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**Analysis of urban wetland governance: A case study on the Las Piñas
– Parañaque Critical Habitat and Ecotourism Area (LPPCHEA), Metro
Manila, Philippines**

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Change**

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**Analysis of urban wetland governance: A case study on
the Las Piñas – Parañaque Critical Habitat
and Ecotourism Area (LPPCHEA) in Metro Manila,
Philippines**

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Summary

This research seeks to understand how institutional arrangement affect coordination of actors, in the context of urban wetland. This case study adopted the governance tool of Corsame (2016) regarding the coordination among actors. Understanding how institutional arrangement affects the level and nature of coordination are instrumental in identifying appropriate management strategies to address the problems in protected area management. The multifunctional nature and services of urban ecosystems, particularly wetlands, are vulnerable to threats associated with urbanization, climate change and land use change, and thus, calls for a sustainable management. The findings of this benefit the institutions through gathering necessary information and deepening of understanding on how to deal with the complexity of managing urban wetland within the environmental limits.

Institutional arrangements are composed of institutions, with a set of rules—the legal framework and the roles and responsibilities of the actors. These factors establish the nature and level of coordination. Academic literature discussed the significance of urban wetlands, theories on coordination and network governance. The study area was on the Las Piñas – Parañaque Critical Habitat and Ecotourism Area (LPPCHEA) in Metro Manila, Philippines which is a known urban wetland protected area in the country. LPPCHEA is recognized for its biological features such as the last remaining mangrove frontier in Metro Manila. It includes important wetland habitats and is nationally and internationally recognized as a Critical Habitat in the country, and a Ramsar site. LPPCHEA is managed by a multi-institutional Management Council. Semi-structured interviews document review of relevant secondary data and observation was employed for the methodology of this study. Purposive and snowball sampling method was done, and the institutions were selected based on existing laws, regulations, and researched articles.

Analysis disclosed that there are existing laws and regulations mainly supporting the conservation of LPPCHEA; actors are experts or highly knowledgeable of their roles and responsibilities within their mandate/ institution. Coordination gaps were observed due to unclear delineation of roles and responsibilities and undocumented agreements---. Consequently, coordination among these actors resulted to *Low to High* ratings. This study confirms the study of Corsame (2016) wherein the quality of institutional arrangement influences how the actors coordinate with each other. Despite the presence of legal framework, coordination failed among actors. This is due to the unclear or loosely defined plan and undefined roles and responsibilities of the actors. Without a vision or direction articulated in the plans, without procedures and mechanisms, and clear roles and responsibilities defined for them, it has created a blind spot among the actors. Weak institutional arrangements created institutional complexity in the network. The tendency then of the actors is to function within their mandate and jurisdiction, and the conflicting mandates and priorities was never resolved—partition and component focus. Moreso, trust among institutions was found to have also influence coordination of actors in this study.

Keywords

Urban, wetland, governance, institutional arrangements, coordination

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Abbreviations

Abbreviations

CENRO	City Environment and Natural Resources Office
CLUP	Comprehensive Land Use Plan
DENR	Department of Environment and Natural Resources
DOT	Department of Tourism
E NIPAS	Expanded National Integrated Protected Area System
IHS	Institute for Housing and Urban Development
LPPCHEA	Las Piñas – Parañaque Critical Habitat and Ecotourism Area
LGC	Local Government Code
NGO	Non Government Organization
NIPAS	National Integrated Protected Area System
PAMB	Protected Area Management Board
PASu	Protected Area Superintendent
PO	People’s Organization
PP	Presidential Proclamation
PRA	Philippine Reclamation Authority
RA	Republic Act
UMSCPFW	Unified Marketing and Services Cooperatives of Paranaque Fisherman’s Wharf
WBCP	Wildbird Club of the Philippines

Table of Contents

Summary	Error! Bookmark not defined.
Keywords.....	Error! Bookmark not defined.
Acknowledgements	iv
Abbreviations	v
Table of Contents.....	vi
List of Boxes	Error! Bookmark not defined.
List of Charts	Error! Bookmark not defined.
List of Figures	Error! Bookmark not defined.
List of Graphs	Error! Bookmark not defined.
List of Photographs	Error! Bookmark not defined.
List of Tables.....	Error! Bookmark not defined.
Chapter 1: Introduction.....	Error! Bookmark not defined.
1.1 Background.....	1
1.2 Problem Statement.....	2
1.3 Research Objectives.....	3
1.4 Provisional Research Question.....	3
1.5 Significance of the study.....	3
1.6 Scope and Limitatios.....	5
Chapter 2: Literature Review / Theory	Error! Bookmark not defined.
2.1 Introduction.....	2
2.2 Urban Wetlands.....	2
2.2.1 Importance of urban wetlands.....	3
2.2.2 Urban Ecosystem Services.....	7
2.2.3 Wetland management.....	8
2.3 Governance.....	8
2.4 Institutional arrangement and wetland governance.....	10
2.5 Coordination.....	12
2.6 Network Management.....	15
2.7 Association of institutional arrangements and coordination in wetland governance.....	17
2.8 The Conceptual Framework.....	18
Chapter 3: Research Design and Methods.....	19
3.1 Revised Research Question.....	19
3.2 Research Strategy.....	19
3.3 Research methodology.....	20
3.4 Operationalization.....	20
3.5 Data Colleciton and Methods.....	23
3.5.1 Sample size and Selection.....	23
3.5.2 Validity.....	24
3.5.3 Reliability.....	25

Chapter 4: Research Findings	Error! Bookmark not defined.
Chapter 5: Conclusions and recommendations	5Error! Bookmark not defined.
Bibliography.....	5Error! Bookmark not defined.
Annex 1:Semi structured Interview	5Error! Bookmark not defined.
Annex 2: Code list.....	5Error! Bookmark not defined.
Annex 3: Photos	59Error! Bookmark not defined.
Annex 4: IHS copyright form	60Error! Bookmark not defined.

List of Figures

Figure 1. Planetary Boundaries	7
Figure 2. Coordination Problem	15
Figure 3. Linkages and interactions of actors in a wetland ecosystem	17
Figure 4. The Conceptual Framework	18
Figure 5. Location Map of LPPCHEA	26
Figure 6 Portion of Freedom Island	27
Figure 7 Portion of Long Island	27
Figure 8. Land Use Map of LPPCHEA*	28
Figure 9. Timeline of legislations	31
Figure 10. City Environment and Natural Resources Office Organizational Chart	35
Figure 11 Interaction Map Among Actors in LPPCHEA	41
Figure 12. Causal relationship of all actors	45

List of Tables

Table 1. Difference between Natural and Urban Wetland.....	6
Table 2. Ecosystem services of wetlands	8
Table 3. Ecosystem Diservices in LPPCHEA	8
Table 4. Basic features of hierarchy, market and network	10
Table 5 Variables and Indicators	21
Table 6 Identified Institutions	24
Table 7. Socio-economic of residents adjacent to LPPCHEA	29
Table 8 Existing and Proposed Land Uses, Las Piñas City	36
Table 9 Analysis of main findings for Coordination	Error! Bookmark not defined.
Table 10 Evaluation of Independent Variable.....	43
Table 11 Evaluation of Dependent Variable	44

Chapter 1: Introduction

In this chapter, the general information about the research is discussed. This includes background information about the topic and the study area. The research objective, research questions, significance of the study and scope and limitations are stated, as well.

1.1 Background

Rapid urbanization and increasing population has become a dominant phenomenon worldwide. Presently, Asia is the fastest urbanizing continent in the world (McGranahan and Satterthwaite, 2014) wherein Southeast Asia have the largest metropolises/cities and highest population sizes (UN, 2014). In the Philippines, the Metropolitan Manila Area is composed of ten cities and seven municipalities, having a total population of approximately 11 million (McGranahan and Satterthwaite, 2014). This increase in human population means greater demand and consumption for the resources and environment resulting to land-use/cover change and creating pressures on government arrangements (McGranahan and Satterthwaite, 2014). Urban expansion entails changes or replacement of the features of the natural environment. Much of this expansion and development occurs in coastal areas (Ehrenfeld, 2000), hence this includes urban wetlands. Some South Asian countries also have extensive wetland areas on the border of their major cities such as Navi Mumbai lakes and mangroves in Mumbai; East Kolkata Wetlands in Colombo, India; Colombo Flood Detention Area, Attidiya Marsh, and Muthurajawela in Colombo, Sri Lanka; and Ramna Lake, Gulshan Lake, and Ashulia wetlands in Dhaka, Bangladesh (Mondal, Dolui, et al., 2017).

Urban wetlands are considered as a valuable component of an urban landscape (X. Wang, Ning, et al., 2008). They can be found in coastal or inland areas (those within the cities). They are known to provide beneficial ecological and social services to the urban ecosystems as well as harbors high biodiversity. Particularly in Asia, urban wetlands are often being used for its environmental services (Smardon, 2009). These include stormwater treatment, water purification, water supply, aquaculture, carbon sequestration, or erosion control. Moreover, many residents' livelihoods rely to the wetland's ecological functions. The ecosystem services derived from this urban ecosystem are recognized to have an important role with climate change mitigation, adaptation, disaster-risk reduction and quality of urban life (Munang, Thiaw, et al., 2013, Bolund and Hunhammar, 1999). Mangroves in wetlands are known to alleviate impact of heavy floods and tidal waves caused by typhoons, storm surges or tsunami.

These abovementioned ecosystem services are said to be governed in multi-stakeholder settings and at different governance scales (Verburg, Selnes, et al., 2016). Still, managing the urban wetland ecosystem for conservation is a crucial task in this time of rapid urbanization. Urban wetlands are becoming more vulnerable to biodiversity loss, climate change and land-use pressures. With this, urban development planning and environment management are significant for integration in this time of climate change and urgent biodiversity conservation needs.

The growing recognition of wetlands' importance prompted researchers to explore several academic concepts and theories in ecosystem management. However, urban

wetland management are said to be understudied, creating difficulty in designating institutions and crafting policies on how urban wetlands are governed (Hettiarachchi, McALPINE, et al., 2014). Research in this field involve governance and valuation of ecosystem services. Governing urban wetlands involves a holistic integrated management approach and interdisciplinary science due to the uncertainties in the social and ecological systems (Behnken, Groninger, et al., 2016). Management for the long term is essential and may require institutional support, such as through legal instruments.

With the influence of the ecosystem management paradigm, resource management shifted to collaborative resource management which has been fueled by the increasing devolution of authority and implementation responsibilities to government and non-government actors at lower administrative levels (Steel and Weber 2001). Despite benefits of collaborative management, factors that impede its success also arise due to the difference of interests, objectives, and agendas of actors, along with scarce resources. Threats to wetlands include poor management due to weak institutional arrangements resulting to wetland degradation and overexploitation of its resources (Crafter, 1994).

In the Philippines, efforts and initiatives for wetland conservation has been done. The Philippines is also endowed with extensive wetlands, six of which are designated as RAMSAR Sites which are wetlands of international importance. The Ramsar Convention is an environmental treaty that provide framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. As a mega diverse country and biodiversity hotspot, the Philippines has been designating protected areas or Critical Habitats for the conservation of biodiversity and natural resources.

This case study focused on the Las Piñas – Parañaque Critical Habitat and Ecotourism Area (LPPCHEA) in Metro Manila, Philippines which is a known urban wetland protected area in the country. LPPCHEA is recognized for its biological features such as the last remaining mangrove frontier in Metro Manila. It includes important wetland habitats and is nationally and internationally recognized as a Critical Habitat in the country, and a Ramsar site. LPPCHEA is managed by a multi-institutional Management Council.

1.2 Problem Statement

Wetlands are considered among the most threatened ecosystems despite the presence of various international commitments, agreements, and national policies. Among the reasons cited are “(1) *the public nature of many wetlands products and services*; (2) *user externalities imposed on other stakeholders*; and (3) *policy intervention failures that are due to a lack of consistency among government policies in different areas (economics, environment, nature protection, physical planning, etc.)*” (Turner, van den Bergh, et al., 2000). Governing urban ecosystems remains a challenge due to its transdisciplinary nature. Governance on urban ecosystem services has evolved and shifted towards partnership and multi-stakeholder collaborations for managing. Despite this trend, such governance setup This case study investigates the network governance and management of an urban wetland protected area in the margin of the highly urbanized National Capital

Region of the Philippines, Metro Manila. LPPCHEA is governed by multi-actors: national and local government, non-government organizations (NGOs), and civil society organizations. The diversity of actors accompanied with varying interests, visions, opinions, abilities/specializations, and limited resources were explored for LPPCHEA's case. Thus, this study seeks to understand the "the institutionalization of relationships among actors in a network."

Despite the existence of a legal and institutional framework, the area is still threatened by poor waste management and risks from climate change, geologic hazards, and human activities such as habitat encroachment, and land reclamation. Other literature on wetland governance has cited weak institutional arrangements and lack of coordination as factors that led to the overexploitation of these ecosystems.

As mentioned, wetlands is a type of ecosystem that is rich in biodiversity and has numerous beneficial services and functions. The critical question is whether they can be sustained from anthropogenic pressures such as land conversion and pollutions. In the Philippines, research on its urban wetlands are still in infancy stage. LPPCHEA is known for its biological features such as the last remaining mangrove frontier in Metro Manila. It includes important habitat for migratory birds and it is recognized nationally and internationally as a Critical Habitat in the country and a RAMSAR site, respectively. Yet, existing conservation efforts are not enough to maintain this unique wetland for future generations. LPPCHEA is a transboundary wetland, and it faced many reclamation attempts due to the approved Philippine Reclamation Authority Resolution 4161 in 2011. In 2017, the Department of Environment and Natural Resources (DENR) cancelled a permit or the Environment Compliance Certificate (ECC) of a reclamation project. Presently, authorities are planning to turn the site into an ecotourism site and valuation studies are being undertaken in the area in collaboration with various stakeholders.

Despite these progress, the Philippines still has no specific national policy or law on protecting and conserving urban wetlands. Moreover, integration of urban and environment management is problematic among authorities due to the complex landscape. This study will focus on the gap and discord on management actions.

De Leon, et. al (2017) conducted a study on the dynamics of land use change processes in urban protected area management and identified that one of the governance challenges in LPPCHEA management is the lack of coordination among key stakeholders. Among the study's recommendations for formulation of policy strategies were to allow "*assessment of the institutional, economic and environmental dimensions of the subject, specifically the policy analysis, institutional analysis of multi-stakeholders urban protected area management.*"

Drawing up from the study of De Leon et al. 2017, this study therefore, seeks to understand the role of institutional arrangement in encouraging coordination among actors from different institutions in managing LPPCHEA.

1.3 Research Objectives

This research intends to explain the influence of current institutional arrangements and how the interactions of the actors affect the management of LPPCHEA.

The research sub-objectives are the following:

1. To identify underlying challenges and constraints and/or best practices for coordination in urban wetland conservation among institutional members;
2. To suggest recommendations for effective planning of strategies in management of urban wetland

1.4 Provisional research questions

The main research question is:

How does the institutional arrangements of management influence the coordination of actors in LPPCHEA, Philippines?

Sub-questions:

1. What is the prevailing institutional arrangement among actors involved in the management of LPPCHEA?
2. What is the nature and level of coordination among these actors in terms of communication, organization, planning, command, execution and control in the management of the wetland?
3. What are the constraints and/or best practices that affect coordination among the actors?

1.5 Significance of the study

The multifunctional nature and services of urban ecosystems, particularly wetlands, are vulnerable to threats associated with urbanization, climate change and land use change, and thus, calls for a sustainable management. The findings of this benefit the institutions through gathering necessary information and deepening of understanding on how to deal with the complexity of managing urban wetland within the environmental limits.

Specifically, this will provide insight on the nature and level of coordination in urban wetland based on the existing institutional arrangements among actors involved in the management of LPPCHEA. Through identifying challenges and opportunities among the institutions in management, findings from this research can be used to develop sound management strategies and aid in integrating different actors in formulating national policies or programs for implementation for the conservation of urban wetlands. This study highlights the significance of formulating an integrated and comprehensive institutional arrangement that encourages partnership, and accountability for effective management decisions and implementation. In a broader perspective, governance characteristics tackled in this study may improve the ability of the actors in contributing and achieving the

Sustainable Development Goals with target by 2030. Finally, this study addresses the insufficient focus on urban ecosystems particularly wetlands in the Philippines, by expanding the governance studies on urban ecosystem management in the country.

1.6 Scope and Limitations

The scope of this case study will focus on the governance of LPPCHEA, or the institutions governing the urban wetland. Specifically, this study will be identifying the prevailing *institutional arrangements* among actors mandated and involved and assessing the institution that governs the actors to understand its influence on the nature and level of *coordination* among them. Understanding the causal relationship between these two concepts will be instrumental in identifying appropriate strategies to develop and improve LPPCHEA's management strategies to mitigate degradation of its ecosystem services. This study does not cover the quality of life i.e. health and well-being of the communities residing within and adjacent to the area. Also, Monetary valuation of ecosystem services will not be given attention.

The study is limited to the extent that it is based on only one urban wetland in one country. This makes it difficult to generalize from just a single case though there could be some useful lessons. The analysis is basically qualitative discussions.

Chapter 2: Literature/ Theory Review

2.1 Introduction

This chapter reviews some of the concepts and theories in the fields of urban wetland, urban ecosystem services, wetland management and institutional arrangements. The chapter also provides the conceptual framework for the research.

2.2 Urban wetlands

The Ramsar Convention’s definition of wetlands are *areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt including areas of marine water, the depth of which at low tide does not exceed 6 m*. This definition has been widely accepted by the governments and NGOs (Turner, van den Bergh, et al., 2000). Wetlands have been recognized as complex interactions of social, economic and natural ecosystems.

An urban wetland is recognized as an urban green space and a socio-ecological system (De Leon and Kim, 2017). Urban wetlands are *wetlands lying within the boundaries of cities, towns, and non-agricultural areas adjacent to the urban region, including those wetlands located within the region of satellite towns around centre cities* (Xu, Kong, et al., 2010). They are in a form of either an artificial /semi-artificial or remnant natural wetlands in urban fabric (X. Wang, Ning, et al., 2008). Moreover, since they are proximal to urban areas, they are highly associated with cities and human activities. Table 1 shows the difference between natural and urban wetlands, indicating that physical changes in the urban landscape is also associated with biological and ecological changes (Ehrenfeld, 2000)

Table 1. Difference between Natural and Urban Wetland

Criteria	Natural	Urban
Management approach	Wetland-based approach is ideal	Municipality-based approach is often necessary
Ecology	Ecological characteristics and functions are readily identified and are primary	Ecological functions may be less important than human values, which may be difficult to specify
Level of disturbance	Natural disturbance regimes are critical	Natural disturbance regimes may be impossible to restore
Habitat	Habitat patches can vary greatly in size and connectedness	Habitat patches are often small and isolated; connections are difficult or impossible to re-establish
Microclimate	Climate and microclimate reflect regional geography	Climate and microclimate are significantly altered from the geographically based expectations
Hydrology	Hydrology is a function of regional climate, geology, physiography	Hydrology is usually highly altered, in amounts, sources, and flow rates of water

(Source: Ehrenfeld, 2000)

The study site for this research, LPPCHEA, is an urban protected area. There is no widely accepted definition of urban protected area. In this context, IUCN (2014) defines this term as “protected areas situated in or at the edge of larger population centres. In governance terms, most of them are the responsibility of national, state or provincial, or local governments; others are managed by NGOs or businesses; and some are

collaborative or community efforts. They do not include conventional urban parks with lawns, flowerbeds and sports fields.”

2.2.1 Importance of urban wetlands: urban ecosystem services, and other functions derived from urban wetlands

The significance and relevance of management of urban ecosystem services in this study is provoked by the concept of planetary boundaries. The concept of planetary boundary aims to show the environment limitations of humans which they can safely operate. According to the study of Rockström, (2009, p.1), planetary boundaries are thresholds that if transgressed could trigger “an abrupt or irreversible environmental change”. The planetary boundary framework illustrates that the human activities have exceeded the threshold for the rate of biodiversity loss and climate change (Rockström, Steffen, et al., 2009). The latest updated framework of planetary boundary (Fig.2.1) identifies land system change is already nearing the threshold and the biodiversity loss was retitled as biosphere integrity boundary (Steffen, Richardson, et al., 2015). This new paradigm shows that human activities i.e. urbanization, highly influence the environment, thus calls the attention of efficient and effective management of the biodiversity and natural resources.

However, a recent criticism of (Montoya, Donohue, et al., 2018) contrasts the said concept, striking that the biosphere integrity planetary boundary does not have an evidence on a planetary tipping point and loss of species does not necessarily mean ecosystem collapse once the boundary is transgressed. Other critiques pointed that the framework presents only the boundaries or environmental limits but doesn’t provide a solution to the roots of the problem.

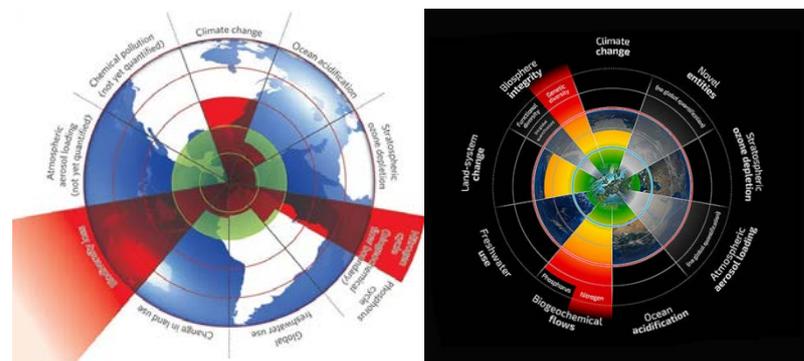


Figure 1. Planetary Boundaries

Source: (Rockström, Steffen, et al., 2009)

(Steffen, Richardson, et al., 2015)

2.2.2 Urban Ecosystem Services

As mentioned, an urban wetland is a dynamic and complex system, providing a wide array of beneficial functions and services within the landscape. Benefits derived from urban wetlands are known as its urban ecosystem services. They are previously grouped into four major categories: provisioning, regulating, habitat, and cultural and amenity service (Millennium Ecosystem Assessment, 2005). These various benefits are enjoyed at global, national, and local scales.

Table 2. Ecosystem services of wetlands

Category	Examples
Provisioning	Fisheries support Peat production for fuel and horticulture Furbearer and other animal harvesting Timber production Direct food production
Regulating	Water quality improvement River flooding mitigation Protection of coastlines from tsunamis, cyclones, and other coastal storm surges Carbon sequestration Habitat for rare and endangered species
Supporting	Wetland functions such as hydric soil development, primary productivity, serving chemical sources, sinks, and transformers and water shortage
Cultural	Landscape aesthetics Sites for human relaxation Ecology education Sustenance of human cultures Ecotourism, bird watching

Source: (Millennium Ecosystem Assessment, 2005)

Gómez-Baggethun, Gren, et al., (2013) synthesized a classification of important urban ecosystem services wherein they included ecosystem disservices of urban areas those ecosystem functions that have negative impacts to the humans. De Leon and Kim (2017) identified the perceived ecosystem benefits by each stakeholder of the case study area, LPPCHEA, (Table 3) wherein they included abiotic and ecosystem disservices, to wit:

Table 3. Ecosystem Disservices in LPPCHEA

Category	Examples
Abiotic	Wind, wave and tidal power, marine sediment extraction, desalinization of sea water for use in urban areas (as an option), space for port industry and infrastructure, space for transportation (seaways), development of residential areas (especially apartments and hotels)
Disservices /risks	Flooding resulting from sea level rise, storms, tsunamis and hurricanes, transmission of marine-related infectious diseases, algal blooms, salt wedge intrusion into groundwater, erosion

Source: De Leon and Kim, 2017

Despite diverse ecosystem services and functions of wetlands, rapid population and economic growth degrades the wetland environment. Integrated and systematic management is vital for the conservation and sustainability of wetlands (Chen, Chang, et al., 2014). Urban ecosystem such as wetlands have received much attention on environment policy and management.

2.2.3 Wetland management

Wetland management is defined as conducting or supervising of the continued survival of the wetlands as well as the value they provide both to nature and man. According to Euliss Jr, Smith, et al., (2008), the concept of “wetland management” initially emerged as a profession in response to the increasing threats to wildlife, particularly the migratory birds. Through the years, wetlands are perceived to have multifunctional

purposes derived from the ecosystem services. These services are affected and modified by agriculture and urban expansion, thus compromising wetland management activities that are supposed to be for conservation purposes.

Wetland management has now evolved into an interdisciplinary approach, thus increasing its complexity. The complexity of wetland landscape harbors different biophysical regional characteristics resulting in differences of management strategies to be applied for each case. Failure to identify the regional characteristics may lead to poor management (Chen, Chang, et al., 2014)

Such complexity subjects wetlands to multi-institutional management. These different institutions usually involve national government, local authorities, private sector, NGOs, local people in wetland management. The network of different institutions and their interactions/power relationships shapes wetland management, particularly regulation and access of the resources (Marambanyika, 2017).

Although integrated wetland management approach has been advocated towards “wise use” of wetlands for sustainability, researchers have long debated over wetland sustainable use management issues as the uncertainties and irreversibility factors surrounding wetland functions have rarely been addressed (Yung Jaan lee, 1999).

Furthermore, it has been argued that the loss of wetlands and its ecosystem services is not fully understood. Marambanyika and Beckhedal (2016) cited that wetland mismanagement was identified as a main factor on wetland degradation and loss in Zimbabwe. Since its ecological benefit is usually externalized and difficult to calculate for proper decision making, it has resulted into economic and industrial development being prioritized over conservation. On the other hand, other studies pointed that focusing only on the benefits of industrial development would neglect the non-market value of wetlands as well as, the neighboring environmental system.

Maltby and Acreman (2011) argued that valuing wetlands vary between developed and developing countries due to contrasting objectives. Generally, developed countries tend to aim for recreation purposes since people do not depend too much on its ecosystem services. Whereas developing countries value it as a “development opportunity” since people rely on the ecosystem services for the improvement of their livelihood i.e. agriculture; and viewed it as safeguard protection (Maltby and Acreman, 2011).

Due to its vulnerability, some wetlands have been designated as protected areas, similar to the subject of this case study. The institutional structures are responsible in regulating the locals’ access and the use of natural resources.

2.3 Governance

Governance is understood to be related on structures, processes, systems, networks, management, regulation, or a combination of these and other concepts (Söderström, 2016). As a contemporary concept, it has changed from “a shift from traditional, hierarchical government toward increasingly close, but unclear inter-relationships between public, private, and non-governmental sectors, often discussed as networks” (Greenwood, 2015). There are three forms of governance: hierarchies, market and networks. Table 4 shows the features of three governance models, contrasting the qualities of network model from the other types. The models serve as points of

comparison for the network model in terms of the classical concepts of governance (Klijn and Koppenjan, 2012).

Table 4. Basic features of hierarchy, market and network

	Hierarchy	Market	Network
Base of Interaction	Authority and dominance	Exchange and competition	Cooperation and solidarity
Purpose	Consciously designed and controlled goals	Spontaneously created	Consciously designed purposes or spontaneously created results
Guidance, control and evaluation	Top down norms and standards, routines, supervision, inspection, intervention	Offer and demand, price mechanism, self-interest, profit and losses as evaluation, courts; invisible hand	Shared values, common problem analyses, consensus, loyalty, reciprocity, trust, informal evaluation-reputation
Role of environment	Top-down rule-maker and steering dependent actors are controlled by rules	Creator and guardian of markets; purchaser of goods; independent actors	Network enabler, network manager and network participant
Theoretical basis	Weberian bureaucracy	Neo-institutional economics	Network theory

(source: Koen et al., 2010)

Network governance, as the focus of this study, may have become a popular concept. However, literature have cautioned that network governance should not be seen as always, the solution to public problems or not always effective. Having multiple members can spark conflicts of interest which can lead to disagreements, and thus, challenges in attaining the network’s goals. A dominant network member can “distort the environment” through its knowledge and resources, and thus serve its own interest, and not that of the whole network.

According to the research of Eyesink and Paape, 2016, the characteristics of “good” governance should involve a combination of structures and mechanisms that align the interests of all parties involved (agency theory), ensuring the voice of stakeholders is heard and information is distributed fairly (stakeholder theory). Its structures and mechanisms are needed to commit all parties to work together towards a common goal (stewardship theory).

2.4 Institutional arrangements and wetland governance

Institutions crafts the rules governing wetland resource utilization, control and management. In this context, institutional arrangements are defined as set of rules that determine eligibility for decision making, actions to be allowed or not, procedures to be followed (Jaspers, 2003, Ostrom, 1990 as cited by Mukiite, 2015). These rules are the existing regulations, laws and policies that govern wetland resources management, while roles refer to the roles and responsibilities of organizations, in this case, related to management of wetland. According to (Raven, Sengers, et al., 2017), institutional arrangements include the *legal framework and policies*. In the studies related on wetland governance, (Marambanyika and Beckedahl, 2016) refers institutional arrangements as the structure that humans impose on their dealings with each other.

(Dixon and Carrie, 2016) defines local institutional arrangements includes “a shared formal or informal rules and understandings that can relate to issues such as resource boundaries, land access and distribution, collective action, reciprocal work arrangements and conflict resolution”. facilitating cooperation and regulating social interactions. According to (Peine, 1998), institution arrangements in ecosystem management are “rule configurations” specifying power relationships, and the roles and responsibilities of the actor towards resolving conflicts in decision making. Actors need to be structured through effective organizational and procedural arrangements so that each group is aware of its own and others rights and responsibilities (Bandaragoda, 2000). Thompson (2018) describes institutional arrangements as a formation of multiple vertical and horizontal institutions co-evolve to shape, in this case, environmental governance. ‘Horizontal’ institutions are created through interactions between actors operating at the same level of social organization (e.g., two national government agencies), while ‘vertical’ institutions are created between actors at different levels (e.g., a national corporation and local community)

Institutional arrangements are instrumental in the context of wetland management. In Asia, Chandra (2011) reviewed the institutional arrangements of a wetland in India and emphasized that institutional arrangements decide the priorities of the resource use. Understanding *roles* of stakeholders and their level of involvement in the management is important for bringing them into effective governance. The inclusion of the entire actor group and the presence of active linkages within and among them will strengthen governability.

C. Wang, Chen, et al., (2014) analyzed the institutional arrangements for a Protected Area (MPA) in Taiwan due to the unsatisfactory performance of the management of their MPAs wherein their marine biodiversity continued to decrease rapidly despite designated as “protected areas”. Criteria for the assessment of institutional arrangements used was adopted from Lacerna et al., 2003 and Lin et al., 2013 which focused on three (3) dimensions: Governmental organization, *Legal basis* and Non-governmental organization.

Mannetti, Göttert, et al., (2017) assessed the institutional arrangements of various land use practices around a protected area in Namibia. Accordingly, *planning for such multifunctional setting involves understanding of the institutional context, since institutions serve as an interface between the social and ecological components of a system* (Mannetti, Göttert, et al., 2017).

Although importance of institutional arrangements is often mentioned, a study of (Marambanyika and Beckedahl, 2016) in the wetlands of Zimbabwe says that this concept often leads in sourcing external institutions thus, may disregard the participation of the local people. Carter (1994) highlighted that aside from involving local people and communities, the existence of institutional arrangements through *legal framework* is essential to support wetland initiatives and programmes in managing the said ecosystem towards its productivity.

2.3.2 Institutional structure of LPPCHEA

Variety of actors involve, national and local government, NGOs and civil society organization comprise the institutional structure of LPPCHEA. The Department of

Environment and Natural Resources (DENR), the national agency responsible for the protection of the country's environment and natural resources, is assigned as the chair and leading agency in coordinating activities among members of the council. However, external institutions sourced out by the government are not included here and have yet to be identified.

A recent case study of (De Leon and Kim, 2017) explored the influence of land-use planning to the urban wetland protected area management of LPPACHEA. They interviewed the two LGUs and DENR agency wherein they identified poor communication and representation, and lack of coordination and strategic direction as governance constraints among the stakeholders. This conclusion implies that the management have unresolved governance issues, and the wetland's ecosystem services are unrecognized or ignored.

Although studies on ecosystem services and land-use change are popular, studies on the governance and management of urban wetlands, particularly institutional challenges faced by the actors, are lagging (Zhang, Zhao, et al., 2015, Jia, Ma, et al., 2011). More so, literature on governance of urban ecosystem services are also largely lacking. This issue further supports the significance of this study by increasing the visibility of urban wetlands into the literature map.

Institutional arrangements are therefore crucial in understanding their influence particularly in this case, coordination mechanism, among the actors/stakeholders for effective and efficient governance of LPPCHEA.

2.5 Coordination

Coordination have taken various definitions and used in various constructs. Coordination has been regarded as a vital component of public administration. Vanagas (p.114, 2014) defines coordination as a process of combining the organization's goals and the inevitable specialization, which comes with the division of labor and formation of chains. Coordination refers to the establishment of communication channels between actors who are executing different work.

Historical background of coordination originated from three theories: public administration theory, organizational theory and planning theory (Oko, 2015). These theories evolved and developed within the framework of governance development stages. Fayolian theory or the theory of organizational activity, includes the common administrative functions within an organization which are formulated by H. Fayol (1898). L. Gulick (1913) and L. Urwick (1915) then developed new theory of organizational structures, analyzing from Fayolian theory, new administrative activities called POSDCORB (Planning, Organizing, Staffing, Directing, Coordinating) (Vanagas et al., 2014). These theories come with limitations. According to (Naidu, 2005, Sahni and Vayunandan, 2009), some theories is not comprehensive in showing the full scope of the contemporary governance. Still, management implementation and practical application of theory are still the lenses used in the contemporary research

field, albeit these are still the “core activities” in an organization (Okhuysen and Bechky, 2009).

With the variety of definitions, for the purpose of this case study, the researcher will adopt Corsame (2016) definition of coordination “as produced through plans, schedules and formalized rules and procedures. This idea further developed and considered as mutual adjustment among actors at the horizontal level of governance; and direct supervision and standardization at the vertical dimension” (Sehested and Groth, 2012). This definition is based on the pluricentric approach to coordination.

Levels of coordination can be classified as vertical and horizontal coordination. Vertical coordination is the one direction interaction of actors across different levels of authority i.e. national, regional, local, highlighting the need of relational dynamics among them. Horizontal coordination focuses peer dynamics, engaging interactions of different sectors such as government, the private sector, civil society, and non-profit organizations. The “level of coordination” may be “determined by the type and content of specific actions driven by the effort to achieve common goals among the actors involved,” and is “characterized by interaction and relationships in all directions, without prejudicing any entity and without any actor taking the central position.”

As cited by Corsema, 2016 and Oko, 2015, coordination happens in the six key elements of management according to Fayolian Theory, to wit:

Sub-activities of coordination	Description
Communicating	process of information and knowledge sharing among actors. This is considered as the central activity since it is an enabling means of coordination.
Organizing	process of designing tasks, a chain of authority and responsibilities assignment among actors. This includes material, financial and human components of the system
Planning	development of action plan to be undertaken. This includes the timeline, sequence of activities and allocation of resources. This highlights the importance of comprehensive planning and analysis of processes involved to determine repeating activities or gaps of strategies
Commanding	the operationalization of management plan that includes negotiation with actors involved in the activities and decision-making processes.
Executing	implementation of an action plan by the actors in an individual or joint manner
Controlling	monitoring and improvement processes of implemented programs

For the purpose of this study, the sub-activities above will be used as sub-variables to determine the nature and level of coordination in the study site.

Motivation for Coordination

Motivation is a phenomenon of interest and has influence on coordination among actors. Motivation is a phenomenon of interest and has influence on coordination among actors. Okok (2015) posits that from a sociological view, human relationships are anchored on cost-benefit exchanges. According to the *exchange theory*, relationships between actors are based on their dependence for resources from others. (Okok, 2015, Hoffmann, Schiele, et al., 2011). Actors in the system are not entirely independent from each other. Exchange may involve voluntary, power dependencies, or legal-political requirement (Okok, 2015, Hoffmann, Schiele, et al., 2011). The theory further argues that the exchanges of resources between or among the actors “generates obligation” and that the transactions could be negotiated or reciprocal. Negotiated exchange entails an agreement on the conditions, while a reciprocal exchange is anchored on the concept of resources interdependence. It was commonly observed under the social exchange theory lens that “social relationships based on dependence, create power that is prone to misuse, inequality, and opportunistic behaviour.” Likewise, this can also render “mutual commitments” among the actors (Hoffmann, Schiele, et al., 2011).

The *transaction cost theory* could also explain motivation for coordination. It states that to reduce costs in both external and internal transactions (*management and opportunity costs*), actors “are motivated to coordinate, horizontally or vertically” in order to reach their goals (Okok, 2015, Hoffmann, Schiele, et al., 2011). This theory introduces a notable concept which is a “transferable asset” used for realizing goals or objectives of the agency. These assets are not regarded to have little or no value outside the exchange relationship, and that its value decreases towards the end of the relationship. The unexpected changes in the transactions and its set-up, as well as the difficulties in looking at the performance of actors, meanwhile, refers to asset uncertainty. This theory is thus criticized for not being able to point or verify conformity of the actors to the agreement, as well as for being “incomplete and mainly addressing the contractual concerns of an exchange relationship” (Hoffmann, Schiele, et al., 2011).

Coordination emerges when at least two parties works toward a common goal. This is a component of a multi-actor network. It is a shared objective wherein the autonomous party is unable to achieve but require cooperation of other players (Okok, 2015).

Coordination Failure

Lack of coordination is among the frequent complaints in management (Bevir, 2008). Coordination, can also cause the main problems and tasks in environment administration and management (Caldwell, 1972). This action is referred as coordination failure or coordination neglect. Heath and Staudenmayer (2000) cited that organizational studies showed two old, common problems: agency and coordination, wherein the former is more popular in studies.

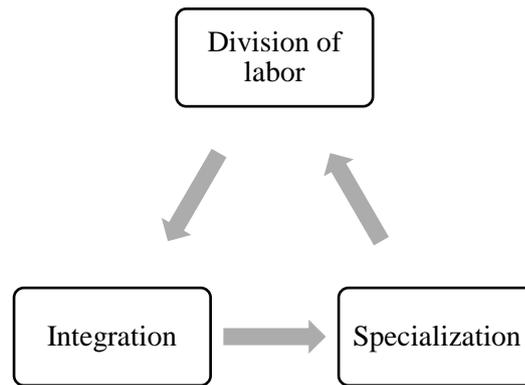


Figure 2. Coordination Problem

(Source: Heath and Staudenmayer, 2000)

Following the mentioned theories on governance, problems occur in organizing actors so their goals are aligned. Figure 2 illustrates the different aspects of coordination where neglect can occur. These aspects also novel problems in the focus of the actors. Partition focus and component focus concept actors are focused on the individual component when diagnosing problems or in solution formulation due to the paradigm of decentralization and specialized tasks. Partition focus concept actors center on the tasks themselves—particularly division of tasks—and do not consider the whole system. Component focus concept actors, meanwhile, specialize on each of the components. Integrating the components is often neglected in these situations.

Another aspect is the inadequate communication and insufficient translation. This refers when actors lack communication due to psychological processes thus may create difficulty in understanding of viewpoints with other actors. Miscommunication or misunderstanding can happen among different specialists. In organizations, the “actors” or specialists are expected to simplify their explanations for other specialists in different fields.

Each actor is a specialist in their respective fields, insufficient translation of jargons and varying languages infuse inadequate communication. These processes may cause actors to fail on integrating efforts, thus leading to neglect in coordination neglect (Heath and Staudenmayer, 2000).

2.6 Network management

The study draws on theory of network governance, known as a ‘sophisticated form of coordination.’ A network is described to as a dynamic, has multiple actor setting with various, changing goals, interests, perceptions, without one main decision maker, involves interdependencies, and complex interactions. The groups/parties within the network have institutionalized relations: rules and practices, joint outlooks, common language, trust, shared organizations, and have arrangements that have developed enduring relationships in governing specific public problems or policy programs (Klijn and Koppenjan, 2012; Klijn and Koppenjan, 2014).

As stressed, this research investigates the network model, wherein none of the actors possess the authority to decide or command the strategies over the other actors. In terms of decision making, no individual or institution is above anyone. Information exchange, preferences, and resources of the actors bring about the policies, despite being independent entities with their own goals, directions, and strategies (Klijn and Koppenjan, 2007). More importantly, the network model focuses on the institutions and the actors' complex interactions.

According to Klijn and Koppenjan (2007), network management have two types. These will be used to analyze the coordination of the actors:

- Process management - improve how the actors interact with each other. It is assumed that the structure and composition of the network meaning, rules, resource divisions and existing actors, are given from the very start of the process. The goal of this model is to unite the varying perception of the actors and solve organizational problems by developing a united strategy. In this approach, strategies are include actors with the necessary resources are identified and motivated to participate; improvement of mutual perception regarding a specific issue or solution through the convergence of perceptions and integration goals acceptable to all actors; creation of organizational arrangements to sustain interactions and coordination strategies; improvement and supervision of interactions through the formulation of processes and conflict resolution.
- Institutional design - institutional characteristics of the network affect the strategies and level of cooperation among the actors and that attempts to influence change can be made. It aims to change rules, formal or informal, in the network. (Corsame , 2016)

Following Klijn and Koppenjan (2007), below are the strategies that may be used in order to apply this concept and analyze the nature of coordination:

- Network composition – pertains to affecting or influencing members of or actors in the network, given that they also influence the interactions in the network
- Network outcomes – concerns influencing decision making or the process or strategies of how actors come up with their choices.
- Network interactions – refers to affecting the interactions or processes that occur between the actors in the network

Wetlands are known to be a complex system like watersheds. In wetland management, the complexity led to the multi-actor/multi-institutional involvement in decision-making for the sustainable use of the urban ecosystem services. There are dynamic interaction of actors involved in the different levels and processes in the system. Klijn and Koppenjan (2014) distinguished three types of complexities occurring in network governance: strategic, substantive and institutional.

Klijn and Koppenjan (2014) defines substantive complexity being attributed to the lack of knowledge and information. Complexity then is the result of the absence of data, or

the absence of research or access thereto. This, so is often argued, is a result of the state of the scientific knowledge available at the time, and will be solved by further scientific research and development. In strategic complexity results from the strategic choices actors make when they articulate complex problems. Because actors are autonomous and networks lack clear hierarchical control forms, each actor chooses his/her own strategy. As a result, various or even conflicting, strategies may develop around a complex issue. Lastly, institutional complexity results when institutions within networks are enduring relationships between actors that have resulted in the emergence of sets of rules that characterize these relationships. Each network will have a unique set of rules. Network rules may reduce complexity and enhance cooperation, since they make the behaviors of actors more predictable. However, network rules may compete with other sets of rules. Deadlock or stagnation may result from this complexity (Klijn and Koppenjan, 2014).

2.6 Association of institutional arrangements and coordination in wetland governance

In their comparative study on four cases regarding governing urban wetlands, Hettiarachchi et al. (2014) derived a generalized layout for organization of actors-institutional linkages in the policy setting. The linkages are interactions among individuals or organizations, institutions (i.e. legislations, regulations, processes) and the ecosystem (Figure 3). The study has identified that varying interests among actors had led to contrasting/conflicting or harmonized agendas, e.g. conservation vs. urban intensification. In their study, institutional arrangements of the four cases developed through years “as a response to local problems, as well as national or global trends”. From the layout it shows the multiple actor setting.

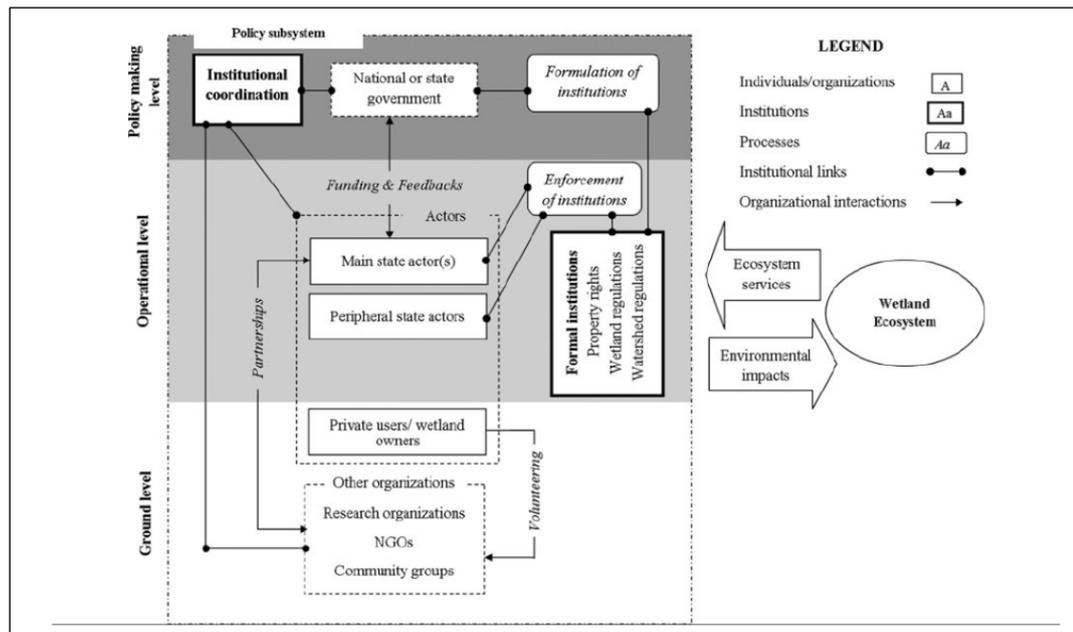


Figure 3. Linkages and interactions of actors in a wetland ecosystem

Source: (Hettiarachchi et al., 2014)

Coordination is among the key features in ecosystem management (Brevir, 2008). Based from the layout presented by Hettiarachchi et al. (2014) (Fig2.4), it can be noted that coordination creates the linkages with various institutions. It also shows that institutions/actors interact with other institutions/actors in various ways and at different levels in network. With the presence of rules, imposed among the institutions, certain degree of dynamics and coordination processes exists among them.

2.8 The Conceptual Framework

Based from the review of academic literature, institutional arrangements is defined as “set of rules that determine eligibility for decision making, actions to be allowed or not, procedures to be followed, information to be or not provided the kind of information to be provided or not provided and what payoffs will be assigned to affected individuals” (Mukiite, 2015). It is regarded as the rules or the legal framework/policies and roles and responsibilities of the actors. Management urban wetland exhibits a network of actors: government, non-profit organizations and civil society. Each group function autonomously while being interdependent with each other. These actors interact with one another in various ways and at different levels in network.

Based from the Fayolian theory, coordination occurs in the six sub-activities of management. Coordination will not be considered as a function of management but rather consequence of institutional arrangement in this context. Nature and level of coordination will be assessed by looking into the interaction of actors involved in the management of LLPCHEA during communication, organization, planning, command, execution, and control.

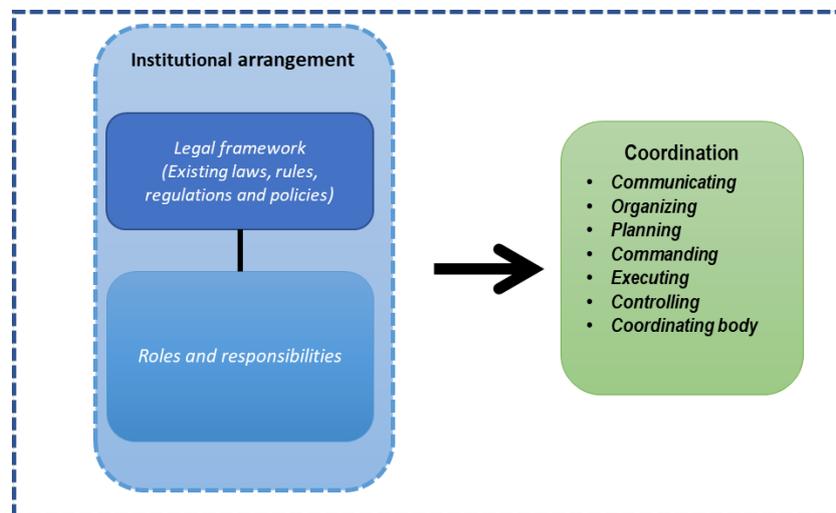


Figure 4. The Conceptual Framework

(Source: Corsame, 2016)

Figure 2.5 shows the conceptual framework for this study. The researcher will explain the causal relationship between *institutional arrangement* and *coordination* in the context of urban wetland management through empirical evidence from the study site.

Chapter 3: Research Design and Methods

The key theories and concepts that are significant in this study have been discussed in Chapter 2. Through the lens of these academic literatures, the technical research design is described in this chapter.

3.1 Revised Research Question

The main research question is:

How does the institutional arrangements of management influence the coordination of actors in LPPCHEA, Philippines?

Sub-questions:

1. What is the prevailing institutional arrangement among actors involved in the management of LPPCHEA?
2. What are the means and level of coordination among these actors in terms of communication, organization, planning, command, execution and control in the management of the wetland?
3. What are the constraints and/or best practices that affect coordination among the actors?

3.2 Research strategy

This research is an explanatory study where aims to explain the relationship of institutional arrangements with coordination in wetland management, the case of LPPCHEA in Metro Manila. The existing legal framework, which identifies the actor and their roles and responsibilities will be assessed to explain how such arrangements enabled or hindered the coordination among them.

3.3 Research methodology

Qualitative single case study research strategy will be used for this research and LPPCHEA, Metro Manila will be the study area. This strategy was chosen because it allows in-depth understanding of the concepts institutional arrangement, coordination and wetland governance, and their association in a real-life setting. It also offers insights on the gaps of the case.

For this research, single case study approach is found to be the most adequate strategy since it aims to explore the *institutional arrangement*, particularly its legal framework that identifies the actors and defines their roles and responsibilities and explain the causal relationship between institutional arrangement and *coordination* based on empirical evidence. This strategy also allows detail and in-depth description of the study to be able to answer the sub-questions. Moreso, wetlands have different contexts and take various forms, and this study only focuses on one urban wetland and it is also classified as a protected area.

3.4 Operationalization

For this study, the following definitions of concepts will be used.

Urban Wetland

Wetlands lying within the boundaries of cities, towns, and non-agricultural areas adjacent to the urban region, including those wetlands located within the region of satellite towns around centre cities (Xu, Kong, et al., 2010)

Institutional Arrangements

Set of rules that determine eligibility for decision making, actions to be allowed or not, procedures to be followed, information to be or not provided the kind of information to be provided or not provided and what payoffs will be assigned to affected individuals (Jaspers, 2003, Ostrom, 1990 as cited by Mukiite, 2015)

Coordination

Coordination is produced through plans, schedules and formalized rules and procedures. This idea further developed and considered as mutual adjustment among actors at the horizontal level of governance; and direct supervision and standardization at the vertical dimension. (Sehested and Groth, 2012)

Table 5 Variables and Indicators

Concept	Sub variables	Description	Indicators	Data Sources	Data Collection Instruments
Institutional arrangements	Legal framework	A description of available laws, rules and regulations related to the study area	Existing laws, rules and regulations	Laws, regulations, policies, reports, interviewees	Document review
	Roles and responsibilities of Actors	Find out how well actors understand their mandate, roles, responsibilities and prevailing regulations related to the study area	Goals, roles and responsibilities, interests, and priorities of agencies involved in the management	Laws, regulations, policies, reports, interviewees	Semi-structured interview, observation, document review
	Stakeholder networks	Presence of partnership, agreements between/actors	Presence of agreements/ contracts among actors	Laws, regulations, policies, reports, interviewees, agreements (MOU/MOA)	Semi-structured interview, observation, document review
Coordination	Communicating	Existence of communication channel among actors	Frequency of information and knowledge sharing between actors	Laws, regulations, policies, reports, studies, interviewees	Semi-structured interview, document review, observation
			Method and effectiveness of information sharing		
	Organizing	Existence of mechanism to distribute authority, roles and responsibilities are distributed among actors	Presence and effectiveness of standards, and distribution of responsibilities among actors	Laws, regulations, policies, reports, studies, interviewees	Semi-structured interview, document review, observation
	Planning	Presence and participation of all actors during development of management plan	Participation of actors during planning activities	reports, studies, interviewees	Semi-structured interview, document review, observation
			Presence and effectiveness of mechanisms for actors		

			consultation when developing projects		
	Commanding	Presence and effectiveness of central authority that gives order and direction based on management plan	Presence of lead agency	Laws, regulations, policies, reports, studies, interviewees	Semi-structured interview, document review, observation
	Executing	Cooperation among actors in implementation of management plan	Collaborative implementation of activities among actors	Laws, regulations, policies, reports, studies, interviewees	Semi-structured interview, document review, observation
	Controlling	Presence and effectiveness of authority that ensures conformity among actors, monitoring and giving feedback	Presence of authority that monitors effectiveness of management activities	Laws, regulations, policies, reports, studies, interviewees	Semi-structured interview, document review, observation
	Coordinating body	Presence of a lead agency		Laws, regulations, policies, reports, studies, interviewees	Semi-structured interview, document review, observation

3.5 Data collection methods

For this case study, the researcher employed semi-structured interview method to collect primary data related to the institutional arrangement and coordination. The study aimed to understand and explain in-depth information on the abovementioned research topic. The interview guide was pre-tested first to determine its validity and reliability. The target institutions were identified based on the published laws, regulations, policies and articles. The guide questions were adopted from studies of Corsame (2016) and Okok (2015) then formulated based on the context of the study, supplemented with the theories and concepts from the literature review. Semi-structured nature of the interview will provide flexibility for supplementary questions based on the interviewee's responses. Observation of the implemented field activities in the study site, and observation of interviewees' behavior during the interview itself were done and recorded. Willingness of the interviewee to participate were also noted.

Secondary data were information that have already been collected and processed by others (a person or organization) relative to the purpose of this research. Secondary data were gathered through desk research. Documents to be reviewed include internationally peer-reviewed journals, government documents, and other "grey" literature. To access to the needed documents, written requests will be submitted to the concerned agencies. Research in the public libraries, and the Internet were conducted to triangulate and validate information. It was also used to corroborate the data collected from interviews and fill the gap on the institutional memory of the interviewees. It also provided an additional source of data to address research questions and in this case, assess institutional arrangements and coordination. The following references were researched and referred to as integral references of this study.

Grey literature

laws and regulations

- Presidential Proclamation No. 1412 – LPPCHEA Proclamation
- Proclamation 1412-A – Amendment
- Presidential Decree 705 of 1975 – Revised Forestry Code of the Philippines
- Republic Act 7160 of 1991 – The Local Government Code
- Republic Act of 7586 of 1992 – National Integrated Protected Area System Law (NIPAS)
- Republic Act 11058 of 2018 – Expanded NIPAS
- Comprehensive Land Use Plans of the Local Government Units
- LPPCHEA Framework Plan
- Various Agreements
- Minutes of meeting and Reports
- NGO reports
- Related journals and articles

3.5.1 Sample Size and Selection

The sampling technique used in this research was purposive sampling, wherein semi-structured interview and observation were conducted to institution experts directly involved in the management of LPPCHEA. Target institutions and respondents were identified based on the Presidential Proclamation 1412-A, series of 2008, indicating the member-agencies involved in the Management Council. Snowball sampling was utilized depending on the recommendations of the interviewees.

Table 6 Identified Institutions

Institution	Category	No. of Respondents
Department of Environment and Natural Resources – National Capital Region	National Government	5
Local Gov't Unit (LGU) of Paranaque City	Local Government	1
LGU of Las Piñas City	Local Government	2
Philippine Reclamation Authority (PRA)	Government Owned and Controlled Corporation	2
Dept of Tourism (DOT)	National Government	1
Wild Bird Club of the Philippines	Non-Government Organization	1
*Senate of the Philippines – Office of Senator Cynthia Villar	National Government	*
*Unified Marketing and Services Cooperatives of Paranaque Fisherman's Wharf (UMSCPFW)	People's Organization	*
TOTAL		12

** The date of interview was postponed because of suspension of Offices due to heavy monsoon rains and typhoons during the duration of the fieldwork.*

The study area is located within the political administration of two (2) LGUs namely Las Pinas and Paranaque, National Capital Region. External institutions such as the Senate Office of the Philippines (Office of Senator Villar) and the Unified Marketing and Services Cooperatives of Paranaque Fisherman's Wharf was included because they have significant knowledge about the study area, including the issues of the wetland governance itself. News articles have mentioned Senator Villar as instrumental in the conservation of the wetland and authored bills for the protected area. On the other hands, the UMSCPFW, a people's organization (PO), was recommended by the Chair agency, DENR, because they frequently coordinate with them.

3.5.2 Validity

The objective of this study was to analyze the relationship between institutional arrangement, with respect to the legal framework and the roles and responsibilities, and coordination. Validity has two types: external and internal. Case studies are known to be low in external validity due to unsuitability from generalizing. In this case, producing findings on this research may not be transferable to other settings. This research then undermines the external validity of the study because it is strongly linked the unique context of the study site. Case study researches receive many criticisms because it is prone and possible to create bias or infuse the researcher's influence in the interpretation of data thus lowers its internal validity. This can be mitigated by triangulation of different data sources. Triangulation can strengthen the internal validity of the data (van Thiel, 2007). These documents were consulted to verify significant information mentioned during the interview. As for the interview, guide questions were formulated in such a way that it is clear and objective to ensure validity and reliability of information. It focused on topics that address the variables and indicators identified in Table 3. During the interview itself, the discussions were recorded and transcribed. Refer to Annex I for the semi-structured interview Guide Questions.

3.5.5 Reliability

Reliability can be mitigated by transparency during the research. Since case study research is often criticized for the possibility of bias or researcher's influence in the interpretation of data, the author ensured transparency of information by documenting maintaining a database of researched references. Yin (2009) emphasized to ensure complete documentation of information and maintain evidence database to provide reliability of information and research processes. In this regard, each step of the research was documented. When permitted, interviews were documented through voice recording that were then transcribed and processed through Atlas TI and notes were taken. To also increase transparency of findings, a database was made. The database included case notes, documents, interview notes or transcripts. Furthermore, information from the semi-structured interview were cross-referenced with researched document.

3.5.6 Data Analysis

The data collected were analyzed using Atlas TI since this study is a qualitative research. In this study, the most adequate strategy for a single case study research is through *causal process tracing*. Causal process tracing is defined as “temporal unfolding of observed situations, actions and events, traces of motivations, evidence of interactions between causal factors and information about restricting conditions, and detailed features of a specific outcome” (Blatter and Blume p. 319, 2008). During coding, the author focused on indicators, including legislations, laws, policies, roles and responsibilities of actors, the presence of networks, and the six Fayolian sub-activities of Coordination concept. In this phase, some codes were developed that are manifesting from the quotations such as the land use issues and constraints on coordination activities. Other codes were merged. After iterations of transcript review and peer check, the final code list was developed (Refer to Annex IV for the ATLAS.ti report). Quotations from different resources about a specific concept were categorized according to the Code List. Considering the research questions and relation on the relevant theories. All transcripts were then coded using the final list of codes. Creating memos and peer review were done to increase the reliability of the data. Moreover, the respondents/documents were grouped under their concerned agency.

Chapter 4: Research findings

4.1 Description of the area

The Las Pinas-Paranaque Critical Habitat and Ecotourism Area (LPPCHEA) is located on the southern portion of the national's capital region and part of Manila Bay. It is bounded by Pasay City on the north east; Bacoor, Cavite on the southwest; and Manila Bay on the west. Straddling along the Manila-Cavite Coastal Road, LPPCHEA cover 176.4 hectares and encompasses two reclaimed land masses: Freedom Island and Long Island. Long island is at the south west portion of LPPCHEA, while Freedom Island is at the northeast part and under political jurisdiction of Paranaque City. As the name indicates, it is under two political administrative jurisdictions: Las Pinas and Paranaque City. Figure 7 shows the land use map and area in relation to the political-administrative boundaries of Las Pinas and Paranaque. Although there are no human occupants in LPPCHEA, there are eight coastal barangays immediately adjacent to it.

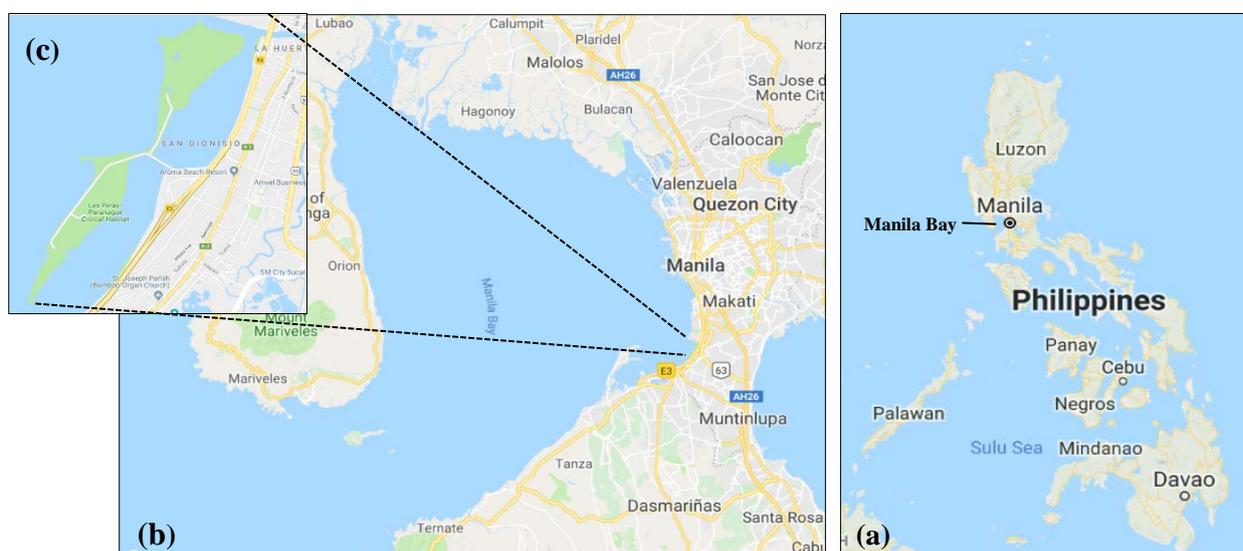


Figure 5. Location map: (a) Map of the Philippines (b) Map of Manila Bay showing adjacent municipalities/cities (c) Map of LPPCHEA

(Source: Google Map, 2018)

Originally, there were three reclaimed islands, wherein the third land has already submerged. Being man-made landmasses, they are considered without ecological significance in the past. These lands were intended for the construction of the coastal highway. In 1980s, the road project for the reclaimed lands did not push through so it was left idle. The area was then used as mangrove nursery by the DENR, with permission from the PRA, the property owner. The mangrove has then flourished in the area. The islands were planned for mixed-use development through Boulevard 2000. In 2002, however, the Supreme Court declared the project as null and void due to contract anomalies. The LPPCHEA management and the Bay City Development Project proponents are still in conferring with each other with regards to the final use of the site, particularly in terms of coexisting it with ecotourism and planned seaward reclamation activities (De Leon and Kim, 2017).



Figure 6 Portion of Freedom Island



Figure 7 Portion of Long Island

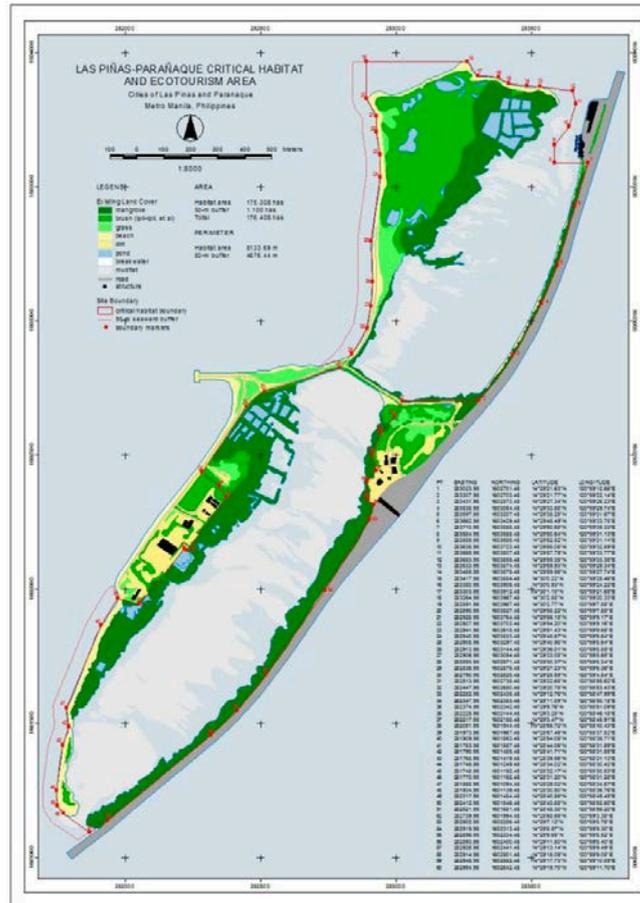


Figure 8. Land Use Map of LPPCHEA*

The administration of LPPCHEA was assigned to the DENR by virtue of Proclamation 1412 on April 22, 2007. LPPCHEA is the first critical habitat established in the country and the first to be proclaimed by a President. On January 31, 2008, it was then amended, and the Manila Bay Critical Habitat Management Council was created through Proclamation 1412-A. On June 22, 2018, it was declared as a Protected Area through Republic Act 11038.

4.1.1 Flora and Fauna

Located within the East Asian-Australasian Flyway Network (EAAF), LPPCHEA is a bird sanctuary, and natural stop of migratory birds.

LPPCHEA is predominantly covered by mudflats, both in the north and south islands. Figure 7 shows the current land use of the area and its distribution. Mangrove trees are the predominant plant species found in LPPCHEA. Now only consisting a mere 30 hectares or so, it is still the most dense mangrove area within Manila Bay. Mangrove species are salt-tolerant trees adapted to living in salt and brackish water conditions and are critical spawning, nursery, feeding and temporary shelter areas not only to fishes but other animals as well, wild birds as in the case of LPPCHEA. Presently, as per survey of DENR, eight (8) species of mangroves thrive in the area

A total of 44 bird species roost in LPPCHEA, 29 of which are migratory bird species. On the other hand, there were about 15 resident bird species spotted in the same survey, including the endemic Philippines Duck (*Anas luzonica*), with a conservation status as “Vulnerable” under the red list of the International Union for Conservation of Nature (IUCN).

4.1.2 Climate

The climate in LPPCHEA falls within Type I Category of the Modified Coronas Classification. It has a dry season from November to April and wet season for the rest of the year. Its average annual rainfall is 3,117.10 mm with maximum rain during the months of July and August. The temperature in the watershed ranges from 25°C to 29°C while humidity is between 66% during the dry months and 85% on wet months.

4.1.3 Social-Economic Component

According to the Framework Plan, Paranaque City is home to some 25, 073 informal settler families. Of these, not a few are assumed to call Barangay San Dionisio their home, judging from the number of depressed areas it identified as within its jurisdiction. J. de Leon Coastal and Ilog Palanyag are within the vicinity of LPPCHEA.

Majority of the residents of the coastal communities adjoining the LPPCHEA are engaged in informal jobs, ranging from vending, fishing, shellfish cultivation and the like. Table 5 below shows the socio-economic characteristics of the residents in the coastal barangays of LPPCHEA.

Table 7. Socio-economic of residents adjacent to LPPCHEA

Variable	Classification	Percentage
Source of income	Fisherman	18.87
	Vendor	1971
	Driver	10.32
	Store owner	5.00
	Employee	15.16
	Laborers	20.18
	Others	10.65
Type of housing	Shanty	40.48
	Duplex	0.97
	storey	30.81
	2 storey	21.77
	3 storey Room only	0.97 5.0
Tenurial status	Owner	78.55
	Renter	15.00
	Boarder	0.16
	Caretaker	1.61
	Others	4.68
Lighting facility	Electricity	75.00
	Kerosene	20.32
	Generator	1.45
	Combination/Others	0.16
	Candle	3.23

Fuel used for cooking	LPG	32
	Firewood	23.55
	Charcoal	20.32
	Kerosene	9.03
	Combination/Others	15.16
Toilet facility	Water sealed	66
	Direct to the bay	21
	Public toilet	4.19
	Open pit	0.97
	No toilet	7.90
Garbage disposal	Government collector	59.84
	Burning	12.26
	Direct to the bay	11.77
	Throw anywhere	8.87
	Nearby dumpsite	4.19
	Just pile in a corner/area	3.06
Awareness of LPPCHEA as acritical habitat and ecotourism area	No	98.39
	Yes	1.61

(Source: *LPPCHEA framework plan*)

4.2 The Actors of the Management Council

The Management Council, was created through Proclamation No. 1412-A. It is composed of the Department of Environment and Natural Resources (DENR) as Chair; the Philippine Reclamation Authority (PRA) as Vice-Chair and LGUs Las Pinas and Paranaque , DOT, WBCP, and PO. However, per interview and framework plan, there is still no PO identified as the criteria for its selection have yet to be agreed by the body.

As per Section 4, paragraph 1 of Proclamation 1412-A, the Management Council was tasked of preparing and implementing the following:

“

1. Prepare and cause the Implementation of a Critical Habitat Management Plan, approved by the DENR Secretary, which will include a Master Plan to establish criteria and guide development in and around the area according to universally established and scientific principles to ensure protection of critical bird habitats and an Ecotourism Business Plan to ensure sustainable tourism and management, and to promote environmental awareness and education in the area;
2. Ensure integrated and sustainable management of the area for the protection of all waterbirds wintering, foraging, breeding, roosting, and nesting, within the Las Piñas-Paranaque Critical Habitat and Ecotourism Area and similar areas to be established within Manila Bay;

3. Assess other areas for purpose of establishing additional important waterbird areas in each province of the Bay in accordance with the Manila Bay Action Plan and including the relevant LGU's in the Council as they are established;
4. Ensure strict compliance with this Proclamation through the incorporation and consideration of the requirements herein in the design of any future development projects, and in the master and development plans of the local governments and other concerned agencies.”

Interviewees were referred based on the role they play within their agency and in the management of the study area. Figure 7 shows the timeline of legislations related to LPPCHEA. In the succeeding sections, information and functions about each agency is thoroughly discussed.

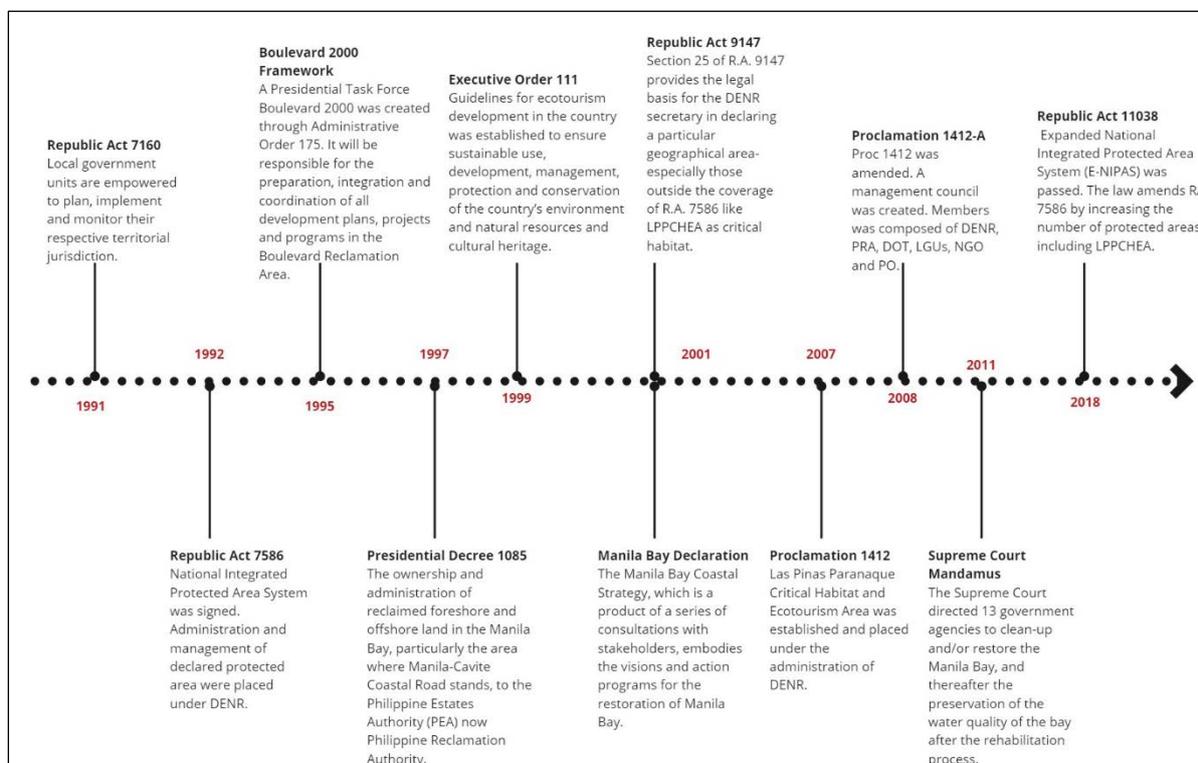


Figure 9. Timeline of legislations

4.2.1 The Department of Environment and Natural Resources

The Department of Environment and Natural Resources is the primary agency under the national government mandated to manage, conserve and protect the Philippines' environment and natural resources for its sustainable use. Their functions include also licensing and regulation land disposition, biodiversity conservation and regulation of the country's natural resources.

Through the years, the agency evolved and underwent several transformations in terms of the organization's name, functions, structure, and scope. In 1987, the national agency was renamed as the DENR through Executive Order 192 dated 10 June. The Department is led by the Secretary, appointed by the President. It was decentralized into six bureaus down to its regional and field offices (Corsame 2016; Department of Environment and Natural Resources, 2016).

“In line with the department's mandate, the following objectives serve as basis for policy formulation:

- Assure the availability and sustainability of the country's natural resources through their judicious use and systematic restoration or replacement, whenever possible;
- Increase the productivity of natural resources in order to meet the demands for forest, mineral and land resources of a growing population in a manner consistent with environmental protection and enhancement;
- Enhance the contribution of natural resources for achieving national economic, political, social development and ecological integrity;
- Promote equitable access to natural resources by the different sectors of the populations;
- Maintain a desirable level of environmental quality;
- Conserve specific terrestrial and marine areas representative of the Philippine natural and cultural heritage for present and future generations.”

The Philippine Republic Act No. 7586 of 1992 was passed to manage and mitigate the degradation of the environment threatened by the effects of urbanization, biodiversity and resource exploitation. The law paved way for the declaration of certain sites as *protected areas* which were deemed as natural resources that have high ecological value and of biologic importance. The DENR manages and administers the protected areas through management plans. Aside from that, the law also created the Protected Area Management Board which serves as the policy and decision-making body with representatives from all sectors and stakeholders in the area, including lawmakers. Particularly, the composition of the Board are: DENR Regional Director who has jurisdiction of the protected area; Regional Government; Provincial Development Officer; City or Municipal Government; Barangay Level; Tribal Community; local community organizations or non-government organizations; and if found necessary, representative from the national government that is involved in the management. A Protected Superintendent (PASu) will also act as the main focal person.

As the Chair of the Management Council, DENR conducted Council meetings since 2011, following the establishment of the Interim Manila Bay Critical Habitat Management Council, for the discussions on its development as an eco-tourism area. These meetings include series of writeshop for the LPPCHEA Management Plan, Stakeholders' Consultation Workshop, and writeshops for the LPPCHEA Framework Plan. The Council was able to produce a Framework Plan but it is still not approved through a consensus of the Council as the PRA has its reservations concerning the land use of the area (De Leon and Kim 2017).

In terms of regulation, although entrance fee is not imposed, a permit from the DENR is required for visiting the area, as well as for other activities/events e.g. birdwatching, photography, tree planting, cleanup.

4.2.2 Philippine Reclamation Authority

Philippine Reclamation Authority or previously known as Philippine Estates Authority is classified as Government Owned and Controlled Corporation. It is established in 1977 by virtue of Presidential Decree 1084 to serve primarily as the clearing house for all reclamation projects in the country. Quoting them when asked about their goal and priority of the agency:

For us, the Philippine Reclamation Authority our main [priority] is to reclaim. So all the reclamation in Manila Bay from Buendia up to LPPCHEA, all the areas in there. Our involvement is we reclaim then we dispose thru either sale or lease... because the PRA doesn't

have budget from the government. We are self-sustaining so supposedly we need recurring income to survive. Even one peso we don't receive from government so now one of our assets are the 3 islands (LPPCHEA). So when it was proclaimed [as critical habitat], we were affected, also, we have an awaiting proponent for that land... San Miguel. We are the property owner. (PRA)

PRA contributed to the government by transforming a 1,500-hectare area in Manila Bay to a commercial area. The PRA is mandated to “develop and dispose idle public lands” and to “exercise the right to eminent domain in the name of the Republic of the Philippines.”

PRA are headed by the Office of the Solicitor General, the Office of the Government Corporate Counsel, the Department of Budget and Management and the Governance Commission for GOCCs.

“Vision:

Filipino people shall benefit from well-planned and environmentally resilient reclaimed lands and efficiently developed and managed public estates.”

“Mission:

the lead government instrumentality mandated to regulate reclamation, create environmentally sustainable reclaimed land, promote coastal resilience, and develop government properties to advance the country's development goals.”

“The Authority is hereby created for the following purposes:

- a. To reclaim land, including foreshore and submerge areas, by dredging, filling or other means, to acquire reclaimed land;
- b. To develop, improve, acquire, administer, deal in, sub-divide, dispose, lease and sell any and all kinds of lands, buildings, estates, and other forms of real property, owned, managed, controlled and/or operated by the Government; and
- c. To provide for, operate or administer such services as may be necessary for the efficient, economical and beneficial utilization of the above properties.”

PRA will also have efforts on coastal protection in vulnerable areas nationwide. It hopes to establish climate change-adaptive hard and soft engineering structures that will be economically advantageous to communities through coastal protection measures.

PRA serves as the Vice Chair of the Management Council and property owner of the reclaimed islands comprising LPPCHEA.

4.2.3 Local Government Units

A local government unit (LGU) is a territorial and political subdivision of the Philippine government that includes the provinces, cities, municipalities and barangays. Provinces is divided into municipalities and cities. Cities can either be of two types: (a) independent cities (highly urbanized), and (b) component cities (smaller cities). The barangay is the lowest tier of government whereas a municipality is composed of group of barangays.

In 1991, the Philippine government enacted the Local Government Code (Republic Act 7160) that allowed decentralization and devolvement of taxing powers and authority to the LGUs. Many of the responsibilities for the public services were transferred from national government to the LGUs hence, providing them a fiscal autonomy and accountability. In the said legislation, LGUs are mandated to formulate and update their Comprehensive Land Use Plan (CLUP), with a timeframe period of 10 years, to manage the use and allocation of resources

within their respective territorial jurisdiction. The CLUP will serve as LGUs basis and guide for future developments, as well as serving as a basis as to where the focus of both public and private investments would be. The CLUP would then serve as a framework for the zoning ordinance, which aims to control and guide the physical development of the area. Public lands like wetlands, still falls under the management of the national government, while the LGUs are still responsible in the management of their respective local communities and barangays.

As mentioned, LPPCHEA is geographically situated in two LGUs, both of which are in the National Capital Region: Las Pinas and Paranaque. Each LGU developed their respective CLUP that incorporates strategies to effectively manage the environment sector. DENR is also consulted in the planning process of CLUPs. Likewise, the Management Council is tasked to formulate a management plan for LPPCHEA. Representatives from each LGU were involved in the planning activities of the . The LGUs are considered as the on-the-ground managers of the local communities involved and affected in the efforts to conserve its remaining natural resources and environment. Both cities have experienced urbanization in the past 20 years, transitioning from industrialization to commercialization (De Leon et al. 2018).

Presently, the two LGUs participate in interagency committee meetings concerning rehabilitation of the three river systems traversing their jurisdiction:

- Muntinlupa Paranaque Las Pinas-Zapote River (MUNTIPARLAS-PIZAP)
- Pasig Marikina San Juan River (PAMARISAN)
- Malabon Navotas Tulyahan Tinajeros River (MANATUTI)

According to the interview, concerns on LPPCHEA are discussed during those meetings. It is attended by various government agencies.

4.2.3.1 City of Parañaque

LPPCHEA falls within the jurisdiction of Paranaque City under Barangay San Dionisio and La Huerta. In terms of total land area, Parañaque covers larger portion of LPPCHEA, particularly the Freedom Island, than Las Piñas. Parañaque is one of the Highly Urbanizing Cities in the Philippines. Representatives from the LGU Parañaque are from the City Environment and Natural Resources Office (CENRO) who are the members of the Technical Working Group of the Management Council. Before, it was the City Planning Office who attends the meetings regarding LPPCHEA but was then transferred to CENRO in 2013. Its vision and mission for the City of Parañaque are the following:

“Vision: lead the stewardship in preserving, protecting and managing God’s natural creation. Anchored on environment advocacy, public health and safety.

Mission: committed to continually work together in making our city clean and green; and ensure a healthy environment for current and future through:

1. Conduct of environmental education and research;
2. Conservation, protection and management of our natural resources;
3. Reduction of waste generation and emission of Greenhouse Gases and;
4. Increase of waste diversion (CENRO, 2018)”

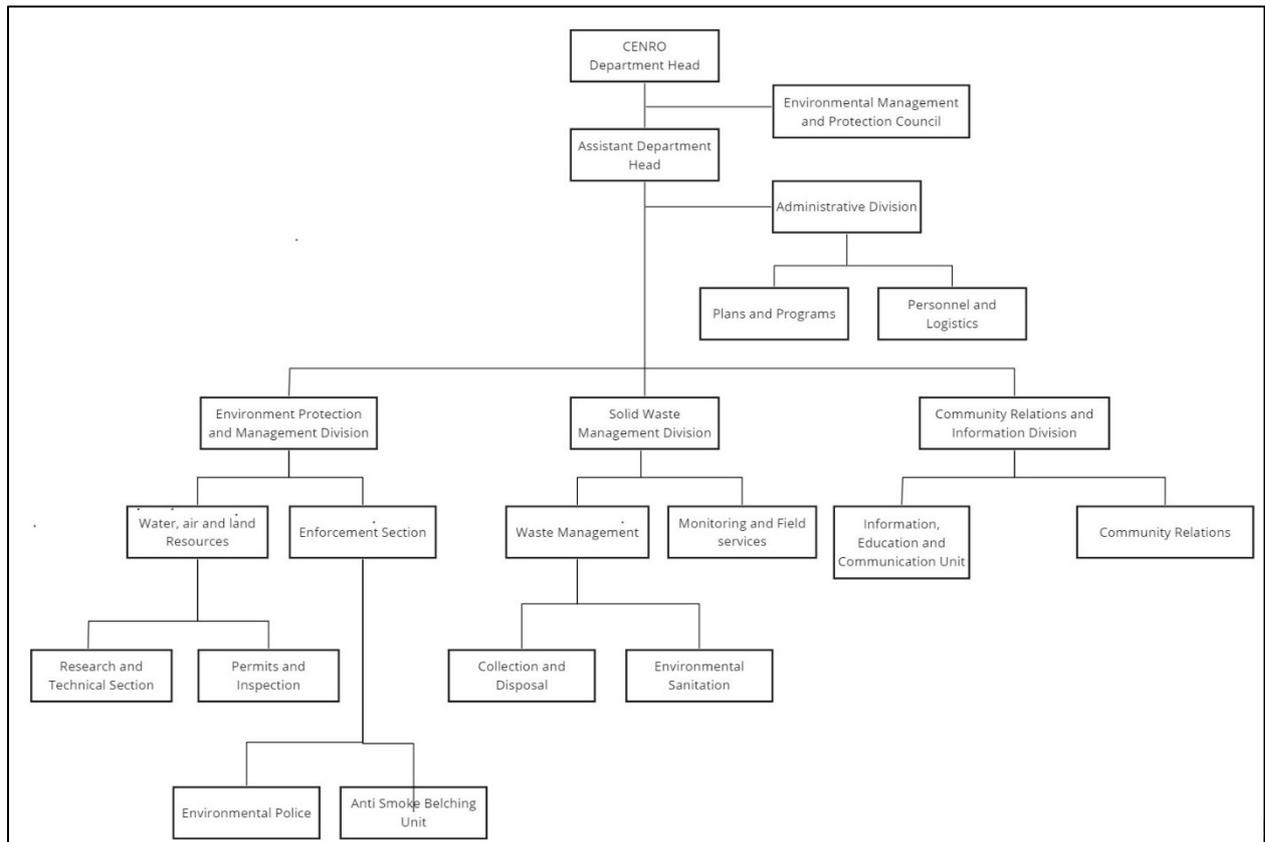


Figure 10. City Environment and Natural Resources Office Organizational Chart

In the interview with CENRO, among the efforts and commitment of LGU to conserve the area are the removal of informal settlers, clean-up activities, tree planting and garbage hauling. They have also city ordinances to protect and maintain the wetland.

Accordingly, the Planning Office are still not releasing their latest CLUP since it is currently being updated. The land use classification in the zoning is open space/parks and playground.

4.2.3 City of Las Piñas

The southward island of LPPCHEA which is Long Island, falls under the jurisdiction of the City of Las Piñas under barangays Zapote, Pulang Lupa, D. Fajardo, Ilaya, E. Aldana, Manuyo Uno. The City of Las Piñas lies in the southern portion of Metropolitan Manila. It is bounded on the north by the Manila Bay, Northeast by the City of Parañaque, on the west by the City of Bacoor, Cavite, on the southeast by the City of Muntinlupa and on the south by Imus, Cavite. According to its 2016-2025 CLUP, the island's land use classification is reflected as an open area, with an increase of 36%. Open areas are areas within the city limits such as roadside and easement. Open areas within subdivisions and other areas as mandated by laws, where vertical development is strictly prohibited due to environmental and ecological considerations. Use of urban open space may range from roadside calming or linear Parks, areas for recreational activities or environmental protection related programs such as tree planting activities. The LGU's proposed intervention is greening to coincide with open spaces. Activities will involve tree and mangrove planting on roadsides and coastal areas so as to add vegetation cover in Las Piñas, to decrease vulnerability from flooding.

Table 8 Existing and Proposed Land Uses, Las Piñas City

Land Use	Existing 2011 Area (has.)	Proposed 2014- 2025 Area(has.)	% Increase/decrease
Residential	1837.77	2053.69	12%
Commercial	217.68	354.70	63%
Industrial	52.43	43.17	-18%
Institutional	60.48	62.82	3%
Parks and Recreation	29.07	41.74	44%
Utility	5.44	5.44	0%
Agricultural land	0	0	0%
Grassland	0	0	0%
Saltbeds/Fishponds	0	0	0
Open Space	34.91	47.74	36%
Vacant Land	603.51	0	-100%
PUD	0	0	0%
Mixed Use Development	0	209.05	0%
Tourist Area	10.06	10.06	0%
Cemetery	20.56	20.56	6%
River System	36.04	46.04	
Roads	390.3	413.9	
Islands			
TOTAL	3,298.61	3,298.61	

Based on their Environment Management Plan under the 2009-2014 Las Piñas City Medium-Term Development Plan, various air and water quality improvement programs and projects were implemented, one of which is the eco-tourism in LPPCHEA. Per interview with the City Agriculture Office, who was the representative of the LGU during Council meetings, their activities in LPPCHEA are primarily tree planting and coastal clean-up. The interviewee reiterated that their role and responsibility is mainly to support the protection and preservation of the area. However, responsibilities has been recently transferred to the newly created CENRO of Las Piñas, previously called the Solid Waste and Environmental Sanitation Office (SWAESO). The CENRO and Planning Office of Las Piñas, however, refused to be interviewed and referred the author to the Villar Sipag organization and the Office of the Senator Villar, which the researcher was not able to interview due to conflicting schedules and suspension of work due to monsoon rains during the data gathering.

4.2.4 Department of Tourism

The Department of Tourism is the main agency mandated in the promotion and development of Philippine tourism as a major socio-economic activity with a mission “to generate foreign currency and employment and to spread the benefits of tourism to both the private and public

sector” (Department of Tourism, 2018). Similar to DENR, DOT has also decentralized from one main office down to regional offices. The agency is also headed by a Secretary.

In relation to LPPCHEA, DOT is part of the management structure as per PP 1214-A. The representative of DOT in the Management Council is from the Regional Office of the National Capital Region. Per interview with the DOT representative, “we will do developments provided that in all aspects all integrity, we will protect and provide for the protection and preservation of all this historical and natural endowments of which LPPCHEA being a natural endowment.”

Aside from their mandate, DOT has the 2011-2016 National Tourism Development Plan (NTDP). The NTDP was extended by President Duterte until 2022. NTDP is incorporated in the tourism act of 2009 or otherwise known as R.A.9593, which is an act declaring national policy to make tourism as an engine of tourism growth, development and it has provision for providing employment and job opportunities for the tourism sector. It serves as a basic framework for the DOT and the stakeholders both at the private and public sector local, national and regional levels to harness the potential of tourism as a sustainable group. Its stakeholders include people’s organization, NGOs, tourism councils, LGUs, private, local, national and regional sectors. Quoting DOT, “This is our mandate or powers and functions of DOT that we can use as guide, the Plan will guide us for the LPPCHEA. We support, advance, and provide for the protection, maintenance and preservation...we would level it in all aspect that would have this integrity and trust in preserving the natural endowments of the country.”

Interview with the DOT-NCR representative also disclosed that they conduct Regional Ecotourism Meetings (REC), and among the agenda include the eco-tourism plans for the study area. Further, they have forged a Memorandum of Agreement regarding the construction of Wetland Center in LPPCHEA, with DENR, Tourism Infrastructure and Enterprise Zone Authority (TIEZA), the infrastructure arm of DOT, and Villar SIPAG.

4.2.5 Wild Bird Club of the Philippines

Non-Government Organizations (NGO) are significant stakeholders. Their contribution varies as the source of funding for activities; manpower resource for the rehabilitation, reforestation and monitoring; consultants for biodiversity accounting; community organizers; and/or independent body who lobbies for the environment.

For the purpose of this study, the Wild Bird Club of the Philippines (WBCP) was interviewed because this organization is a member of the Management Council. WBCP is a non-profit organization with its mission is to keep the records of bird sightings in the Philippines, to promote birdwatching and to encourage the conservation of bird habitat. They actively participate in the management of LPPCHEA.

Since 2003, they conducted visits to the island and noticed the significant number of species in the wetland. The Club have documented the presence of more than 80 migrant and resident wildbird species in the wetland. In 2014, the Club collaborated with DENR and Senator Villar, launched a guidebook or bird watchers at the Las Pinas-Paranaque Critical Habitat and Eco-Tourism Area (LPPCHEA), stressing further the importance of the area as a bird sanctuary. The field guide is a 30-page booklet called "A Photographic Field Guide to the Birds of LPPCHEA" and was funded by the Villar SIPAG (Social Institute for Poverty Alleviation and Governance). The content and photographs were provided by the Wild Bird Club with the help of the Department of Environment and Natural Resources- National Capital Region. The role of the Wild Bird Club was recognized in proving that LPPCHEA is a bird sanctuary and declaring it as Ramsar Site, which is a wetland of international importance.

The WBCP supports agencies in conserving the LPPCHEA as bird sanctuary. Quoting their response when asked for their opinion on the importance of LPPCHEA, “LPPCHEA is the only protected area within Manila Bay. It is a very small part of the whole bay. If we lose LPPCHEA to reclamation and "development" we will not have the ability to stop the degradation of the environment of the whole bay. Manila Bay is an important wetland that requires protection. LPPCHEA is our foothold into protecting the whole bay.”

4.2.6 External stakeholders

Senate of the Philippines - Office of Senator Cynthia Villar

The Senate of the Philippines is the upper chamber of Congress in Philippines, which holds the legislative power. It is composed of 24 electoral senators. Among these senators, Senator Cynthia Villar has been the active advocate in the conservation and protection of LPPCHEA. She was one of the main authors of the Expanded NIPAS Act and collaborated with various stakeholders with regards to LPPCHEA activities. She is also the current chairperson of two Senate Committees: Agriculture and Food and the Environment and Natural Resources.

Moreover, Senator Villar founded and chairs the Villar Social Institute for Poverty Alleviation & Governance (SIPAG). Villar SIPAG is a non-stock, non-profit organization, with the aim to support projects to help less fortunate Filipinos (Villar Foundation, 2018). The organization has also been a support and partner of the DENR in various activities in LPPCHEA. Among its other the programs include aiding OFWs, rehabilitating rivers, tree planting, church and financial assistance, among others.

Interview with the DENR also revealed that they coordinate and partner with about a hundred of stakeholders including private sectors, academe/research, Non-profit organizations, People’s Organizations mainly organizations/associations of fishermen along LPPCHEA i.e., and other NGOs. As per PP 1214-A, PO, originally, has a seat in the Management Council. However, up to this date, the Council are still determining the criteria on selecting the PO.

4.3 Institutional Framework and Actors

Enactment and strict enforcement of legal and regulatory frameworks are vital to support wetland initiatives and programmes in managing the ecosystem towards its productivity or conservation. In the context of LPPCHEA, institutions that are involved in its management were identified based on the enacted legislation, PP 1214-A. Institutional arrangements such as the legal framework and the roles and responsibilities and goals among agencies were determined based on interviews, existing laws, regulations, and policies.

As shown in Figure 7, the timeline of legislations, the enactment of Republic Act 9147 or Wildlife Act in 2001 defines a critical habitat as areas where “threatened species are found” and moves to protect it “from any form of exploitation or destruction which may be detrimental to the survival of the threatened species dependent therein”. In this law also puts wildlife, including migratory birds, under the management and regulation of DENR.

In 2007, LPPCHEA was then proclaimed as Critical Habitat through Presidential Proclamation 1412. Presidential Proclamation is defined in the Philippine legal code as the *"Act of the President fixing a date or declaring a status or condition of public moment or interest, upon the existence of which the operation of a specific law or regulation is made to depend."* This mere proclamation only dictates the wetland with a protected status, but without legislation or management body. The following year, 2008, it was amended so as to include the Manila Bay

Management Council. However, the amendment of PP only stated the general tasks of the Council. Respective roles and responsibilities were not outlined with regards to the management of LPPCHEA. While interactions through meetings were effected and members were recognized, planning, implementation and monitoring schemes and coordination procedures. Up to present, no management plan or ecobusiness plan was produced.

Protection of LPPCHEA, which is located within Manila Bay, was further heightened when the Supreme Court, the highest court in the country, ordered 13 government agencies in their different capacities to rehabilitate and restore Manila Bay to improve its water quality. The continuing mandamus compels these agencies with responsibilities to submit regular reports and create plans. The DENR, LGUs Paranaque and Las Pinas, are among the agencies involved.

NIPAS Act, as discussed in the previous section, has been amended to Expanded NIPAS Act or also referred as E-NIPAS. Approved on June 22, 2018, the law legislates LPPCHEA as a protected area. The salient features of the E-NIPAS are the following:

- Establishment of 94 protected areas within the classification of National Park pursuant to the Constitution Adoption of boundaries and technical description;
- Expansion of the PAMB composition, creation of Protected Area Management Office;
- Designation of buffer zones by the DENR upon recommendation of the PAMB, among others;
- Recognition of existing local communities, townships and town centers;
- Recognition of territories and areas occupied and conserved by ICCs/IPs;
- Allowing renewable energy development;
- Wider coverage of prohibited acts;
- Imposition of higher fines and penalties; and
- Administrative and criminal liabilities of LGUs

Unlike the Presidential Proclamation, E-NIPAS will impose offences and legal procedures and expand the variety of Council members and shall be referred to as PAMB. E NIPAS can be used to define which office is accountable and directly responsible in the management of the site. The act will allow more inclusion of state and/or non-state actors (POs, NGOs). However, due to its recent enactment, the Implementing Rules and Regulations is yet to be created by the DENR. Moreover, this law repeals or supersedes the PP 1412 as per Section 22 of E-NIPAS Act.

On the other hand, LGUs are empowered and guided by Republic Act 7160 of 1991 or known as the Local Government Code. As discussed, one of the mandates given to LGU's is to prepare their Comprehensive Land Use Plans (CLUP) and Comprehensive Development Plan (CDP) based on RA 7160. Zoning plan and environment management is one of the components of the CLUP. Supported by law, the preparation, planning and formulation of these Plans facilitates the coordination and consultation with other government agencies. The LGUs are encouraged to integrate their higher-level plans and other sectoral plans to the CLUP. This shows a vertical and horizontal integration of the institutional arrangements. Workshops during the CLUP formulation enable stakeholders, both government and nongovernment, to take part in the planning process. This action shows a bottom up planning initiative.

The LGUs of Las Pinas and Paranaque, as members of the multi-actor body managing LPPCHEA and through Presidential Proclamation 1412-A, are required to incorporate

protected area management of the said area to their master plans. One issue observed was the lack of management plan for LPPCHEA since 2013 despite series of meetings. Literature had cautioned its one of the weakness as lack of accountability from the actors since it is seen as a network.

Without these plans for the LGU to incorporate in their CLUPs, the tendency of these local institutions was to independently plan, develop, implement and monitor management strategies encompassing LPPCHEA since they have a mandate and rules to abide. The two regular activities that the LGU, DOT and PRA conduct, in coordination with DENR, are mangrove tree planting, and coastal clean-up.

Aside from the Philippine legislations, local plans, ordinances and agreements, international agreements and initiatives exists for the protection of the wetland to which the Philippines is a member. LPPCHEA was declared as a RAMSAR site in 2013 due to the significant number of bird species and bird count in the wetland. The Ramsar Convention is an environmental treaty that provide framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. However, these are international agreements are not legally binding and merely serve as guidance for the national government in policy making with regards to wetland management.

4.4 The Actors and Coordination

The level of coordination was analyzed by mapping the interactions among institutions in LPPCHEA. Presence of single coordinating body, regular meetings and conflict resolution mechanisms were determined. As shown in Figure 11, coordination results to in interdependent relationship, showing local institutions and national government institutions work with each other. Constant coordination and interactions are mainly facilitated through conduct of Council meetings, consultation workshops and writeshops among members. Document review revealed that PO representatives also attend, but not regularly, the Council meetings. Consultations with member institutions also take place in the formulation of development plans and Comprehensive Land Use Plans of LGUs. Moreover, LGUs have committed in the hauling of garbage in the LPPCHEA, hence regular interaction with DENR. On the other hand, the Wildbird Club provides assistance in the conduct water bird census/monitoring and collaborates with DENR and other institutions for projects. Academe and consultants are also tapped for technical assistance and conduct of research. Aside from LGUs, POs and other NGOs are also tapped for manpower in regular site rehabilitation and maintenance activities of LPPCHEA i.e. tree planting, clean-up.

This creates a complex web of coordination network at multiple levels, both horizontal and vertical, but mainly coordinates with the DENR-NCR Regional Office, the agency acting as the single coordinating body. It is also the agency responsible for the issuance of permits in the site. It is also evident that there is limited coordination with the Philippine Reclamation Authority, whereas, Villar SIPAG owned by Senator Villar, coordinates with national, regional and ground levels particularly the two LGUs, and the member NGO.

This case presents an example of multilevel governance concept as it involves different actors and processes occurring in multiple governance levels. In line with the Network Governance Theory, this network also manifests the characteristics of interdependencies, complex interaction, and it has institutional design for facilitating the interaction of these actors. The national government institutions represent the financially and legally independent units with autonomous management but are mutually dependent to achieve common interests. (Assens

and Lemeur, 2016; Klijn and Koppenjan, 2012). In NGT, network management is applicable in this approach. Network management

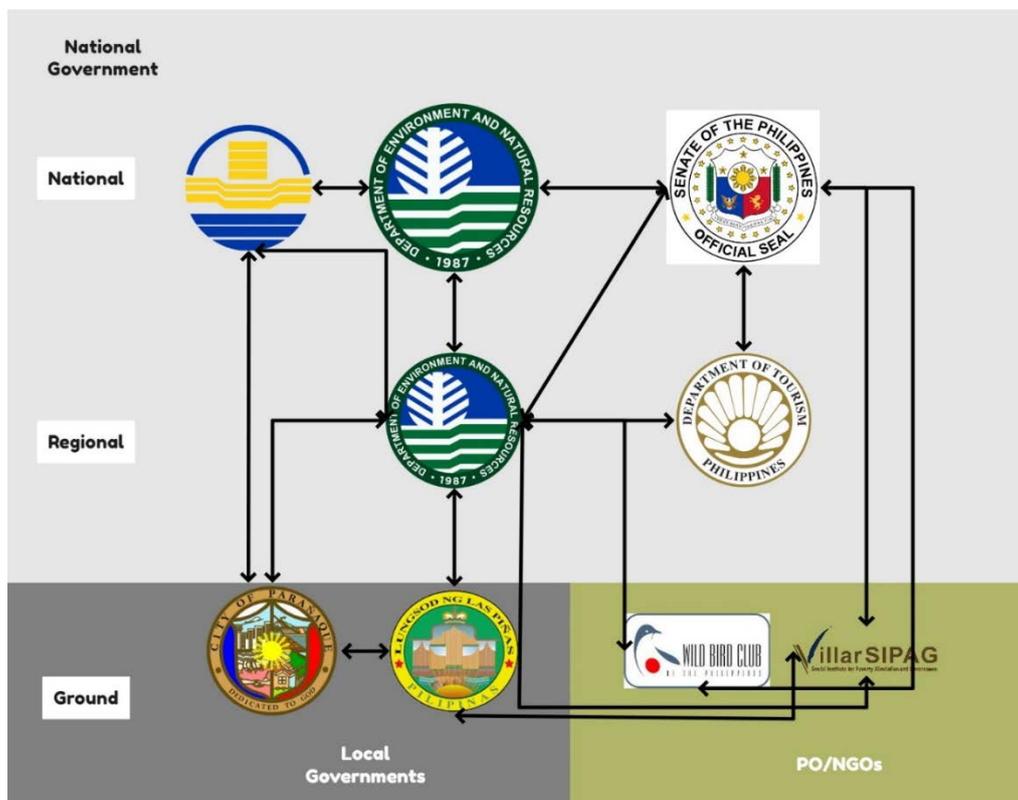


Figure 11. Interaction Map Among Actors in LPPCHEA

Level of coordination was also analyzed in the participation of actors so as to determine the interconnectedness and cohesion of the relationship between the actors. Below are main findings pertaining to the activities of coordination, based on interviews with the respondents.

Tension or strained relationship exists between the two actors with contrasting mandates: PRA and DENR. The injection of political support for LPPCHEA have been considered instrumental in conservation and protection projects for LPPCHEA. Conflict with this is the PRA since they still have reservations on approving plans as it conflicts with its organizational mandate and interest to pursue the land for mixed use development.

The thing is, there is really a problem with the coordination, the DENR is being pressured by the Senator The pressure comes from the Senator. It is really the baby or pet project of Sen. Villar especially now that the expanded NIPAS was approved. LPPCHEA is already included and identified... when we saw that, it is now a Republic Act, before it was just a proclamation that it is an eco-tourism (PRA)

Of course big support of Senator Cynthia Villar in the area. She helped in the intrusion of the LPPCHEA, the E-NIPAS. Because there is NIPAS act, it's amended by E-NIPAS extended NIPAS which is those protected areas that were not considered before was now included, Sen. Villar was among who pushed for the bill...(DENR)

Even the other respondents (LGUs, DOT) have cited the issue between the two actors. They however, do not support anyone or mingle with the issue. This suggests the local government units and other members have minimal control on management, but their opinions and insights are consulted during meetings.

Edge or boundary issues occurs in LPPCHEA wherein the two LGUs have both committed in hauling garbages in the area.

CENRO is well-coordinated with City Government of Las Pinas. The problem we have is because with water waste since we are beside Pasay, the flow of water goes to us, so when they dispose in the waste water the flow of waste goes to us, the same with Las Pinas because we realized that we are handling this for how many years already, the garbage always flows (LGU Paranaque)

This reflects coordination problem, particularly the insufficient communication and translation, with actors have acquired contrasting specializations. Motivation reduces

then the meetings is about critical habitat, none of us have focus on that matter. Especially in the civil engineering unit, when they talk about that I get bored. It is different if youre interested in the topic (PRA)

Deadlocks in this network shows there is institutional complexity. According to literature, stagnation or deadlocks in network processes can be caused by a weakly developed institutional structure, i.e. the absence of a clear set of mutually shared rules. Remedy is to produce mutually shared rules to reduce the risks involved in participating in interactions in networks. They also often have a mitigating effect upon conflicts, provide procedures for enhancing interaction and managing conflict (Klijn and Koppenjan, 2014).

I don't think it there was [a formal agreement] ... I think there was only a written communication seeking permit to use portion for mangrove nursery... until now we issue the permit there... so when the law was signed about the mangrove, our hands were suddenly tied (PRA)

During one of the meetings the PRA told us "If we can't use the land, you can't use that too" (DENR)

Another issue observed is ineffective representation of the member institutions. Among the causes include inadequate communication, reduced trust, or the unclear rule since it was not stipulated in the PP for requiring a permanent representative to attend, thus lowering prioritization for the other members.

I think there was a MOU or MOA, I don't know because it was only in 2012 that I was transferred in this office, before I was at the Engineering office . Before it was the planning office who handles LPPCHEA , now since CENRO was created , it absorbed the roles and responsibilities for LPPCHEA (LGU Paranaque)

They would invite so we would send a representative, let' say TWG. TWG. The problem is they send the letter today but the meeting is on the next day. Of course we already have other meetings and prior commitments and other schedules so we weren't able to attend. Sometimes we can attend, sometimes not (PRA)

Problems in obtaining permits were encountered by members as it increases transaction costs for them. DENR, being the issuing office, was open for suggestions from the members on how to resolve the issue.

For WBCP initiated projects within LPPCHEA, the club must obtain permission from the DENR-NCR office to enter the area. We do not encounter any problems beyond the inconvenience of having to physically obtain that permission (WBPC)

first question of the guest is "How much is the entrance fee" of course the tourist knows that. What will I tell, there is no entrance fee but you have to secure the permit clearance in DENR. Where is DENR, if youre in Makati, DENR Office is in Quezon City, another City, how far I have to travel? Hassle...(DOT)

Presence of single coordinating body such as the DENR agency, who oversees and manages matters concerning LPPCHEA, has helped member institutions ease in submission of reports.

they are a big help because we only report/ submit report to them. DILG also have a reporting format. DILG reports to manila bay supreme court environmental ombudsman for the supreme court continuing mandamus, and DENR has its own mandate, DILG has also its own mandate... we are also busy reporting to them. Which is why all of our efforts are counted, efforts for clean-up (LGU Paranaque)

The network management concept has been considered a way to address the complexity and the occurrence of wicked problems. It can be done by initiating and strengthening interactions, arranging relationships, and mediating conflicts. Network management may be used to deal with institutional complexity by engaging in institutional redesign (changing rules, resource distributions, and organizational relationships) (Klijn and Koppenjan, 2014).

Moreover, in Integrated Water Resource Management, it is important to nurture organizational cultures and individual attitudes, to further encourage the collaboration and coordination (Mitchell, 2005)

4.5 Summary of Variables and Findings

In this section, the summary of findings in the study is presented in table format, correlating the information with the Variables and Indicators mentioned in Chapter 3.

The evaluation of institutional arrangements and coordination among the actors of LPPCHEA was done using the evaluation table and rating adopted from Corsame (2016) to assess the causal relationship between institutional arrangement and coordination at a wholistic level. Referring to Table 10, the variable institutional arrangements involves the existing legal framework, networks, roles and responsibilities of LPPCHEA actors.

- None – does not exist
- Low – Existing but not completely
- High – Existing and encompassing

Evaluation of legal framework revealed presence of existing laws, policies, agreements, and local ordinance concerning LPPCHEA. Institutions also have legal basis on their mandates. During interviews, the respondents were highly knowledgeable regarding their agencies’ mandate, responsibilities, priorities and expertise. Agreements were prepared together with selected agencies; whereas some agreements were not fulfilled or documented. Some contracts/agreements were reportedly breached or unfulfilled. This has resulted in reduced trust among members and reduced motivation.

Table 9 Evaluation of Independent Variable

Variable	Indicator	Description	Findings	None	Low	High
Institutional arrangements	Legal framework	A description of available laws, rules and regulations related to the study area	<ul style="list-style-type: none"> • Legal basis per agency • Presence of laws and policies • With mechanism for inter-relation between agencies 			
	Roles and responsibilities	Goals, roles and responsibilities, interests, and	<ul style="list-style-type: none"> • Actors are aware of their respective 			

		priorities of agencies involved	<ul style="list-style-type: none"> roles and responsibilities Management approach is based on mandate per agency 			
		Find out how well actors understand their mandate, roles, responsibilities and prevailing regulations related to the study area	<ul style="list-style-type: none"> Respondents are experts in their fields Each agency has their own concern and focus 			
	Stakeholder networks	Presence of partnership, agreements between/actors	<ul style="list-style-type: none"> MOAs are available Not all agreements are documented 			

For the level and nature of coordination, as shown in Table 11, results presented a Low to High rating regarding the concept of coordination with respect to LPCHEA. It was observed that the agencies function only within the realm of their sector and mandate or common interest. Still, efforts for collaborations and partnerships mainly on research, mangrove tree planting, site maintenance, and coastal clean-up were done. However, comprehensive and clear lay out of the roles and responsibilities of member institutions of the Management Council were lacking. Although there is a Framework Plan for LPCHEA, it does not clarify the priorities (or goals), the metrics and timeframe used to monitor achievement of those goals, and actors responsible for monitoring. This creates coordination gap, plans and programs are not integrated and monitored in a wholistic approach.

During interview, it was revealed that integration efforts have been done previously but fail to reach agreements or consensus due to cross-cutting issues i.e. land use, political, financial. Other issues such as boundary issues were mentioned. This is due to different representatives attending the meetings. This practice creates ineffective representation of the member institutions.

Table 10 Evaluation of Dependent Variable

Concept	Variables	Description	Findings	None	Low	High
Coordination	Communicating	Existence of communication channel among actors	<ul style="list-style-type: none"> Irregular meeting Late notices of meetings/ Advance copies Depends on the activities of the project 			
	Organizing	Existence of mechanism to distribute authority, roles and responsibilities are distributed among actors	<ul style="list-style-type: none"> With coordinating body LGUs focus on their own jurisdiction 			
	Planning	Presence and participation of all actors during	<ul style="list-style-type: none"> DENR-DOT-LGU-WBCP are coordinating 			

		development of management plan	<ul style="list-style-type: none"> Limited coordination with PRA Delays on reaching consensus due to political bickering and other issues No management plan Different representatives 		
	Commanding	Presence and effectiveness of central authority that gives order and direction based on management plan	<ul style="list-style-type: none"> Lead agency is the single coordinating body Conflicting mandates No management plan 		
	Executing	Cooperation among actors in implementation of management plan	<ul style="list-style-type: none"> Coordination done with member agencies No management plan Activity specific 		
	Controlling	Presence and effectiveness of authority that ensures conformity among actors, monitoring and giving feedback	<ul style="list-style-type: none"> No penalties for agencies (except for E-NIPAS) Boundary issues Delays encountered due to issues with coordination and permits from lead agency 		
	Coordinating body	Existence of single coordinating body and how coordination is done	<ul style="list-style-type: none"> DENR is the lead agency, single coordinating body 		

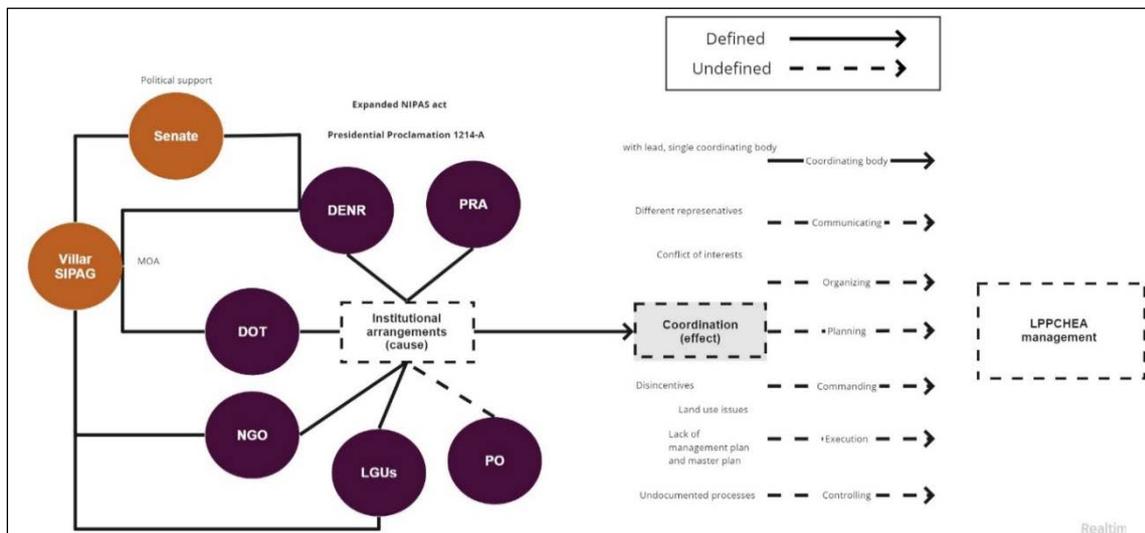


Figure 12. Causal relationship of all actors

Each institution has its mandate and priorities, along with the laws and regulations that provide policy and regulatory frameworks for the management of LPPCHEA, Figure 12 shows that although PP 1214-A served as the coordination platform for the DENR to convene member institutions, unclear and documented institutional arrangement, such as loosely defined goals, undefined direction and unclear roles and responsibilities, led to coordination gaps, thus negatively affecting the wetland management.

Theory on failure in coordination manifested in the case of LPPCHEA, particularly the two concepts: The *partition focus and component focus concept* defined when actors focus on the process of the partitioned task rather than the process of integration and tend to focus on individual components when resolving problems or conflicts (Heath and Staudenmayer, 2000). Empirical case of this was apparent when the LGUs who functions within their territorial jurisdiction to avoid overstepping on the mandate of other government agencies and avoids conflicts of the PRA and DENR. Findings also suggest that neglect the inter-actor relations and may have been due to lack of accountability and disincentives from unclear institutional arrangements.

The second aspect of coordination neglect is inadequate communication and insufficient translation wherein, the actors do not adequately communicate due to barriers that hinder coordination. (Heath and Staudenmayer, 2000). One identified barrier is the differences in specializations of the members of the Council. PRA who are engineers and architects which has different language than environmentalists, or advocates. Poor translation of jargons and problems insufficient communication has led to knowledge bias. The paradigm of division of labor has led actors become focused on the process of the partitioned task more and just focus on individual components. The inadequate communication and insufficient translation lead inadequate coordination (Heath and Staudenmayer, 2000). This process was observed communicating, organizing, planning, implementation and monitoring activities of LPPCHEA.

On the other hand, the creation of the Management Council with a lead agency has allowed a venue for the actors to interact. DENR serves as the lead agency who organizes meetings and manages communications, concerns and gaps in the planning, implementation and monitoring occurred but is not the decision maker. This follows the network setting which has multiple actors with many interests and perceptions, not one central decision maker, involves interdependencies, complex interactions and is dynamic. These characteristics of a network create incompatibility with the top down approach which is uniform, bureaucratic and has “one central steering actor” (Klijn and Koppenjan, 2000). Political support has been instrumental in pouring in budgets for various activities related to the management and conservation of the area.

The dependency of the actors in LPPCHEA manifested *Exchange and transaction cost theories* wherein the actors are motivated to coordinate because they are dependent for resources, to achieve their goals and minimize external and internal cost transactions (Corsema, 2016).

The deadlock that occurred between DENR and PRA characterizes an institutional complexity occurring in the network. Based from Klijn and Koppenjan (p. 63, 2014), network rules “may compete with other sets of rules stemming from informal groups, specific professional roles, organizations, national laws, etc. If the number of rules grow, become inconsistent, opaque, and not well understood, they may generate complexity instead of predictability. Wicked problems cut across existing demarcations between organizations, administrative levels, and networks.”

As a result, interactions become more difficult because the behavior of actors representing various networks will be guided by the different rules and frames of reference; they will have other routines and speak another professional language. To resolve this problem, interventions needed was creation of new organizational structures and formal rules. Hence, for the case of LPPCHEA management, a timely intervention and institutional breakthrough is the enactment of Republic Act 11038, Expanded NIPAS, the newest legislation passed on June 2018, with salient features on adding new actors by expanding the PAMB members, changing rules, and adding accountability to LGU officials.

It is evident that there is a neglect of coordination in the case of LPPCHEA. In line with Network Governance, institutional design model can be applied here which intends to improve institutional characteristics of the network, affect the strategies and level of cooperation among the actors and that attempts to influence change can be made. It aims to change rules, formal or informal, in the network. (Klijn and Koppenjan, 2007).

Chapter 5: Conclusions and Recommendations

This final chapter of thesis provides the summary and aims to answer the sub-research questions in relation to the analysis of the findings and interpretation performed.

5.1 Research Objective

The primary objective of this study was to explain the influence of institutional arrangement on the coordination of actors in the Las Piñas – Parañaque Critical Habitat and Ecotourism Area (LPPCHEA) at Metro Manila, Philippines. Based on theoretical review, this research described the concepts of institutional arrangements and coordination, as understood in this study. Moreover, prevailing institutional arrangements relevant to LPPCHEA have been outlined. Likewise, the institutions and their respective functions have been discussed in relation to wetland management. The extent of the influence of the institutional arrangements on the coordination of actors were explained.

5.2 Sub-Research Questions

What are the prevailing institutional arrangement among actors involved in the management of LPPCHEA?

Laws and regulations that provide policy and regulatory frameworks for the management of LPPCHEA were outlined through a timeline of legislations. The enactment of PP 1412 and 1412-A served as the legal basis in the protection and conservation of LPPCHEA. The Proclamation 1214-A identified the following institutions responsible for the management of LPPCHEA: DENR, as Chair, PRA as Vice Chair and members include DOT, NGO, LGU City of Parañaque, LGU City of Las Piñas and PO. However, the Proclamation did not define the roles and responsibilities of each institution in terms of the management of the wetland. Only the tasks of the Council were stipulated. One of the output was to produce a Management Plan and Eco tourism Business Plan, because of the wetland's potential uses. However, since 2008, only a Framework Plan was produced. The Plan did not contain clear specific timeframes and internal procedures and monitoring schemes for the stakeholders. PO member are still no identified.

The Local Government Code of 1991 has empowered the LGUs with authority in managing their territorial jurisdiction. The DOT on the other hand is mandated by Tourism Act of 2009 and guided by the National Tourism Development Plan until 2022. The identified NGO member was the Wild Bird Club of the Philippines, non-profit organization and bird watchers, proving technical assistance to the DENR.

External stakeholders such as Villar Sipag, non-profit organization owned by Senator Cynthia Villar, has provided financial assistance for conservation projects in the study area. The politician was instrumental in the establishment of LPPCHEA wetland center. She was also among the main authors of RA 11038 or E NIPAS Act, the law declaring LPPCHEA as protected area.

It was apparent that different institutions function based on their own responsibilities, agendas and budget priorities. Interviewed respondents were highly knowledgeable regarding their agencies' mandate, responsibilities, priorities and expertise. Despite of evident legal basis, agreements between and among stakeholders were prepared together with selected agencies; whereas some agreements were not fulfilled or documented. Some contracts/agreements were reportedly breached.

What is the nature and level of coordination among these actors in the management of the wetland?

Empirical findings and review of secondary data disclosed coordination problems among actors. Findings showed unequal institutional coordination among the actors of the Management Council. Interactions of actors were mapped and revealed vertical and horizontal interactions.

With the presence of DENR as the lead agency/single coordinating body, that organizes meetings, manages communication and matters on LPPCHEA, it served as a venue for sharing of feedback and consultations with the stakeholders.

Coordination with actors occurs on an activity specific such as meetings, writeshops, consultations, or per need basis. However, there is neglect in coordination in communication, organizing, planning, implementation and monitoring activities.

What are the constraints and/or best practices that affect coordination among the actors?

Earlier study on governance challenges in the management of LPPCHEA have previously identified lack of strategic direction of the management body, low prioritization of LGUs and lack of coordination between land use planning and protected area management (De Leon and Kim,2017).

In this study, results from in-depth interviews of all member institutions confirms underlying issues. This case manifests the common problem in organizational networks which is the neglect in coordination and integration failures stemming from misaligned actor preferences/objectives and undefined institutional arrangements. Interviews with the actors have identified constraints and best practices affecting their coordination, summarized below:

Constraints	Best practices
<ul style="list-style-type: none"> • Undefined roles and responsibilities 	<ul style="list-style-type: none"> • Presence of single coordinating body, with reporting format for the LGUs
<ul style="list-style-type: none"> • Lack of management plan 	<ul style="list-style-type: none"> • Enactment of E-NIPAS
<ul style="list-style-type: none"> • Lack of interest due to differences in specializations 	<ul style="list-style-type: none"> • Conduct of meetings as venue for sharing of best practices, knowledge and feedback
<ul style="list-style-type: none"> • Late notices of meetings given resulting to prior commitments to other tasks/jobs 	<ul style="list-style-type: none"> • Policy/Political support
<ul style="list-style-type: none"> • Different representatives attending meetings 	
<ul style="list-style-type: none"> • Personal and political bickering during meetings decreasing motivation of actor to further attend 	
<ul style="list-style-type: none"> • Informal/no legally binding agreements and undocumented contracts 	
<ul style="list-style-type: none"> • Power play 	

5.3 Main Research Questions

How does the institutional arrangements of management influence the coordination of actors in LPPCHEA, Philippines?

Institutional arrangements are composed of institutions, with a set of rules—the legal framework and the roles and responsibilities of the actors. These factors establish the nature and level of coordination. It can be concluded that the quality and clarity of institutional arrangements influences the coordination of actors in LPPCHEA management. These findings confirm the earlier study of Corsame (2016) on the management of Ipo Watershed, Philippines. Despite the presence of legal framework, coordination failed among actors. This is due to the unclear or loosely defined plan and undefined roles and responsibilities of the actors. Without a vision or direction articulated in the plans, without procedures and mechanisms, and clear roles and responsibilities defined for them, it has created a blind spot among the actors. Weak institutional arrangements created institutional complexity in the network. The tendency them of the actors is to function within their mandate and jurisdiction, and the conflicting mandates and priorities was never resolved—partition and component focus. Insufficient communication and translation was also an issue due to differences in specializations /expertise.

With the enactment of RA 11038, the this will serve as a statutory or legal basis and a mechanism for the actors to collectively coordinate and integrate. It will further empower the members and add accountability among officials.

It was also found that the trust in among institutions also play a role in the influencing the coordination the actors. Inconsistencies and failure to abide in the contracts and agreements also reduced the trust on some actors and further weakened the coordination relationship.

5.4 Recommendations

Despite being supported by legal framework in the current setup, the author observed unclear institutional arrangements and unequal coordination among actors, in particular between DENR and PRA, which has resulted in failure to have consensus on agreements, unclear management plans. Weak/Poor in the sense that there was no continuity of launched programs. With the identified constraints, the following are recommended:

- With the enactment of RA 11038, immediate issuance of Implementing Rules and Regulations (IRR) is vital for the creation and active action of Protected Area Management Board
- Formulation of science-based, comprehensive management plan following a systematic, ecosystem and holistic approach, with inclusion of clear specific timeframes and internal procedures and;
- Levelling off among stakeholders cum capacitation and values formation
- Harmonization of goals and functions of different government offices and integrate into only one direction
- Documentation legally binding contracts to enforce coordination;
- Robust monitoring and evaluation of projects and activities to ensure accountability of personnel
- Conduct further research

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Annex 1: Semi structured Interview

DENR:

1. Can you tell me about your agency? What are your roles in the management of LPPCHEA? As a member of the LPPCHEA Management council, what is expected from your agency with regards to the management of the wetland?
2. Is there a clear delineation of roles and responsibilities between the agencies?
3. Which agency is considered as the lead agency? Aside from the members, do you also coordinate with other institutions, private agencies or local communities in relation to LPPCHEA? Partnerships?
4. Can you tell me how you conduct your meeting with the members? Do you have a regular meeting? Do you internally conduct regular meeting for updates of projects and monitoring of LPPCHEA status? How often? How about with external stakeholders? How often?
5. How are decisions made in planning? In project implementation? In monitoring?
6. Who were the agencies involved in the planning? Why were they included? Why were they not included? Any more agency/ies that you think should be included during planning? Who were the agencies involved in the planning?
7. How do you ensure conflicts are resolved during meetings with different agencies?
8. Does LPPCHEA have a management plan?
9. During implementation, are the activities and projects implemented by respective agencies synchronized? Who ensures that the projects and activities are implemented based on the agreed timeline? Pls elaborate
10. How do you know that respective agencies perform their assigned projects and activities? Who monitors? Are there penalties in case the assigned agency does not perform?

Opinions:

1. In your opinion, what are the management issues or challenges that you have encountered?
2. In your opinion, do you think there are some overlapping functions/responsibilities?

PRA:

1. Can you tell me about your agency?
2. As Vice Chair of the Management council, what is expected from your agency with regards to the management of LPPCHEA (in terms of its resources and communities)?
3. Can you tell me about PRA's Goals? Priorities?
4. Is there clear delineation of roles and responsibilities?
5. Do you have a masterplan for LPPCHEA?
6. Can you tell me what projects and activities being implemented inside in LPPCHEA? Do you have operational goals and strategies?
7. In relation to LPPCHEA, do you also coordinate with other government agencies, private agencies and local communities?
8. Partnership for what activity? Is it a formal type of partnership (MOA, MOU, etc). How many?
9. For formal partnerships, are there any penalties in case a partner does not perform?
10. Is it a short term engagement or long term partnership?
11. How are decisions made in planning? In project implementation? In monitoring?
12. Do you consult DENR?
13. Do you consult your other partners?
14. What type of decisions that consultation with other stakeholder/s is not necessary?
15. Do you have a regular meeting with DENR? Other stakeholders? How many in a month? In a year?

16. Are your projects for LPPCHEA synchronized with DENR? Other stakeholders? Why or why not?
17. Is there a single lead agency or coordinating body (such as a Council or Project Management Office) dedicated for LPPCHEA?
18. Who were the agencies involved in the planning? Why were they included? Any more agency/ies that you think should be included during planning?
19. During implementation, are the activities and projects implemented by respective agencies synchronized?
20. Who ensures that the projects and activities is implemented based on the agreed timeline?
21. Who monitors the progress of activities and projects being implemented?
22. How do you know that respective agencies perform their assigned projects and activities? Who monitors? Are there penalties in case the assigned agency does not perform?
23. Do you internally conduct regular meeting for updates of projects and monitoring of LPPCHEA status? How often? How about with external stakeholders? How often?
24. During implementation of project and activities, permits from other agencies such as DENR may be necessary. Do you encounter any problem on this aspect? Why or why not? If any, what are your best practices on this regard?
25. In your opinion, what are the management issues that impede the effective management of LPPCHEA?
26. In your opinion, why is LPPCHEA important?

Wild Bird Club of the Philippines:

1. What kind of organization is Wild Bird Club of the Philippines and how is it involved in the management of LPPCHEA?
2. What are the current laws, rules or regulation in the LPPCHEA management? How is the financial and technical support provided for in law?
3. Are your roles and responsibilities clear? Are there other institutions with similar roles?
4. How often are you engaged in meetings in relation to management of LPPCHEA. What is discussed in the meetings?
5. What are your objectives, priorities or interests related to management of the wetland? Are they considered in decision making?
6. How does communication take place between actors regarding management of the wetland?
7. Which government, private agencies and local communities do you work with? What activities have you undertaken jointly with the other agencies e.g. DENR, DOT?
8. Do you have partnerships? Is it a formal type of partnership (MOA, MOU, etc.)? Please elaborate.
9. Have you been involved by any of the government agencies during planning, project implementation and wetland monitoring?
10. During implementation of project and activities, permits from other agencies such as the LGU and DENR may be necessary. Do you encounter any problem on this aspect? Why or why not?
11. In your opinion, what are the limiting factors and management issues that impede the effective management of LPPCHEA?
12. In your opinion, how do the current laws, rules and regulation in LPPCHEA affect coordination of stakeholders in wetland management?
13. In your opinion, why is LPPCHEA important?

DOT:

1. What is expected from your agency with regards to the management of LPPCHEA (in terms of its resources and communities)? Goals? Roles and responsibilities? Priorities?
2. Do you have any policies in relation to LPPCHEA? Get details if any.
3. Do you have a masterplan for LPPCHEA?
4. Can you tell me what projects and activities being implemented inside in LPPCHEA (reforestation and conservation program)?
5. In relation to LPPCHEA, do you also coordinate with other government agencies, private agencies and local communities?
6. Partnership for what activity? Is it a formal type of partnership (MOA, MOU, etc). How many?
7. For formal partnerships, are there any penalties in case a partner does not perform?
8. Is it a short term engagement or long term partnership?
9. Do you have projects and activities being implemented for the informal settlers to remove them from LPPCHEA (relocation program)?
10. How are decisions made in planning? In project implementation? In monitoring?
11. Do you consult DENR?
12. Do you consult your other partners?
13. What type of decisions that consultation with other stakeholder/s is not necessary?
14. Do you have a regular meeting with DENR? Other stakeholders? How many in a month? In a year?
15. Are your projects for LPPCHEA synchronized with DENR? Other stakeholders? Why or why not?
16. Does LPPCHEA have a ecotourism business plan?
17. Who were the agencies involved in the planning? Why were they included? Any more agency/ies that you think should be included during planning?
18. During implementation, are the activities and projects implemented by respective agencies synchronized?
19. Who ensures that the masterplan of projects and activities is implemented based on the agreed timeline?
20. Who monitors the progress of activities and projects being implemented?
21. How do you know that respective agencies perform their assigned projects and activities? Who monitors? Are there penalties in case the assigned agency does not perform?
22. Do you internally conduct regular meeting for updates of projects and monitoring of LPPCHEA status? How often? How about with external stakeholders? How often?
23. During implementation of project and activities, permits from other agencies such as DENR may be necessary. Do you encounter any problem on this aspect? Why or why not? If any, what are your best practices on this regard?
24. In your opinion, what are the management issues that impede the effective management of LPPCHEA?
25. In your opinion, why is LPPCHEA important?

Local Government Units:

1. A portion of LPPCHEA being part of your jurisdiction, is it being considered in your land use plan? What is its classification?
2. What is expected from your agency with regards to the management of LPPCHEA (in terms of its resources and communities)? Goals? Roles and responsibilities? Priorities?
3. In your opinion, why is LPPCHEA important?
4. Do you have any policies in relation to LPPCHEA?
5. Do you have a masterplan for LPPCHEA?
6. Can you tell me what projects and activities being implemented inside in LPPCHEA (reforestation and conservation program)?

7. Proclamation 1412 assigned DENR as Chair of the management council. Were they consulted during land use planning? Are the CLUP output coordinated with DENR? Why or why not?
8. Can you explain how you coordinate with Las Pinas in relation to LPPCHEA? Why or why not?
9. In relation to LPPCHEA, do you also coordinate with other government agencies, private agencies and local communities?
10. Partnership for what activity? Is it a formal type of partnership (MOA, MOU, etc). How many?
11. For formal partnerships, are there any penalties in case a partner does not perform?
12. Is it a short term engagement or long term partnership?
13. Do you have projects and activities being implemented for the indigenous peoples (cultural and heritage conservation program)?
14. Are there informal settlers living inside LPPCHEA who are registered under this LGU?
15. Do you have projects and activities being implemented for the informal settlers to remove them from LPPCHEA (relocation program)?

16. How are decisions made in planning? In project implementation? In monitoring?
17. Do you consult DENR? Do you consult your other partners? What type of decisions that consultation with other stakeholder/s is not necessary?
18. Do you have a regular meeting with DENR? Other stakeholders? How many in a month? In year?
19. Are your projects for LPPCHEA synchronized with DENR? Other stakeholders? Why or why not?
20. Is there a single lead agency or coordinating body (such as a Council or Project Management Office) dedicated for LPPCHEA?
21. Do you think it is necessary to establish a single coordinating body? Why or why not?
22. Who monitors the progress of activities and projects being implemented?
23. How do you know that respective agencies perform their assigned projects and activities? Who monitors? Are there penalties in case the assigned agency does not perform?
24. Do you internally conduct regular meeting for updates of projects and monitoring of LPPCHEA status? How often? How about with external stakeholders? How often?
25. During implementation of project and activities, permits from other agencies such as DENR may be necessary. Do you encounter any problem on this aspect? Why or why not? If any, what are your best practices on this regard?
26. In your opinion, what are the management issues that impede the effective management of LPPCHEA?

Annex 2: Code List

Codes: Coordination-Actors (Between agencies)

Coordination-Communication

Coordination-Planning issues

Land Use Issues

Coordination-Implementation

Coordination-Monitoring

Coordination-Implementation Issues

Coordination-Lead Agency

Legislations

Stakeholder networks-MOA/contracts

Annex 3: Photos



Interview with Mr. Rey Aguinaldo, focal person LPPCHEA, DENR



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