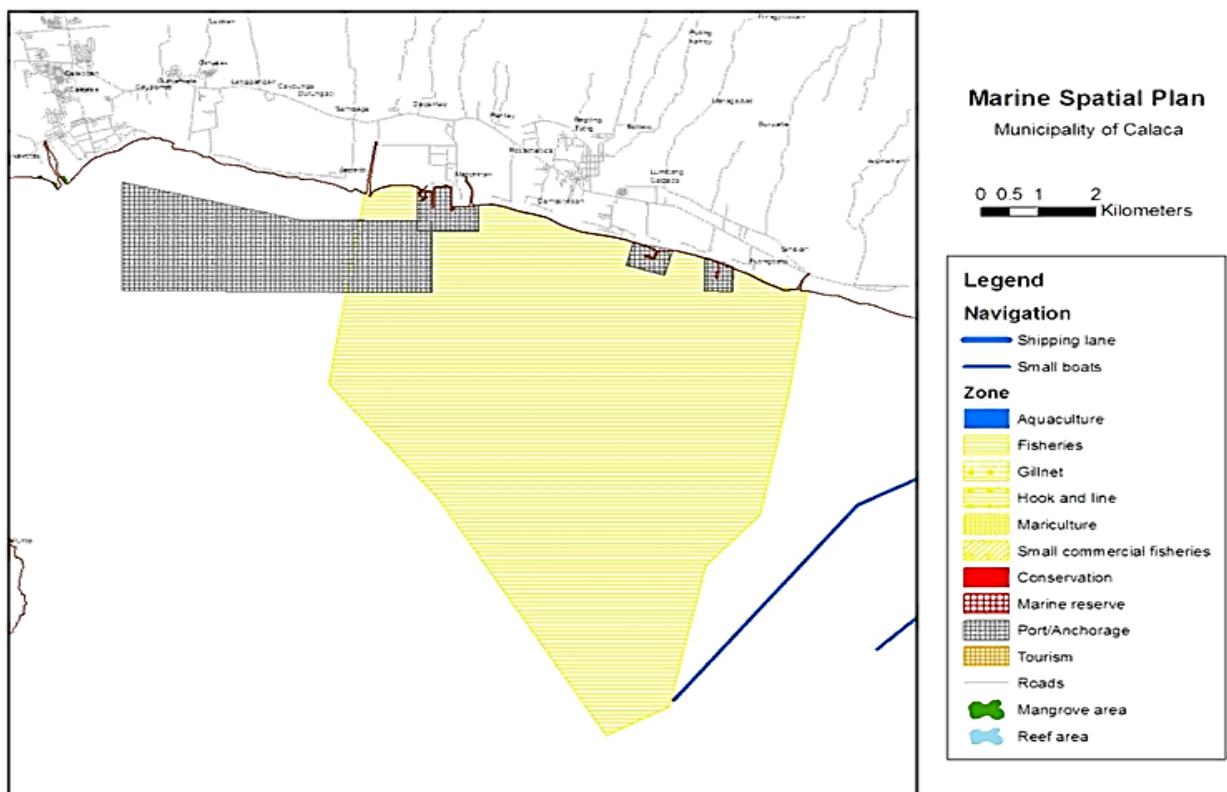


Figure 15: MSP of LGU Lemery

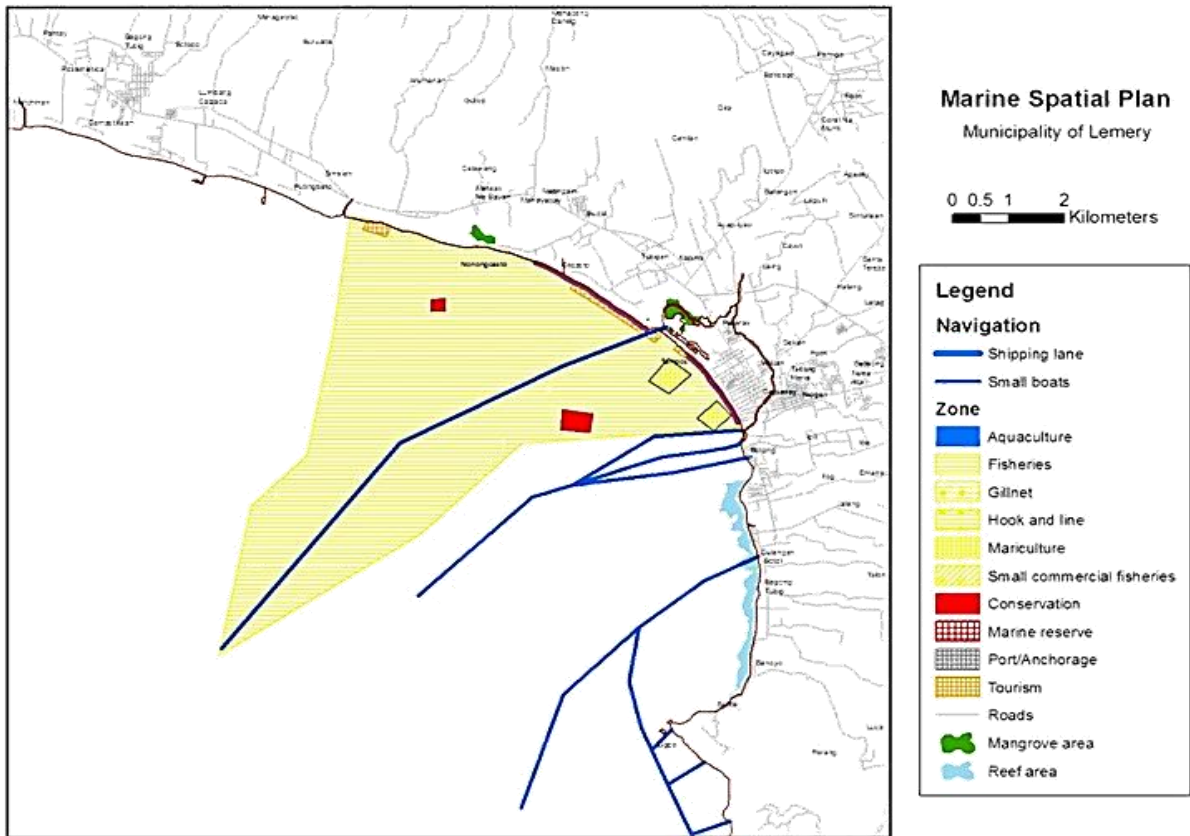


Figure 16: MSP of LGU Taal

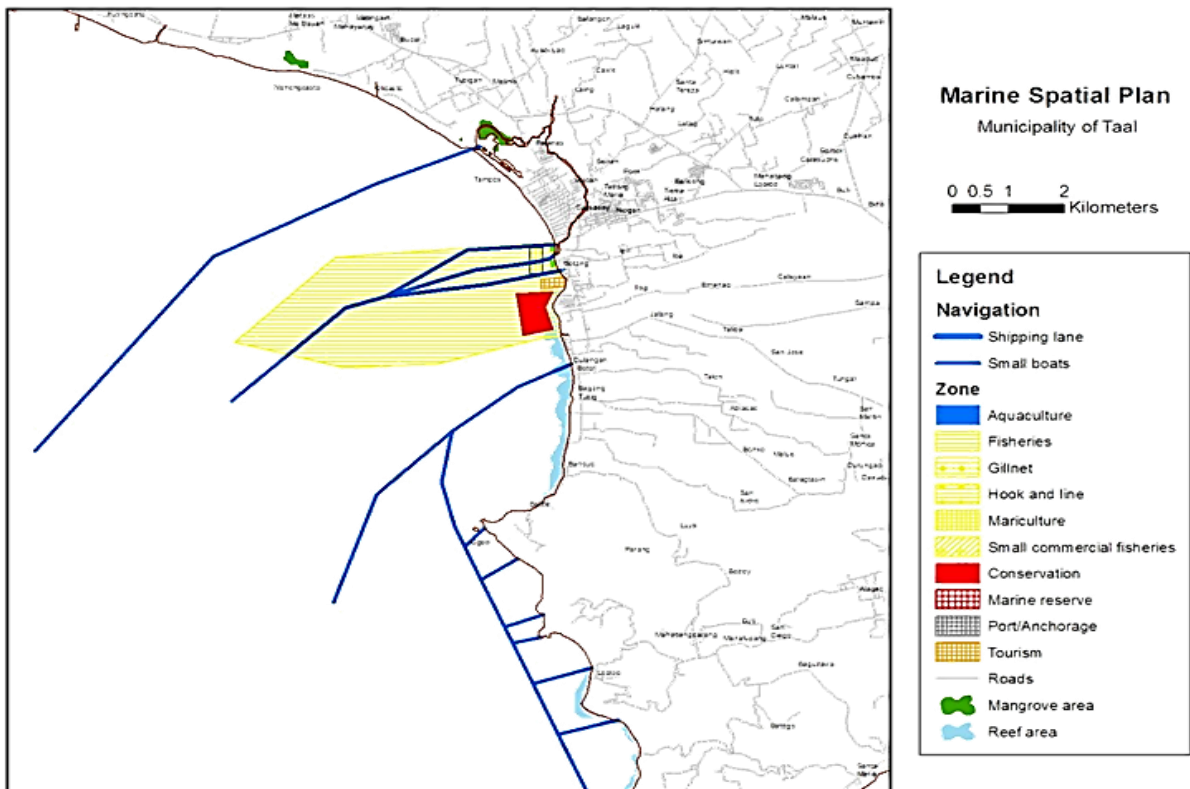


Figure 17: MSP of LGU San Luis

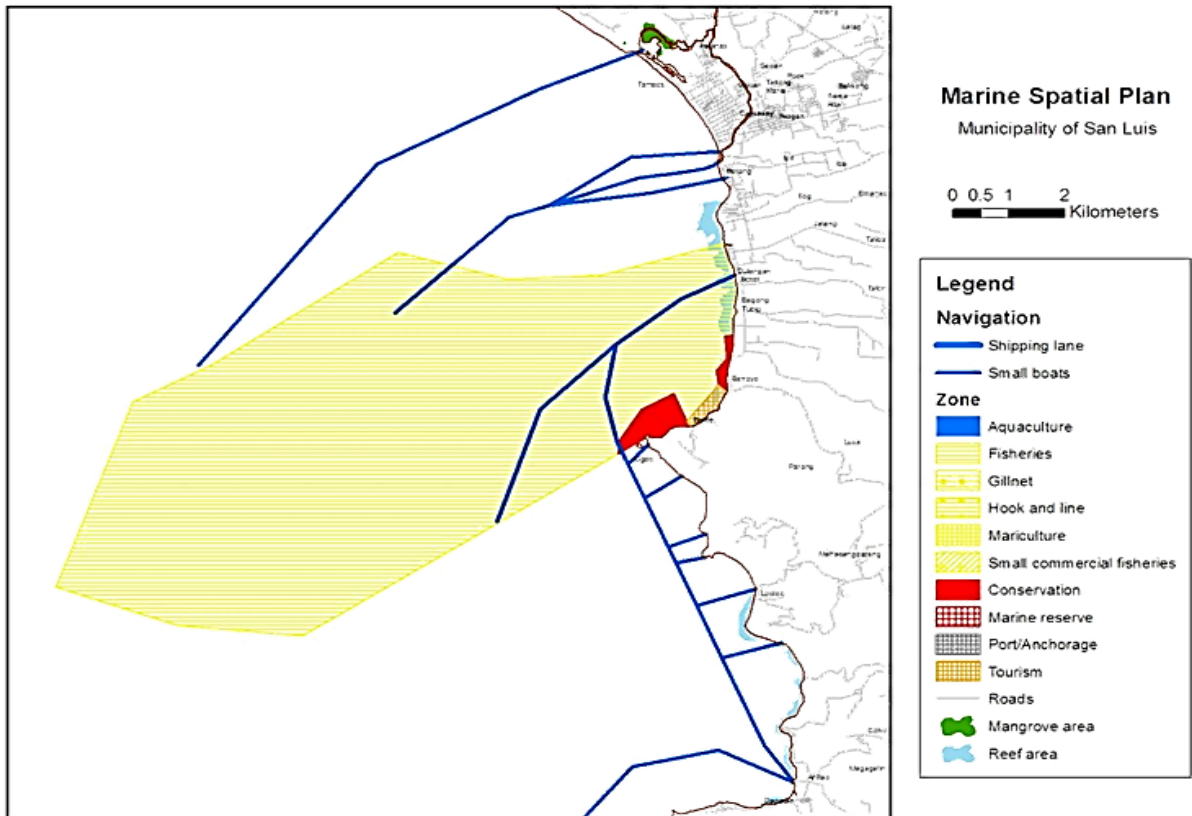


Figure 18: MSP of LGU Bauan

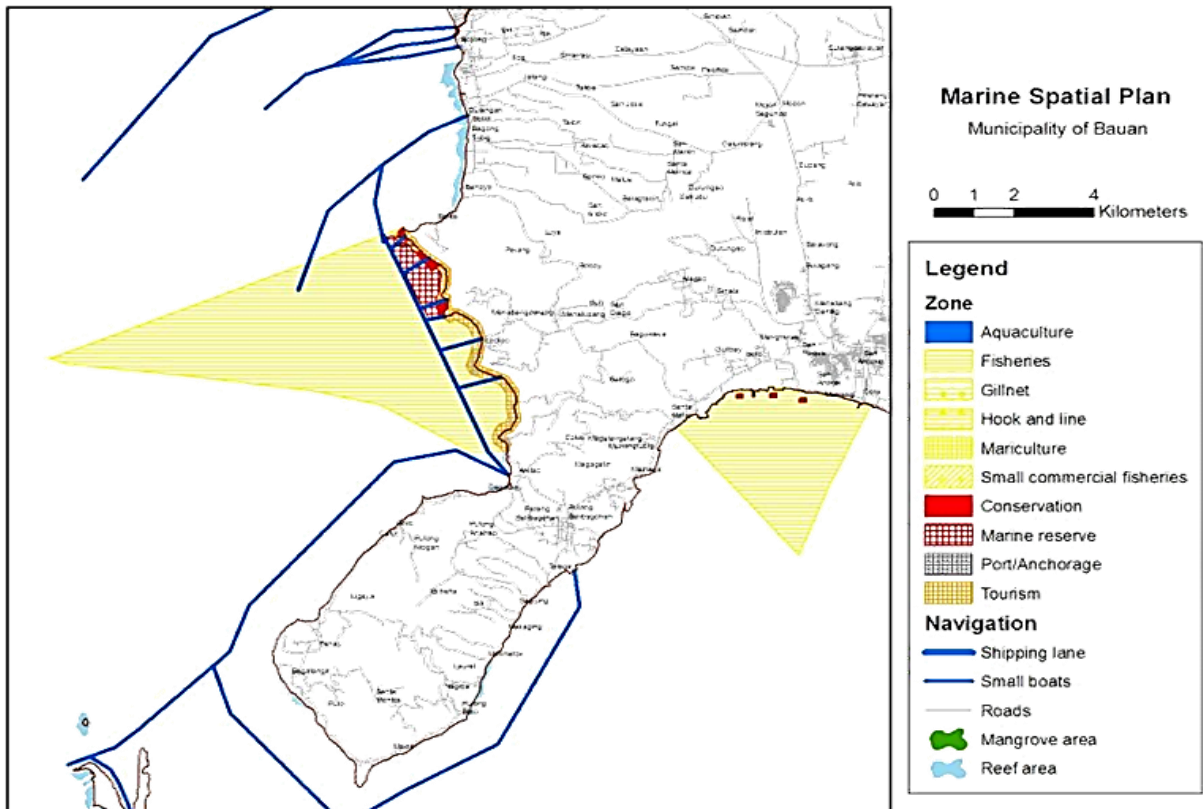


Figure 19: MSP of LGU Mabini

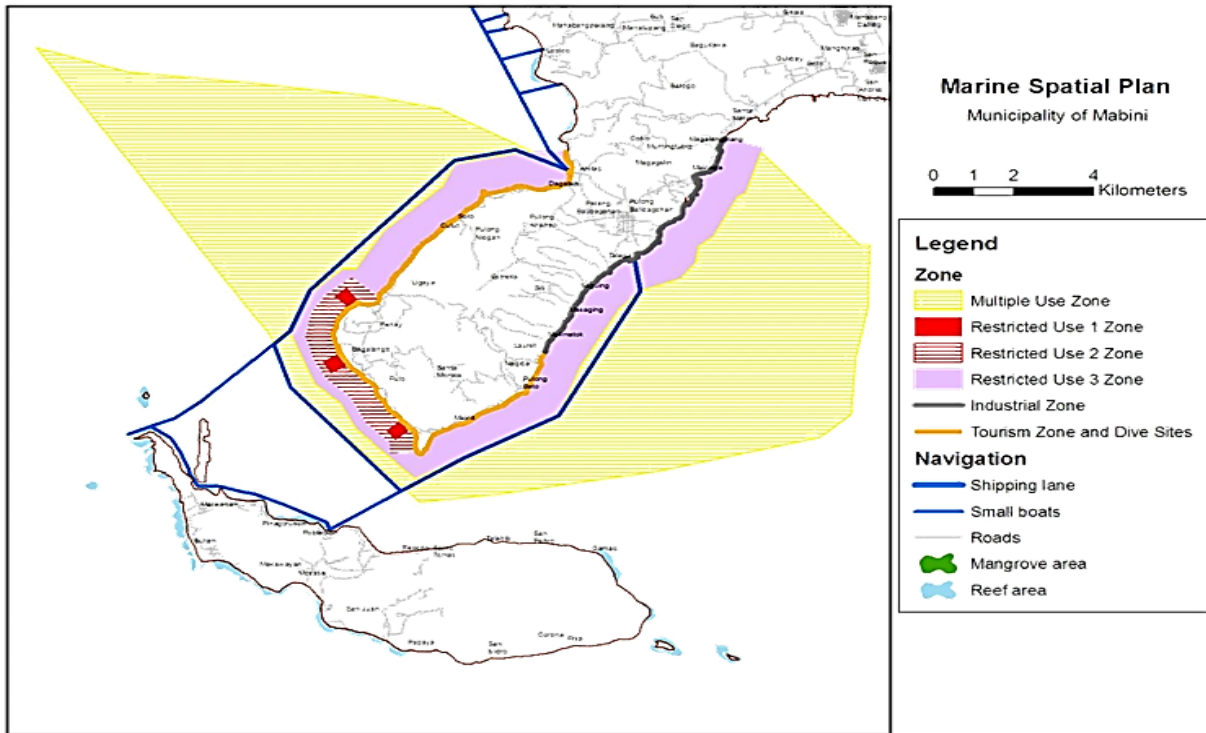
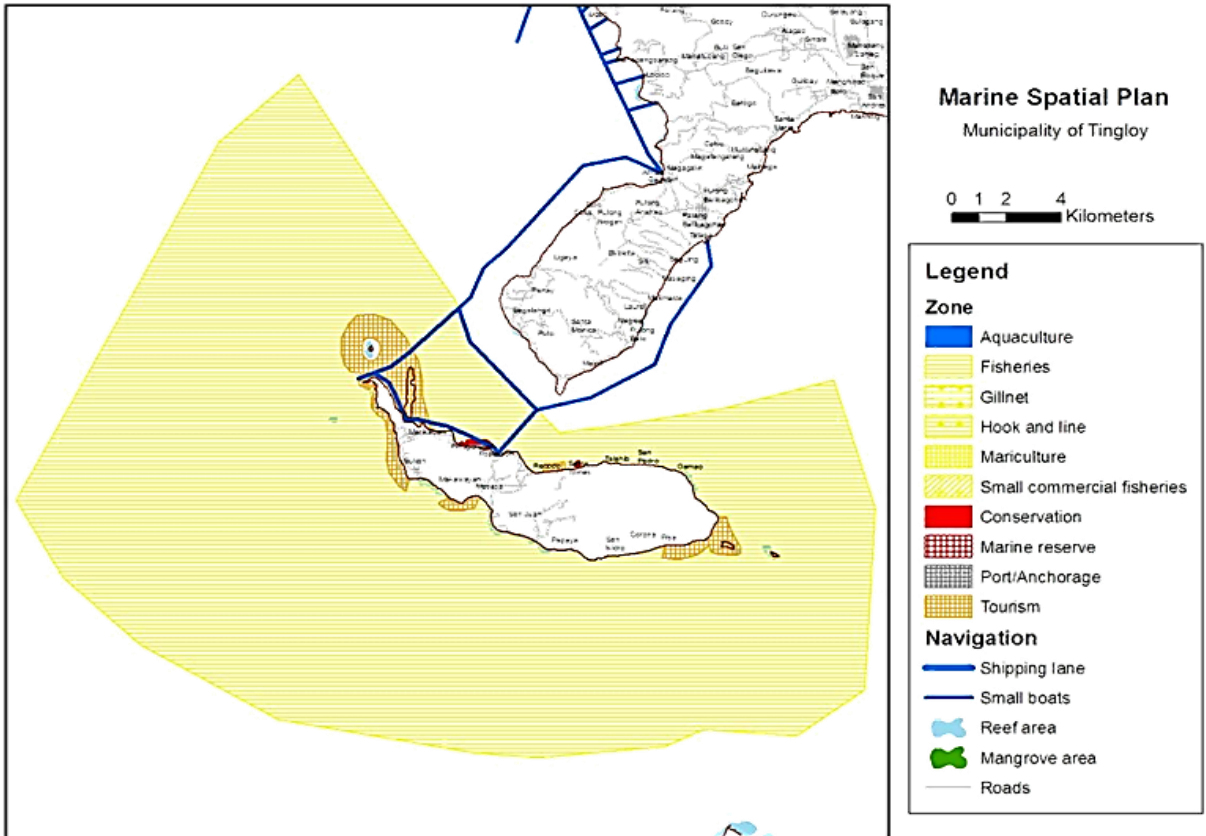


Figure 20: MSP of LGU Tingloy



Source: ICMSUP Balayan Bay, 2017

4.2.3 Dependent Variable

The dependent variable consists of the effects of the two variables, which could result in the application and adoption of MSP in the Philippines, not only in Balayan Bay. Therefore, the output of MSP in the Balayan Bay case can be a model approach that can be used nationwide in the Philippines. These outputs are long-term sustainable governance, resolve conflicts among municipal waters, sustainable use of the marine environment, and create new policies in response to the MSP results.

The outcome of the dependent variable depends on the listed antecedent variables on the theoretical framework, in which case it will result in independent variables. The dependent variable will depend on the variation of the independent variables. In the Theoretical framework, achieving the listed independent variables such as; MSP process, its significant impact, and overcoming the MSP challenging aspect will result in the desired dependent variables.

4.3 Summary

The Philippines is well-known for its community-based ocean management systems, which include local fisheries management and marine protected areas. However, sectoral management approaches have resulted in perpetual conflict between competing uses and environmental management failure. Failures are attributed to a lack of integration of disparate plans, conflicting policies, ineffective data management, and incompatible jurisdictional arrangements. (Eisma et al. 2005; Mercado, 2011). Municipal governments have jurisdiction over municipal waters (15 kilometers offshore from the shoreline) under the LGC of 1991, as reaffirmed by the Fisheries Code of 1998 (Wagner 2012).

Additionally, the government has a number of juridical units that exercise distinct management powers, authority, and mandates (Eisma et al., 2005). In the Philippines, integrated coastal management is a natural response to local conditions or multi-faceted problems in their coastal areas. Therefore, MPAs are typically established as part of a broader community-based resource management program within the local government (White et al., 2005).

Adoption of the ICMSUP by each LGU shall be formalized through an enabling policy/instrument (e.g., Memorandum of Understanding with SB Resolutions, Zoning Ordinance). The Integrated Coastal and Marine Spatial Use Plan of the Balayan Bay was produced through an inter-LGU collaborative initiative and working in partnership with a wide

range of local stakeholders and other provincial and national agencies in the province. The designated technical working group (TWG) composed of representatives from the provincial government and other line agencies and chaired by the PG-ENRO shall coordinate the implementation, monitoring, and review of this integrated plan. While the LGUs are primarily responsible for implementing the Plan within their respective municipalities, sectoral policies and mandates remain within the existing government offices and agencies.

Each LGU should develop a strategic communication plan with stakeholders, a priority activity throughout the marine spatial planning process, from preparatory to implementation, monitoring, and evaluation. Stakeholders include policymakers and decision-makers, as well as direct users of coastal and marine areas. To effectively communicate the Plan to the various stakeholder groups, the following strategies shall be used: public hearings, community meetings, information brochures and flyers containing the Zoning Map and Consolidated Activity Guidelines, posters, radio plugs, and posting of articles, reports, and regular updates on the LGUs' and major corporations' websites or e-newsletters (ICMSUP, 2017).

Apart from clear institutional arrangements and supporting policies, the Plan's successful implementation will require the following elements: compliance and enforcement mechanisms, public awareness promotion, human resource capacity development (for implementers), and financing mechanisms. The LGUs shall specify the scope of their respective zoning plans within the bounds of their municipal waters for law enforcement purposes and without prejudice to the resolution of boundary disputes. The establishment and imposition of use or entry fees and other permits for the various zones shall also remain the prerogative of the individual LGUs when deemed necessary, particularly when using/entry fees and permits are deemed to facilitate effective use regulation.

Monitoring and evaluation (M&E) should be a continuous process that allows for examining the impact of the Balayan Bay LGUs' Integrated Coastal and Marine Spatial Plan. The M and E are critical in measuring the effectiveness of the plan's policies and their effects, determining what else needs to be done if the plan or portions of it are deemed ineffective in achieving the Plan's objectives and identifying necessary modifications to the plan and its implementation in order to improve. It is critical to identify indicators, benchmarks and targets directly related to the Plan's objectives. These indicators will then be used to assess the Plan's effectiveness and performance.

This framework is the basis for applying and adopting MSP in the Philippines from the output of the MSP approach in Balayan Bay, which involves the three variables (antecedent, independent, and dependent). It determines the relationship between these variables for sustainable governance of municipal coastal waters, preserving and protecting MPAs and marine ecosystems, and resolving conflicts.

CHAPTER 5: METHODOLOGY AND RESULT

5.1 METHODOLOGY

This chapter will discuss two important points: the approach used and the outcome of data collecting via a semi-structured interview. The purpose of this study is to examine MSP as a mechanism for resolving conflict between stakeholders and its substantial influence, based on an interview with the MAO and MPDO of nine municipalities in Balayan Bay.

5.1.2 Study Design

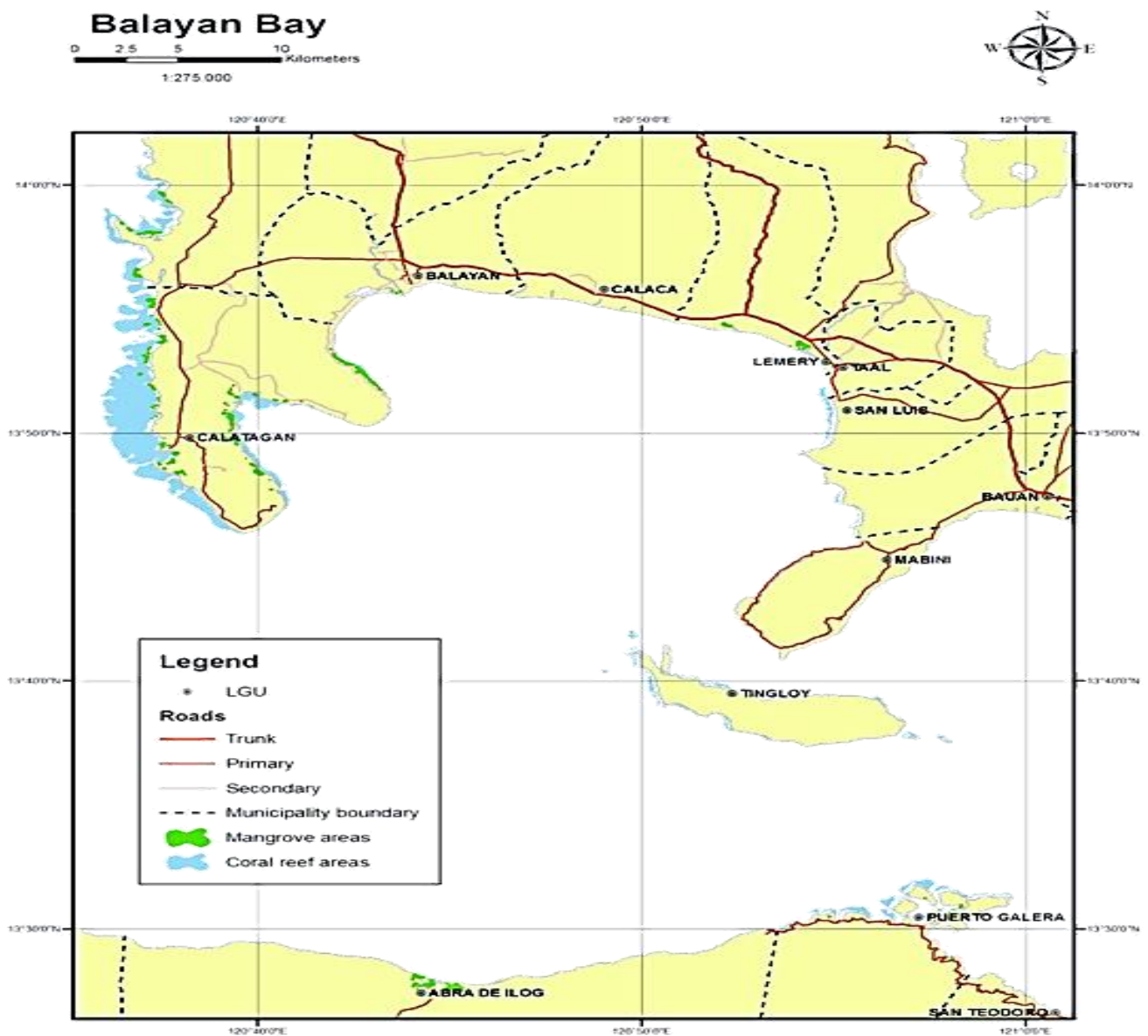
The study adopted a qualitative approach and relied on semi-structured interviews to address the research questions. Balayan Bay was chosen as a case study for MSP in the Philippines in order to understand the substantial impact of MSP in a relatively large marine area governed by nine municipalities. Additionally, this study may provide critical insights into the use of MSP elsewhere in the Philippines and potentially beyond, using the Balayan Bay as a model MSP that can be improved in the future.

Qualitative research is a technique in which the researcher is permitted to evaluate participants based on their own experiences, including through interviews (Hennick et al., 2020). The semi-structured interview "is best used when you won't get more than one chance to interview someone and when you will be sending several interviewers out into the field to collect data" (Cohen and Crabtree, 2006). Because MSP is relatively new in the Philippines, the qualitative method of a semi-structured interview is most suitable for this research. Thus, through interviews, the personal perspectives and experiences of those participating in the MSP process in Balayan Bay gave helpful information. The student performed an online interview with nine MAO and nine MPDO from the nine coastal municipalities in Balayan Bay as the primary data source for this study. Unfortunately, the present constraint due to the pandemic made travel so much challenging. Thus eliminating the chance of personal interviews and field works. Online is the only communication platform; however, sometimes it is also quite a challenge because of the time difference. Stakeholders and interviewees are busy, and it takes a while to do a scheduled interview for them. During the period of the interview, the student may suffer zoom fatigue. From 16 August to 10 September, the period for conducting the interviews lasted one month.

5.1.3 Study Area

The focus for this study is Balayan Bay (Figure 9) Balayan Bay is located in the Southern Tagalog of Luzon under the Province of Batangas. Along its coast lies nine (9) Coastal Municipalities (Calatagan, Balayan, Calaca, Lemery, Taal, San Luis, Bauan, Mabini, and Tingloy). "It stretches between 23 to 28 kilometers wide. Balayan Bay hosts a multitude of coastal and sea-based activities, including a fishery characterized by multiple gear types and operations from both the municipal and commercial fishing sectors" (Bacalso & Armada, 2015).

Figure 21: Map of Balayan Bay, Batangas



Source: ICMSUP Balayan Bay, 2017

5.1.4 Participants

A total of 18 interviewees were selected for this study, comprised of nine Municipal Agriculture Officers and nine Municipal Planning Development Officers from the nine LGUs within the Balayan Bay. Table 5 below is the list of the participants with their respective positions and LGU affiliations.

Table 6: List of Respondents

Participants	Gender	Organization	Position	Type of Interview
P1	F	LGU Balayan	MAO	Semi-structured Interview
P2	F	LGU Balayan	MPDO	Semi-structured Interview
P3	F	LGU Bauan	MAO	Semi-structured Interview
P4	M	LGU Bauan	MPDO	Semi-structured Interview
P5	F	LGU Calaca	MAO	Semi-structured Interview
P6	M	LGU Calaca	MPDO	Semi-structured Interview
P7	F	LGU Calatagan	MAO	Semi-structured Interview
P8	M	LGU Calatagan	MENRO	Semi-structured Interview
P9	M	LGU Mabini	MAO	Semi-structured Interview
P10	M	LGU Mabini	MPDO	Semi-structured Interview
P11	M	LGU Lemery	MAO	Semi-structured Interview
P12	F	LGU Lemery	MPDO	Semi-structured Interview
P13	F	LGU Taal	MAO	Semi-structured Interview
P14	F	LGU Taal	MPDO	Semi-structured Interview
P15	F	LGU Tingloy	MAO	Semi-structured Interview
P16	F	LGU Tingloy	MPDO	Semi-structured Interview
P17	F	LGU San Luis	MAO	Semi-structured Interview
P18	M	LGU San Luis	MPDO	Semi-structured Interview

5.1.5 Interview Structure

The Coast Guard Station Batangas and its Coast Guard Sub-stations assisted in identifying all participants. All participants received formal letters, including the consent form, an information page, and the research questions. The letter also included some brief information about the researcher, the primary issue, and the research paper's aims. Copies of these documents are provided in the Appendices of this study.

Due to the pandemic, existing travel restrictions, and global safety procedures, all interviews were performed via various online communication platforms such as Zoom, WhatsApp, Viber, and Messenger. There are eight questions for the MAO and nine questions for the MPDO. As noted above, challenges and constraints arose because of this mode of data acquisition rather than traditional face-to-face interviews being possible. These challenges were, however, predominantly overcome.

Before the interview began, the student was given a brief introduction. Then, eight questions about the MAO and nine about the MPDO were asked (Appendix C and D). Each interview lasted around 15 to 20 minutes, during which participants were encouraged to speak freely in English, Tagalog, or Taglish (mix of English and Tagalog). The interview was taped, and the student took notes throughout. The interview was transcribed and coded to generate several themes for examination in this study.

5.1.6 Research Ethical Consideration

The responder may provide sensitive and private information during the semi-structured interview, and the interviewer must treat these matters with the highest confidentiality and responsibility. According to DeJonckheere and Vaughn (2018), “ethical attitude should incorporate respect, sensitivity, and tact towards participants throughout the research process.” After thoroughly examining the supplied interview questions, the WMU Research and Ethics Committee (WMU-REC) approved the student's application. This system guarantees that the student's actions adhere to the WMU-norms RECs and regulations. The interview began following the committee's consent. Before the interview, the researcher reminded the participants of the consent form and the need to maintain the student-participant interview confidentiality. The consent letter expressly stated that all research materials, notably the interview, would be retained only for the duration of the study and would be removed when the manuscript was submitted. Additionally, the participants' identities were kept anonymous, and their names were replaced with the codes P1, P2, P3... etc.

5.2 RESULTS

As stated in the preceding chapter, this study intends to accomplish numerous objectives, including examining the Philippines' current ocean governance system and highlighting its shortcomings, significant challenges, and gaps. Second, ascertain the extent to which maritime activities occur in Balayan Bay and the management strategy employed locally. Third, discuss the impact of current national legislation and policy on MSP implementation in Balayan Bay. Finally, make a rational conclusion based on this research regarding the benefits of MSP in resolving future problems amongst various sea users.

These objectives were intended to be accomplished by the following research questions. First, describe how MSP aided in resolving competing activities at Balayan Bay. MSP has a significant impact on a variety of stakeholders. The difficulties encountered during the MSP process and how they were resolved. Finally, list additional activities that could help improve the MSP process in Balayan Bay even further.

According to the study questions, the semi-structured interview was to be conducted with a cross-section of municipal government officials. Eight are Municipal Agriculture Officers, while eight are Municipal Planning and Development Coordinators. Following the transcription of all interviews, four similar themes emerged: the zoning categorization, education, information, and awareness; implementation and enforcement; and finally, future activities to strengthen MSP.

5.2.1 Water Zoning Categorization

Since nine coastal towns share this body of water, all participants underlined the significance of delineation and categorization of distinct zones. The lack of effective municipal water delineation is the source of conflict between fishers from the nine municipalities. Therefore, before implementing MSP, all LGUs are concerned about certain overlapping boundaries with other municipal waters.

Table 7 illustrates the several zone classifications in Balayan Bay that, through the MSP, assist in resolving problems among stakeholders, particularly small to medium-scale fishers. The selected zones comprise municipal fishing zones managed by the nine LGUs, conservation zones for mangrove conservation and reforestation, and declared MPAs. The aquaculture zones are divided into marine and land aquaculture zones. Tourism zones are assigned for tourism

and related recreational activities, whereas other maritime activity zones, such as shipping lanes and anchorage areas, are designated for other marine activities.

Table 7: Balayan Bay Zoning Categorization

Category of zones	The number of participants with positive views in water zoning
Municipal Fisheries Zone	18
Conservation Zones	6
▪ Mangrove conservation and reforestation areas	
▪ MPAs	18
Culture Zones	4
▪ Marine and Land aquaculture	
Tourism Zone	5
Other maritime activities	7
▪ Shipping lanes	
▪ Designated anchorage area	2

5.2.2 Education, Information, and Awareness of all Stakeholders

The MSP at Balayan Bay is one of the first MSP efforts in the Philippines, having been established through collaboration between non-governmental organizations and the government. Ten participants stated that one notable influence on different stakeholders, including those working in the public sector, is their understanding and awareness through participating in numerous seminars, meetings, and conversation sessions. The participants also shared their perspectives on how education, information, and awareness can influence the perceptions and attitudes of those involved in the MSP implementation process in Balayan Bay, with everyone providing a unique perspective. The positive impact of capacity building through education, information, and awareness is shown in Table 8, reflecting the participants' opinions.

Table 8: Positive impact of EIA on stakeholders

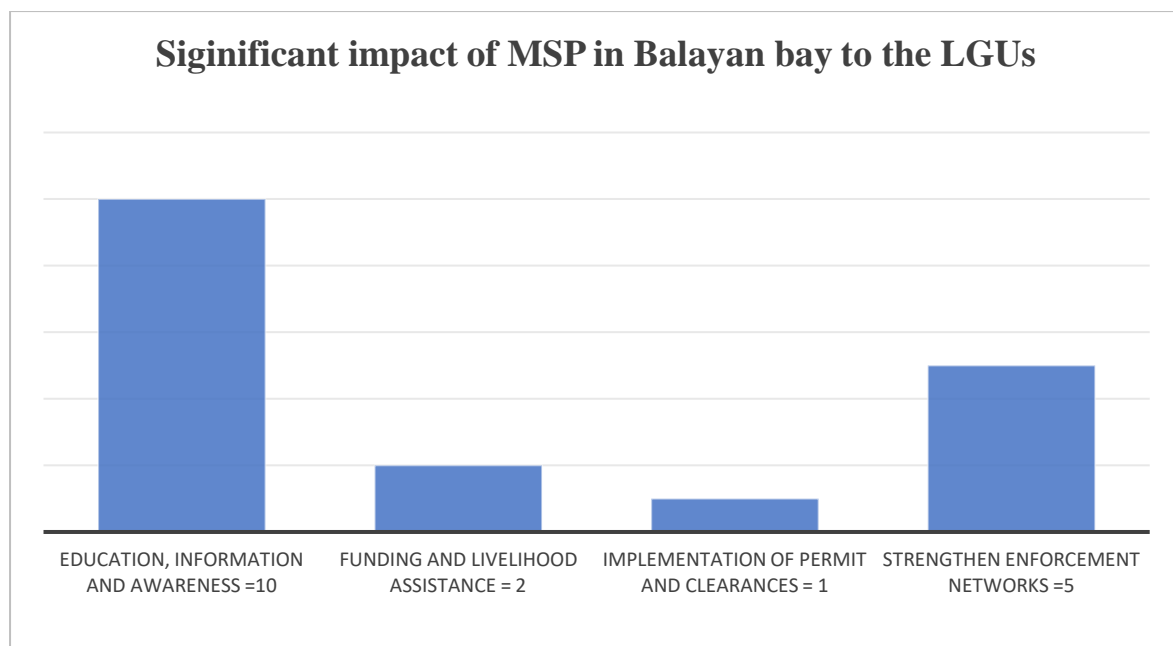
Impact of education, information, and awareness to stakeholders	
P1	<ul style="list-style-type: none"> • The local fisherfolks became more educated about the national and local ordinances of the LGU.
P2	<ul style="list-style-type: none"> • Awareness of the fisherfolks in Balayan bay of the designated fishing area by their respective LGUs • Stakeholders took an active role in the conservation and maintenance of Balayan Bay's declared conservation zone.
P4	<ul style="list-style-type: none"> • Stakeholders, particularly fisherfolks, became more cooperative and obeyed the local ordinance of the LGU
P7	<ul style="list-style-type: none"> • Understand the importance of having MSP in the preservation of Balayan bay and how it helps in the sustainability of the fishing
P8	<ul style="list-style-type: none"> • Stakeholders actively participate in the formulation of local resolutions and ordinances concerning maritime activities and programs of the LGU on Balayan Bay
P9	<ul style="list-style-type: none"> • Resolve the problem of commercial fishing encroachment to other municipal waters • It establishes building networks through active collaboration and coordination
P10	<ul style="list-style-type: none"> • Stakeholders are partners in various activities and programs of the LGU in marine environment protection and preservation
P13	<ul style="list-style-type: none"> • Fisherfolks became aware of the LGU fishing jurisdiction
P15	<ul style="list-style-type: none"> • They are responsible for overseeing and enforcing the LGU's established MPA and reporting violators to the local fish warden.
P16	<ul style="list-style-type: none"> • The traditional knowledge of the fisherfolks provided valuable information during the MSP process

While the ten participants' assessments of the substantial impact of capacity building through education, information, and awareness (EIA) may vary, the overall result indicates a favorable

change. Additionally, the remaining participants discussed the various benefits of MSP in their local municipal water.

Table 9 summarizes the various perspectives on MSP held by other municipalities. Ten of the eighteen interviewees stated that the most noticeable influence of the MSP process in Balayan Bay had been education, information, and awareness. There was thus evidence that the process broadens their understanding, even for public servants charged with regulating municipal waters on a local level. Five interviewees stated that MSP bolstered the enforcement network along the Balayan bay. The MSP procedure increased the coordination and engagement of many law enforcement organizations. Two participants stressed that MSP justifies increased management and monitoring resources and funding allocations. Finally, one participant indicated that they were able to develop an ordinance through MSP that would impose permits and clearances for various marine activities and fines, penalties, and other administrative punishments against stakeholders who violated the ordinance.

Table 9: Significant impact of MSP



5.2.3 Implementation and Enforcement

Among the themes identified as a consequence of the student's interview are implementation and enforcement. For instance, before establishing the MSP project in Balayan Bay, the majority of LGUs struggled to execute and enforce their various municipal water rules. Their primary objective is to delineate or properly delimit each municipal body of water. Additionally, some LGUs had overlapping maritime jurisdictions, complicating enforcement.

Similarly, without a suitable jurisdictional boundary, LGUs cannot establish a lawful fishing zone.

P1 mentioned that before the MSP, implementation of municipal ordinances was difficult with overlapping jurisdiction. Additionally, in the absence of proper zoning, the encroachment of fisherfolk from other municipalities is difficult to control, given the LGU's meager resources and enforcement capability.

Furthermore, local government units (LGUs) draft appropriate ordinances that determine which permits and clearances are required, which are then collected by the appropriate LGU offices. It is currently reviewing and evaluating existing municipal water ordinances to incorporate the Integrated Coastal and Marine Spatial Use Plan of the Balayan Bay into the legislation (ICMSUP).

5.2.4 Future programs and activities to improve and strengthen MSP

MSP is a never-ending process that repeats each procedure indefinitely. It evolves and changes in response to new issues, or as the government's priorities change, affecting the overall status of the maritime environment and human activities within it. Thus, monitoring and evaluation are critical components of the MSP process because they lay the groundwork for continuous MSP improvement.

Another theme is future programs and activities aimed at enhancing and strengthening MSP. Since the MSP in Balayan Bay is a temporary collaboration between the government and a non-governmental organization, management of the project has already been handed over to the provincial governments following the conclusion of the terms and agreement. Thus, it is necessary to carefully analyze various programs and actions to strengthen further and improve the MSP to ensure that it consistently accomplishes its objectives.

5.3 SUMMARY

This chapter discussed four topics that emerged throughout the coding process as a result of the eighteen participants' semi-structured interviews. Each theme was briefly discussed in the results section to demonstrate the diverse perspectives and opinions of the participants based on their personal experiences with how MSP resolves conflicts between stakeholders through appropriate zoning categorization and the activities permitted in each zone. First, the beneficial

consequence of MSP is that it broadens stakeholders' understanding and awareness. Second, the role of education and information can help shift stakeholders' perceptions and mindsets toward acceptance and support of MSP. Additionally, good MSP management requires the application and enforcement of MSP policies by multiple entities. Finally, LGUs identified several initiatives and activities that should be implemented to improve further and reinforce MSP in Balayan Bay.

CHAPTER 6: DISCUSSION AND RECOMMENDATIONS

6.1 DISCUSSION

The discussion of this study will focus on how MSP has aided in resolving the conflict due to various activities and uses of Balayan bay between numerous stakeholders. The significant impacts of the MSP on different stakeholders and their perception of this initiative. The particular challenges of the MSP process and eventually how it has been addressed. It also identified several programs and activities on the improvement and further development of the MSP, considering its potential replication in other parts of the country.

From the interview evaluation from the eighteen participants, several key themes and issues have been recognized and is discussed further in the following parts of this chapter.

6.1.1 Water Zoning Categorization in Balayan bay

The implementation of MSP in the Philippines, particularly the case of Balayan bay, is relatively in its early stage of implementation. While MSP, as presented in the earlier chapter of this study, is an approach to manage and harmonize different human activities in a particular marine space (Ehler et al., 2019). The case of MSP in Balayan bay helped resolve the issue on overlapping municipal boundaries, which was the primary cause of the conflict between local fisherfolks from different LGUs. The establishment of MSPs in Balayan Bay aids in the delineation of municipal boundaries and zoning classification. Through zoning, activities have been identified for specific areas for a specific purpose and time. Since nine coastal municipalities share this body of water, eighteen participants emphasized the significance of clearly delineating and categorizing different zones. Thus, zoning is a fundamental component of MSP (Kenhington & Day, 2011). Zoning permits reasonable activities within defined boundaries and regulates the suitability of various extractive activities (Day, 2002). However, many stakeholders presume that the terms "zoning" and "MSP" refer to the same thing: sections on a map indicating where specific ocean uses are permitted, and others are not. But in fact, distinctions exist between the two concepts. The most fundamental distinction is that MSP is the planning process ocean uses, whereas zoning is a regulatory tool used to help implement such planning (Douve, 2008).

During the interview, all participants unanimously agreed that zoning categorization resolved the conflict of various stakeholders in Balayan bay. Table 7 in the previous chapter shows the five different water zoning categorizations and the positive perception of the participants of

each zone. All participants view the municipal fisheries zone as the most important since the fishing sector is the primary stakeholder in Balayan bay and fishing is the main source of income for LC living along with the coastal areas. It was apparent that all LGUs underlined the importance of the fishing sector in their jurisdiction. The fisheries zone is classified as a major zone because most municipalities in the Balayan Bay allow small and medium-sized fishing vessels to fish within 15 km. While Calatagan allows commercial fishing within a range of 10.1 km to 15km of municipal water, as defined by their own Fisheries Code. This zone also includes traditional methods of fishing, such as hook and line and gill nets.

Other zones include conservation zones, culture zones, tourism zone, and other maritime activities zones. The different zones allow different human activities regulated and with restrictions. The zoning of Balayan bay, which is part of the MSP implementation, helps the MAO of all LGUs to identify areas designated for municipal fisheries only. Given the critical importance of municipal fisheries zones to all LGUs, it was noted that conservation zones, particularly MPAs, are also considered valuable because they serve as a tool for protecting and conserving marine biodiversity in a specific area. In addition, MPAs are critical for the long-term sustainability of marine resources and provide an economic opportunity through ecotourism. Consequently, by integrating MPA monitoring and implementation into the respective LGU ICM, the implementation of MSP in Balayan Bay will improve MPA management.

While most MSP was established through a regional and national legal framework, the Philippines MSP was initiated locally. The reason for its difference is the LGU having jurisdictional autonomy. They have been vested with the authority and power to control and regulate the 15 kilometers of municipal water specified in the Philippines ' LGC. Along with this authority over the 15-kilometer boundary, LGUs may formulate local fishery management policies following the Philippine Fishery Code. The MSP has provided the solution to LGU with boundary issues, such as the nine municipalities that share Balayan Bay's waters, even though they have different ordinances, policies, and regulations over their respective coastal areas. This situation may change if a dedicated MSP law is enacted in the future, emphasizing the critical nature of MSP and establishing it as the primary tool for CM in the country.

6.1.2 Significant Impact on Stakeholders (Education and Awareness)

The success of any ecosystem-based management requires identifying and comprehending the needs of diverse stakeholders, their behaviors, and perceptions (Pomeroy and Douvere, 2008). When stakeholders fully comprehend and appreciate the concept and objectives of the MSP, their support ensures the implementation's success. Therefore, stakeholders should be involved as early in the MSP process as possible, as their acceptance and support for the MSP may not be what we initially assumed. According to Pomeroy and Douvere (2008), MSP recognizes that the “marine environment is composed of both natural and human elements” and that these elements are inextricably linked. Therefore, inadequate stakeholder engagement on a large infrastructure project reduces the chance of acceptance and endorsement by society as a whole and increases social risks, resulting in delays and cost overruns.

In the interview conducted, ten participants stated that one notable influence on different stakeholders, including those working in the public sector, is their understanding and awareness through participating in numerous seminars, meetings, and conversation sessions in developing the MSP in Balayan bay. The participants also shared their perspectives on how education, information, and awareness can influence the perceptions and attitudes of those involved in the MSP implementation process in Balayan Bay, with everyone providing a unique perspective. The positive impact of capacity building through education, information, and awareness activities is shown in Table 8 of the previous chapter, reflecting the participants' opinions.

During the interview, one participant emphasized that fisherfolks have a reservation on the MSP because it restricts their fishing grounds to certain areas to allot others for a specific purpose. However, through a series of seminars, workshops, and other capacity-building activities, this sector has gradually shifted its perspective on how the MSP can provide long-term sustainable marine resources that will support their livelihood, and eventually lead to their support not only in the implementation of MSP, but they became aware of the different national and local policies. This resulted to stakeholders becoming more involved in the LGUs policy development and programs on marine preservation and conservation. Further, the involvement of stakeholders played a formal role in the MSP process, such as receiving information, participating in consultations, collaboration, and possibly localized decision-making (Lukambagire, 2019).

Another interesting fact revealed during the interview is that public offices such as the LGU planning and agriculture officer are unaware of the MSP. Most municipal water ordinances are

based on the Fishery Law of the Philippines, which focuses primarily on marine species conservation and protection. As the MSP process progresses, they realize the need for a more comprehensive municipal ordinance integrating the ICM and CLUP.

Through education, information, and awareness-raising activities throughout the MSP process, all stakeholders understand the benefits MSP may provide in their marine areas, thereby avoiding conflict in the long run. It showed that MSP process has bolstered their understanding, especially for public servants charged with regulating municipal waters on a local level.

In addition, other participants stated that MSP bolstered the enforcement network along the Balayan bay. In addition, the MSP procedure increased the coordination and engagement of many law enforcement organizations.

6.1.3 Participant perceptions on the most challenging aspect of the MSP Process

During the interview, participants have different opinions and views as to the most challenging aspect of the MSP process. One of the emphasized challenges is the engagement of all stakeholders during the planning process. It was mentioned that initially, there was discourse among and between stakeholders, and they seemed to be speaking in a different language. The perspective of the government is different from the stakeholders, particularly the local fishing sector. This is normal during the early stages of the MSP process, as different stakeholders have unique requirements and interests that may not initially align with theirs. For example, according to (P2), *“Local fisherfolks do not want the fishing restriction in certain areas only. The zoning is unacceptable to them since it will limit their fishing area and may affect their livelihood.”* Numerous literatures highlight the importance of stakeholder's early engagement in the planning stages as it brings up early issues and concerns and acts on them promptly.

Early stakeholder engagement enables the development of trust and transparency among stakeholders, which is critical for the long-term implementation of MSP. Therefore, it is important to promote a cohesive and more interactive approach to stakeholder engagement, from simple discourse to negotiated planning and decision-making (Gopnik et al., 2012).

Another challenge, from the participant's perspective, is implementation and enforcement. The establishment of MSP and zoning addresses overlapping boundaries and resolves the conflicts between stakeholders, most notably fisherfolk. However, to monitor and implement the management plan properly, LGUs need the various law enforcement NGAs. They have the responsibility to take the lead in the enforcement and implementation of the zoning and fishery

ordinances but due to scarcity of resources, this responsibility is being delegated to the law enforcement agencies such as the PNP, PCG and other NGAs with enforcement capability.

Presently, the overlapping issues of boundaries are momentarily resolved; however, this may eventually change when new leadership runs the LGUs and bring this matter, mainly when there is a change in direction and plan of priorities and political provisions.

6.1.4 Future Programs and Activities to improve and strengthen MSP

MSP is subject to changes and evolves in response to new issues and shifting government priorities, affecting the overall state of the maritime environment and human activities within it. As a result, monitoring and evaluation are critical steps in the MSP process because they lay the groundwork for continuous MSP improvement.

The management plan should constantly review and evaluate to ensure that aims and objectives are still met and that changes may be considered for the MSP's successful continuance. Since the MSP in Balayan Bay is a short-term collaboration between the government and a non-governmental organization. Its management has been transferred to the provincial level following the terms and agreement's conclusion. As a result, it is necessary to carefully examine various programs and actions to strengthen and improve the MSP and ensure that it consistently achieves its goals. Moreover, the political landscape at the local level changes priority and directions depending on who sits in the positions. This circumstance may also affect the progress and development of MSP.

In the future of Balayan bay, with regards to its progress and continuous improvement. The participants have various perceptions and views on the programs and activities each LGUs will undertake within their municipal waters to improve MSP in Balayan bay. (P1) mentioned “*the importance of specific policy at the provincial level intended for Balayan bay MSP only.*” All LGUs therein should be the fundamentals of their local municipal water ordinances. Marine spatial planning is frequently met with a variety of barriers that make the implementation of plans and strategies complicated (Plasman, 2008). While science and policymaking are diametrically opposed, they should always be complementary. Technical matters involving theory, scientific knowledge, technology, and methodology should be the basis of the policymaker in formulating rules and regulations to progress the MSP implementation positively. MSP should be based on a legal framework; a marine spatial planning framework must incorporate sound scientific information and a robust legislative foundation (Douvere and Ehler, 2008).

The participants identified two primary considerations for enhancing and strengthening the MSP in Balayan. The human element and Institutionalization of a legal framework. The human elements pertain to the stakeholders and decision-makers. The role of stakeholders must always be considered; an inclusive approach must be continued to ensure their sustained participation in all programs and activities relating to marine conservation and protection of Balayan bay. Correspondingly, a continuous program of capacity building for human resource development, such as education, information, and awareness programs, with support from provincial and regional governments.

Different nations adopt various strategies on their MSP to address new emerging challenges they neglect to foresee during its early implementation stage. MSP continues to change and evolve, and there is no single model for MSP. It is tailored base on the requirements of the countries and their capacity to implement them.

6.2 Limitations

The researcher of this study encountered a few challenges during the conduct of the study. First is the effect of the current pandemic, which limits people's movement and daily activities. Even government offices have to follow safety protocols imposed by the proper authority. As a result, the data collection gathering becomes difficult. Second, since government offices are in the skeletal scheme, most participants work from the home shift. Third, some of the participants were informed late by their staff about the request for an interview. It took some time to establish communication between the researcher and the participants.

Secondly, the sample size of participants used in this study is relatively small numbers. The 18 participants were from the local government level, composed of nine municipal agriculture officers and nine municipal planning and development coordinators. There might be a different outcome, which may affect the overall result of this study if different stakeholders were included in the data collection. Different groups with a larger size may provide a more precise result. Data from various stakeholders such as shipping, tourism, aquaculture, commercial fisher, local fishers, NGOs, POs, CSOs, and law enforcement agencies might provide a crucial and wide range of data.

An online survey is impossible, but an FGD can be conducted on other stakeholders such as the local fisherfolks association, Pos, and CSOs if there are no restrictions in mass gathering and people's movement in the local communities. Either consensus or opposing ideas, the data from these groups may provide valuable assessments for a more in-depth study.

Lastly, further study may be necessary to explore other interesting concepts of MSP, which may broaden the understanding of similar research studies.

6.3 RECOMMENDATION

The Philippine MSP, particularly the case of Balayan Bay, may arguably consider a success, although it is relatively in its early implementation. It may eventually serve as a model for future MSP establishments throughout the country to resolve conflict and ensure long-term sustainability and governance. While the country has extensive experience with ICM, this approach focuses primarily on the growing issue of marine ecosystem decline and degradation. In the Philippines, the ICM does not always resolve conflicts between various human activities in specific marine areas.

During this entire dissertation, there are few noteworthy features that the Philippines can consider for MSP establishment.

Capacity Building through Education, Information, and Awareness

The MSP at Balayan Bay was established through collaboration between non-governmental organizations and the government, and it was one of the first MSP efforts in the Philippines. As discussed in chapter 5, it is one of the significant impacts to stakeholders in the MSP process. The Governor's office in the region should require all LGUs to develop their own communication plan, incorporating various communication strategies that they deem most cost-effective and practicable for communicating the Plan to the various stakeholders in their municipalities.

At the provincial level, establishing a planning database and relevant information accessible to various sectors, particularly the concerned LGUs, can be a strategic endeavor to facilitate inter-LGU collaboration and transparency. Therefore, through the PG-ENRO, the provincial government shall take the lead in organizing a seminar/summit to educate all concerned groups about the critical nature of the proposed ICMSUP's implementation and adoption procedures. The stakeholders should be well represented in all engagement from regional down to local level.

Stakeholders should be involved in all LGUs' educational, information, and awareness plans and programs. Even stakeholders with minimal involvement in the process, such as CSOs and POs, should be involved in education, awareness, and education program. This type of endeavor will broaden their understanding and knowledge, enabling them to become part of the solution rather than the source of conflict. Additionally, specific activities should be identified in the regional guidelines and procedures to provide uniformity among LGUs.

Zoning Categorization

When there are no conflicts between the municipal waters of different LGUs, zoning should be mandatory for all LGUs. The zoning classification serves as the foundation for the proposed MSP at the local level, particularly in marine areas that support various maritime activities, including marine conservation and protection. For example, the zoning of Balayan bay demonstrated a good example of how diverse human activities can be regulated in a relatively large marine area that several LGUs govern. Furthermore, some LGUs used zoning to create a local ordinance requiring stakeholders to obtain licenses and fees, which helps the LGU generate revenue to support their coastal management programs.

Additionally, all LGUs must have a local ordinance implementing the Philippine ICM and CLUP, rather than relying solely on the Fishery Code of the Philippines, which focuses exclusively on the protection and conservation of marine species. Zoning can serve as an economic foundation for the implementation of revenue-generating schemes for the local government that can be used to fund marine protection and conservation programs. Additionally, it may serve as an economic basis for enforcing damages in the event of a maritime incident that results in the destruction of a highly diverse marine environment.

A standard system for monitoring and evaluation

The monitoring and evaluation system should emanate from the Provincial Level to a standard M and E procedure across all LGUs. The M and E is a critical component in determining the effectiveness of the plan's policies and their consequences. In determining what else needs to be done if the plan or portions of it are deemed ineffective in achieving the Plan's objectives and identifying necessary modifications to the plan and its implementation to improve.

Provincial governments should establish explicit criteria for M and E on MSP alone in collaboration with various stakeholders and NGAs. Additionally, a set of indicators, benchmarks, and targets should be established concerning the Plan's objectives. This M and E scheme will be mandatory for all LGUs.

National Law solely for MSP implementation

The majority of the country's MSP initiatives were provided by dedicated legislation emphasizing the policy significance of MSP. Globally, successful MSP implementation is the result of new legislation that is enacted as statutory and enforceable. Therefore, marine spatial planning is generally best implemented through standalone legislation administered by the government Ministry and Department in charge of environmental protection, fisheries, and ocean governance.

The Philippines' current situation in implementing ICM is more peculiar than that of any other country, owing to the autonomous authority and power of local government units (LGUs) charged with the discretionary management of their respective 15-km municipal water. The LGC of 1991, the National Integrated Protected Area System (NIPAS) Act of 1992, and the Philippine Fisheries Code of 1998 provide the legal framework for the localized coastal management.

A new MSP law ensures that any new plan will contain the necessary and desired legal elements. It can also explicitly elaborate on necessary provisions such as; roles and responsibilities of various government agencies. Aside from clear institutional arrangements and supporting policies, the other elements necessary for the successful implementation of the Plan are compliance and enforcement mechanisms, promotion of public awareness, human resource capacity development (for implementers), and financing mechanisms.

The new law will establish specific guidelines and procedures that will be implemented by the region CRM Office, under the direct supervision of the Governor, and work in collaboration with various NGAs to ensure standard and uniformity across all LGUs. These guidelines and procedures include mandatory zoning of municipal water to ensure clear delineation of boundaries, one of the primary causes of conflict between fishers in marine areas governed by multiple municipalities.

Future MSP development and improvement

MSP is a continuous process; it continuously evolves; regardless of its MSP goals and objectives, continuous progress and development are necessary to address emerging issues and concerns regarding the environment, economy, politics, and administration. It is also important to re-evaluate the objectives and aim of the MSP integrating the aspect of how it will adopt and become climate resilient. Climate change is now a global trend and getting more attention on how the affect of climate change can incorporate to different coastal management approach.

CHAPTER 7: CONCLUSION

The implementation of MSP in the Philippines, particularly the case of Balayan Bay, provided a valuable understanding of how this approach resolves conflicts between stakeholders. Additionally, it provided some interesting circumstances that aid in evaluating the MSP's apparent success in Balayan, which can be replicated in other regions of the country where there are current concerns about the balance of human activities and marine resource conservation. While the MSP in Balayan Bay has had a positive impact and demonstrated potential, there may still be some factors to consider for its further improvement and how it can be strengthened in the future, as presented in the recommendations.

Consequently, this research aims to achieve a number of objectives, including assessing the current state of ocean governance in the Philippines and identifying its limitations, pressing issues, and gaps. Second, determine the nature of the existing maritime activities in Balayan Bay and the management approach used in the area. Discussion of how current national legislation and policy affect the implementation of MSP in Balayan Bay is the third point to cover in this section.

Numerous national statutes empowered local governments to implement and formulate municipal water ordinances and policies. Nonetheless, because LGUs have varying capacities in terms of resources, implementation and enforcement vary. Therefore, although the LGU possesses inherent authority, the support of various NGAs, including DENR and DA-FAR, both of which are charged with the management of coastal and marine resources, is critical.

The overlapping of municipal waters between LGUs in Balayan Bay was addressed when the MSP was established, resolving the conflict caused by fishermen encroaching on one jurisdiction's waters. One of the MSP process's significant achievements is the zoning classification. Various zones have been identified and approved to address water delineation, existing uses, and proposed levels of development among the municipalities of Balayan Bay. The zoning also defines other maritime activities in the area, giving them a clear understanding of how it influences the MSP process. In addition, the zoning application helps identify areas designated for conservation and protection and sustainable use and management of coastal and marine resources.

The study emphasizes MSP's beneficial effect on broadening stakeholders' comprehension and knowledge, including those in government offices. As a result, stakeholders, such as local fisherfolk, became aware and understood the importance of zoning in Balayan bay, prompting

them to comply with local ordinances enforced by their respective LGU. They become actively involved in the implementation, monitoring, and enforcement of local ordinances.

The MSP in Balayan Bay is still in its early stages. As a result, proper management, monitoring, and evaluation are essential for its long-term sustainability. Similarly, this research identified several programs and activities that could improve MSP in Balayan Bay and other locations where MSP establishment is considered in the Philippines.

The MSP in Balayan bay mainly focuses on harmonizing human activities and the protection and conservation of marine resources and environment. Although its relatively in a new implementation stage, perhaps the aspect of adopting climate resilience MSP can be incorporate as it progresses.

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Appendices

Appendix A

Consent Form



Dear Participant,

Thank you for agreeing to participate in this research interview, which is carried out in connection with a Dissertation which will be written by the interviewer, in partial fulfilment of the requirements for the award of the degree of Master of Science in Maritime Affairs at the World Maritime University, Malmo, Sweden.

The topic of the Dissertation is:

Marine Spatial Planning (MSP) in the Philippines – an approach towards long term sustainable ocean governance and resolving future conflict: the case of Balayan Bay, Batangas

The information provided by you in this interview will be used for research purposes only and the results will form part of a dissertation, which will be published online and made available to the public. Your personal information will not be published. You may withdraw from the research at any time, and your personal data will be immediately deleted.

Anonymized research data will be archived on a secure virtual drive linked to a World Maritime University email address. All the data will be deleted as soon as the degree is awarded.

Your participation in the interview is highly appreciated.

Student's name : Garry Dimaya Laynesa
Specialization : Ocean Sustainability, Governance and Management
Email address : garrylaynesa2003@gmail.com / W2005521@wmu.se

* * *

I consent to my personal data, as outlined above, being used for this study. I understand that all personal data relating to participants is held and processed in the strictest confidence, and will be deleted at the end of the researcher's enrolment.

YES
NO



Dear Participant,

I am a student of the World Maritime University taking up MSc in Maritime Affairs, specializing in Ocean Governance Sustainability and Management (OSGM). I am also a Filipino, working in the Philippine Coast Guard (PCG) for 16 years.

As part of my partial fulfillment of the requirements for the award of my degree, my dissertation focuses on:

“Marine Spatial Planning (MSP) in the Philippines – an approach towards long term sustainable ocean governance and resolving future conflict: the case of Balayan Bay, Batangas”

This research study aims to provide a critical evaluation and analysis of the Marine Spatial Planning approach in Balayan Bay and how to resolve conflicts between stakeholders, specifically the fisheries sector. By taking the Balayan Bay as the case study of MSP, critically evaluating its apparent success that can replicate elsewhere in the country for potential long-term sustainable ocean governance and management.

In line with this, I would like to ask if you can participate in a semi-structured interview.

Anonymized and confidential research data will be archived on a secure virtual drive linked to a World Maritime University email address. All the data will be deleted as soon as the degree is awarded.

Your participation in the interview is highly appreciated.

A handwritten signature in black ink, appearing to read 'Garry Dimaya Laynesa', written in a cursive style.

Student's name: Garry Dimaya Laynesa
Specialization: Ocean Sustainability, Governance, and Management (OSGM)
Email address: garrylaynesa2003@gmail.com / W2005521@wmu.se

Appendix C

Interview Question for Municipal Agriculture Officer

1. As a Municipal Agricultural Officer, what is your responsibility for your local fisherman?
2. Does your position include matters regarding municipal waters and their protection? If yes, what are these responsibilities?
3. Do you have any management tools for maintaining and preserving a sustainable marine ecosystem? If yes, what are these? Please elaborate further.
4. What is your participation in this management tool and its process that is presently being implemented in Balayan Bay?
5. There is an existing ECOFISH project between NGOs and Local Government Units within Balayan Bay wherein the Balayan Bay will need to have a zoning plan. What do you think are the most significant results of this to the fisherfolk in your area in terms of fish catch and restriction in some areas for fishing?
6. How has the application of coastal zoning been able to help resolve or reconcile conflicting activities and uses between stakeholders (Fishing sectors from different Municipalities, Tourism, and domestic shipping sectors) in Balayan Bay?
7. What issues and challenges arise during the process and implementation of this project in terms of how you will engage the fisherfolks to support and accept this?
8. What do you think is necessary to improve the management tool further, especially its process in Balayan Bay in the future?

Appendix D

Interview Questions for Municipal Planning Officer

1. What programs do you have in place for water management and zoning?
2. The implementation of MSP in Balayan Bay allows the Local Government Unit to fulfill the national requirement to expand their existing Comprehensive Land Use Plans into a Comprehensive Land and Water Use Plan that includes the spatial planning of municipal waters. How will this management tool assist you in managing your maritime jurisdiction better?
3. How has the application of MSP helped to resolve or reconcile conflicting activities and uses between stakeholders of marine space among stakeholders in Balayan Bay?
4. What is the view of the stakeholders in the MSP process and its implementation in Balayan Bay?
5. What are the significant impacts of MSP in Balayan Bay to different stakeholders? please elaborate
6. What particular issues and challenges have you encountered in the MSP process?
7. Does your LGU have to pass a local ordinance integrating MSP in your coastal and water zoning?
8. What are the most challenging aspects of the MSP process, and how has this been addressed?
9. As a planning officer, how can the MSP processes in Balayan Bay be improved in the future?

Appendix D WMU Research Ethics Committee Protocol



Name of principal researcher:	Garry Laynesa
Name(s) of any co-researcher(s):	N/A
If applicable, for which degree is each researcher registered?	MSc. Maritime Affairs
Name of supervisor, if any:	Dr. Clive Schofield
Title of project:	Marine Spatial Planning (MSP) in the Philippines – an approach towards long term sustainable ocean governance and resolving future conflict: the case of Balayan Bay, Batangas
Is the research funded externally?	N/A
If so, by which agency?	N/A
Where will the research be carried out?	Malmo, Sweden
How will the participants be recruited?	Email, WhatsApp, zoom and phone, as appropriate and in view to ensure receiving complete answers in consideration of the local circumstances and technological means available to the target group
How many participants will take part?	16-20
Will they be paid?	No
If so, please supply details:	N/A
How will the research data be collected? (By interview, by questionnaires, etc.)	Mixed Methods -desktop review, semi structured questionnaire interview and meta-analysis
How will the research data be stored?	Password protected data storage
How and when will the research data be disposed of?	The data will be deleted from my laptop at the end of my MSc studies on 31st October, 2021.
Is a risk assessment necessary? If so, please attach	N/A

Signature(s) of Researcher(s):

Date: August 12, 2021

Signature of Supervisor:

Date: August 12, 2021

Professor Clive Schofield

Please attach:

- A copy of the research proposal
- A copy of any risk assessment
- A copy of the consent form to be given to participants
- A copy of the information sheet to be given to participants
- A copy of any item used to recruit participants