

MASTER THESIS

**Impact Analysis of NGOs' Role in Marine Biodiversity Protection in Raja Ampat,
Indonesia**

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ABSTRACT

The Indonesian seas are rich in marine biodiversity and resources, which leads to fisheries as an essential source of the economy and communities' livelihood. One area in Indonesia that is especially renowned for its extensive coral reef areas and high marine biodiversity is Raja Ampat in West Papua. Unfortunately, as many marine areas in Indonesia are, it is being threatened by over-exploitation of marine resources and degradation of marine and coastal areas. The Indonesian Government's ongoing effort to mitigate and adapt toward those threats is by establishing Marine Protected Areas (MPA). To manage those MPAs and the hindrances related to their governance, the Indonesian Government partnered with several NGOs in the planning and implementing phase. The hindrances based on Indonesia's literature are related to the local communities around those MPAs: the lack of a bottom-up approach, the knowledge of the importance of coastal resources, and the knowledge of coastal processes in general and in the local communities' local wisdom. Despite the partnership between the Indonesia Government and NGOs also the discourse about the potential role of NGOs in tackling the hindrances, there's only one piece of literature that elaborates upon the NGOs in Raja Ampat by White et al. (2022), which triggers the initiation of this research.

This qualitative research aims to elaborate on the impacts and characteristics of the NGOs that support the local community and government engagement in marine conservation in Raja Ampat. Desk research and eleven semi-structured in-depth interviews were done to gather information and knowledge from the NGOs, local government, and local community. The SES framework was used to guide the interview, while Participatory Approach and Epistemic Community framework were used to understand the NGOs' activities. The NGOs in this research increased the local government and communities understanding, knowledge, skill, and collaboration in marine conservation in Raja Ampat through their training, sharing, and assistance. One of the most significant innovations is the establishment of BLUD as the financially autonomous management unit of the MPAs, through the initiation of some of the interviewed NGOs. Regarding the characteristics of the researched NGOs in Raja Ampat, it seems only two have very similar characteristics, while the rest are pretty different, as seen through their conservation programs. Although, their aim is all the same, which is to achieve sustainable marine resources and communities.

Keywords: MPA, NGO, Raja Ampat, Marine Biodiversity Protection, Conservation, SES, Participatory Approach, Epistemic Community

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LIST OF ABBREVIATIONS

BAPPENAS	: Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
BLUD UPTD	: Badan Layanan Umum Daerah Unit Pelaksana Teknis Daerah (Regional Public Service Agency Regional Technical Implementation Unit)
CI	: Conservation International
KEMENDAGRI	: Kementerian Dalam Negeri (Ministry of Home Affairs)
KEMENKOMARVES	: Kementerian Koordinator Bidang Kemaritiman dan Investasi Republik Indonesia (Coordinating Ministry for Maritime and Investment Affairs)
KI	: Konservasi Indonesia (Conservation Indonesia)
KKP	: Kementerian Kelautan dan Perikanan (Ministry of Marine and Fisheries)
KLHK	: Kementerian Lingkungan Hidup dan Kehutanan (Ministry of Environment and Forestry)
KPA	: Kelola Perikanan Adat (Customary Fisheries Management)
MPA	: Marine Protected Areas
NGO	: Non Governmental Organizations
SEAFDEC	: Southeast Asian Fisheries Development Center
SES	: Socio-Ecological System
SISAMA	: Sistem Informasi Kerja Sama (Collaborative Information System)
TNC	: The Nature Conservancy
YKAN	: Yayasan Konservasi Indonesia (Indonesian Conservation Foundation)
YOLP	: Yayasan Orang Laut Papua (Papuan Sea People Foundation)

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1. INTRODUCTION

1.1 Empirical Background

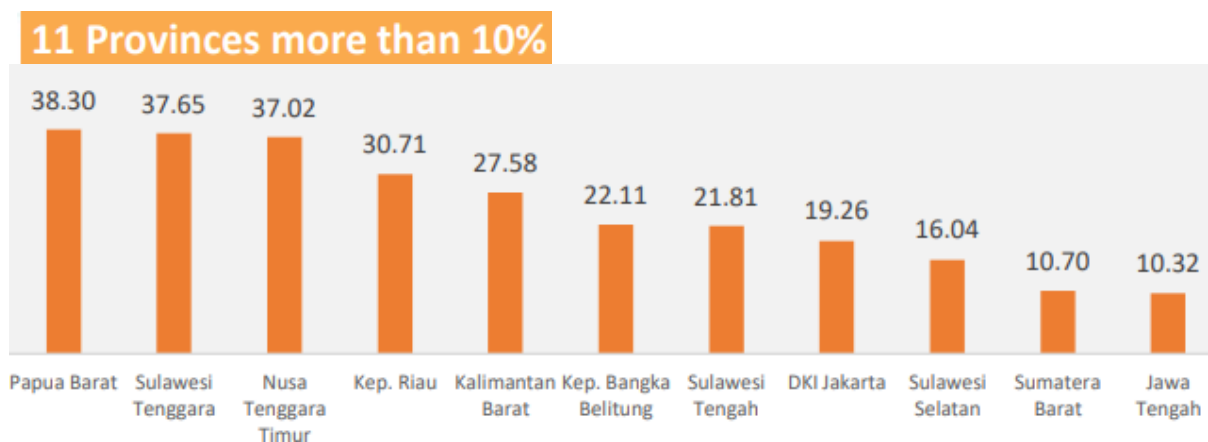
Indonesia is an archipelagic country with 17,499 islands and a total area of 7,81 Million km², with 3,25 Million km² of that total consisting of the ocean (KKP, 2020 a). The marine areas are characterized by the abundance of marine biodiversity, especially along the Coral Triangle (Ferrol-Schulte et al., 2015). Based on FAO (2022), Indonesia is only second to China in its total marine production, which is 8,2% of total marine production in the world. The fisheries sector is important in Indonesia's economy and for food security (SEAFDEC, 2022). It is also an important source of income at the household and community level. This is the reason why over-exploitation of marine resources and degradation of marine and coastal areas is seen as a big threat in Indonesia.

To mitigate and adapt to the threat of marine ecosystem degradation and related over-exploitation, the Indonesian government makes policies and plans to protect the marine biodiversity. One of the ongoing efforts is upon establishing the so-called Marine Protected Areas (MPA) or *Kawasan Konservasi Perairan*. These designated areas are based upon several laws, which are Law No. 31 of 2009 about Fisheries, Law No. 27 of 2007 about Coastal Areas and Small Islands, and Law No. 23 of 2014 of Local Government (KEMENDAGRI, 2020). MPA's agenda is also made to target SDG 14-4 about Sustainable Fishing and SDG 14-5 about Conserved Coastal and Marine Areas by at least 10% (BAPPENAS, 2020; UN, n.d.). SDG 14 itself is about "conserve and sustainably use the oceans, sea and marine resources for sustainable development" (UN, 2022). This implies that designating areas offers one lens of importance, and the governance of those areas is as important.

KKP, the Ministry of Marine and Fisheries, state the goal of Indonesia to reach 32,5 Million Hectare of MPA in 2030 from the start line of 23,1 Million Hectare in 2019, that means the goal is to reach 10% of Indonesia marine area (KKP, 2020 b). Territorial sea refers to a universally recognized extended area in the sea, and for an archipelagic state like Indonesia, that includes the adjacent area to the coastal area of a state (UN, 1982; Ilyas et al, 2021). Among all the MPA, West Papua have the highest percentage of MPA, shown in Figure 1.

Figure 1

MPAs Percentage Higher than 10% based on Indonesian Total Area of Territory Seas



Source: KKP, 2020b

Inside the West Papua area itself, Raja Ampat is reknown for its extensive coral reef areas, resulting in a high diversity of marine species. Raja Ampat houses 69,21% of total coral reef in

the world (Veron et al., 2009). It is an archipelagic area that has 7 MPAs in it (Setyawan et al., 2022). The MPAs are made especially in consideration of the high threats from anthropogenic factors (Rencana Pengelolaan Dan Zonasi Kawasan Konservasi Perairan Kepulauan Raja Ampat Tahun 2019-2038, 2018).

Besides treating the designation of the areas as an important effort, the governance of those areas is as important. The management of MPAs in Indonesia is divided among several governmental bodies, which are KKP, KLHK (Ministry of Environment and Forestry), provincial government, or the local governments (KKP, 2023). Furthermore, to manage the MPAs more effectively, Indonesian government reaches out to partners such as NGOs as a collaboration partner in the planning and implementing phase of MPAs conservation (KKP, 2021; Kolase, 2022; Kepmen KP, 2021; SISAMA, 2022). This partnership aims to tackle the problems or hindrances that are detected in marine biodiversity protection. Also, this is related more to the lens of governance and management of designated area and less to the process of designating areas.

Several problems are identified, in efforts upon regulations and policies, based on Indonesia's literatures. First, it is observed that there is a lack of local community involvement (bottom-up approach), which then caused a discontentment in the local community itself (Rosadi et al., 2022). Second, a lack of knowledge in a low-resource community about the importance of the coastal resources is observed (Simmons and Sanders, 2022). When Simmons and Sanders (2022) mention a low-resource community, they mean it as a community with mostly elementary-level education, who only depends on fishery as their livelihood, have low access to clean water, live in a place with unstable electricity, and insufficient infrastructure and/or healthcare. As was already hinted upon above, the action taken by these low-resource community could threaten the environment, for example, by applying destructive fishing methods. Third, related to this, a lack of knowledge upon coastal processes in the observed local community is highlighted. For instance the research of Phong et al (2022) signaled a poor understanding of sedimentation processes which limited the success of the Brebes Community-Based Adaptation shoreline change project. In that project, a group of local community based volunteers focused on using their knowledge and traditions to protect mangrove forests and aquaculture ponds, with the support from the local government. Phong et al (2022) found that Brebes shoreline experienced erosion in some places and accretion in the others. The poor understanding of the sedimentation process seems to originate from the poor coordination between local government agencies causing poor technical guidelines regarding aquaculture ponds and shoreline protection. The limited (traditional) knowledge to develop the aquaculture and mangrove transplantation was pinpointed. Instead of improving and enhancing the aquaculture development and protection of Brebes Shoreline, the aquaculture pond was inundated, and the mangroves was deteriorated or uprooted. Lastly, a lack of attention for coastal processes in the local wisdom of the community is observed, related to the habits and culture of generations and receptiveness to knowledge upon how deterioration is affected by local customs and practices. Usually, the Indonesian community group that lives along the coastal area have their own traditional fishing practices along with their own way of managing the natural resources, for example, *Awiq-awiq* in Jor Bay (Amin et al., 2020). *Awiq-awiq* is a local wisdom that forms a norm-like policy containing written and unwritten prohibition and sanction regarding the management of coastal fishery sector (As, 2019). The problem is, they have no knowledge about a zoning system concept, where a dedicated protection area for the natural metabolic processes of fisheries system is determined through integrating the local knowledge, scientific approach, and government systems (Amin et al., 2020). Lack of a zoning system approach leads to over-exploitation of the marine resources (Amin et al., 2020).

All four problems elaborated above signal that there are some flaws in the necessary productive collaboration between local governments and local communities. Related to this, there is a discourse of how NGOs can play a role as a mediator between the local government and local community in enforcing the regulation that focuses on protecting the marine biodiversity. Also, NGOs as a group of experts have the knowledge and capability to increase the local community capacity in marine biodiversity management and protection.

Several literatures in recent years present the discourse upon the potential role of NGOs in dealing with the described flaws, although the literatures are mostly in international settings and less in the area of interest of this research, being Raja Ampat. Aini et al. (2023) present research upon Papua New Guinea and elaborate their effort on establishing an effective and efficient way in marine conservation through developing a local NGO, Ailan Awareness. Using the ethical guideline Ailan Awareness developed, the NGO made sure to facilitate the community according to the community's concern and plan, without intervening in their daily activities itself (avoid micromanaging). This in order to ensure that the community can have their sovereignty upon their own area and can operate by themselves in the future. Thiha et al. (2023) describe the role and activities of an NGO named Flora and Fauna. This research shows how in Myanmar there is a difference in a locally managed marine area, in comparison to a conventional managed MPA. The second is more top-down governed, while the locally managed one comes with more support because it's more focused on local stakeholders needs and their involvement. The role of NGO Flora and Fauna consisted of collaborating with the local government in establishing the locally managed marine area and ensuring that the local community is involved in the planning phase. Cadman et al. (2020) also elaborate on how 2 NGOs in Canada focusing on marine conservation come with diverse methods in their involvement in decision making processes in the government. They categorize it in four types, hard advocacy (e.g. campaigns, media interviews, etc), soft advocacy (e.g. collaboration with stakeholders), information gathering and distribution, and administration (e.g. funding procurement, projects development).

Various other literatures discuss the NGOs' role inside the MPA governance system, quite similar to the three literatures above, with varying degree of details of elaboration. But in Raja Ampat itself, only one literature specifically researched the NGOs' role and activities in marine conservation can be found. This literature details how two main NGOs in Raja Ampat designed, adopted, and managed the MPA in Raja Ampat through bridging the relationship between the government and the community (White et al., 2022). Their project initiative includes "tourism entrance fee system, patrol system", and funding system. Although, the research has limitation in that the datas are only collected from the perspective of the NGOs, without any representation from the local community and government. Considering how both stakeholders are involved directly in the NGOs activities, addressing them in the data collection would complement the research more.

Based on how limited the literature that discussed about the NGOs activities and initiatives in marine conservation in Raja Ampat is, despite the importance that Indonesia's government put towards the NGOs involvement in supporting the MPAs management (KKP, 2021; Kolase, 2022; Kepmen KP, 2021; SISAMA, 2022), it is rather crucial to assess whether the observed flaws in the required productive collaboration between governments and local communities is adequately addressed by participation of NGOs.

1.2 Research Problem

The body of scientific literature that evaluates the NGOs involvement, roles, and impacts upon improving marine biodiversity protection in Indonesia, especially in Raja Ampat, is still inadequate. Particularly with regards to the relations and cooperation between the local

governments and the local communities (Rosadi et al. (2022); Simmons and Sanders (2022); Phong et al. (2022)). Therefore, this research will address the NGOs' roles in marine biodiversity protection in Raja Ampat, to see whether their intervention is effective for the protection itself.

1.3 Research Objective

The main objective of this research is to evaluate the impact from NGOs intervention in increasing the level of engagement of the local community in Raja Ampat, to protect marine biodiversity. Raja Ampat is chosen because of the high percentage of biodiversity and high number of MPAs, which means more data about marine biodiversity protection governance in that area that could be used for this research.

There is also an assessment in the interaction between the NGOs and local government, to see how they interact and collaborate in pursuing marine conservation, this includes analyzing how they work together to involve the local community in implementing the government's regulation on marine biodiversity protection. In the final phase, a recommendation based on the result of this research will be provided for current or future NGOs that want to pursue the same goal as the researched NGOs (especially in the same area), to be more effective and efficient in marine conservation.

1.4 Research Question

Based on the objective of this research, the formulated main question is:

What are the impacts and characteristics of the NGOs that support local community and government engagement to protect marine biodiversity in the Raja Ampat?

In order to elaborate the main question, the following four sub-questions are answered as follows:

1. What is the situation regarding marine biodiversity protection governance in Raja Ampat?
2. What kind of activity did/do the NGOs carry out towards the government and local community to protect marine biodiversity?
3. What are the hindrances during the NGOs' interactions and collaborations with the local government and community to protect marine biodiversity?
4. What kind of NGOs' activities should be preserved? And what should be improved?

2. CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

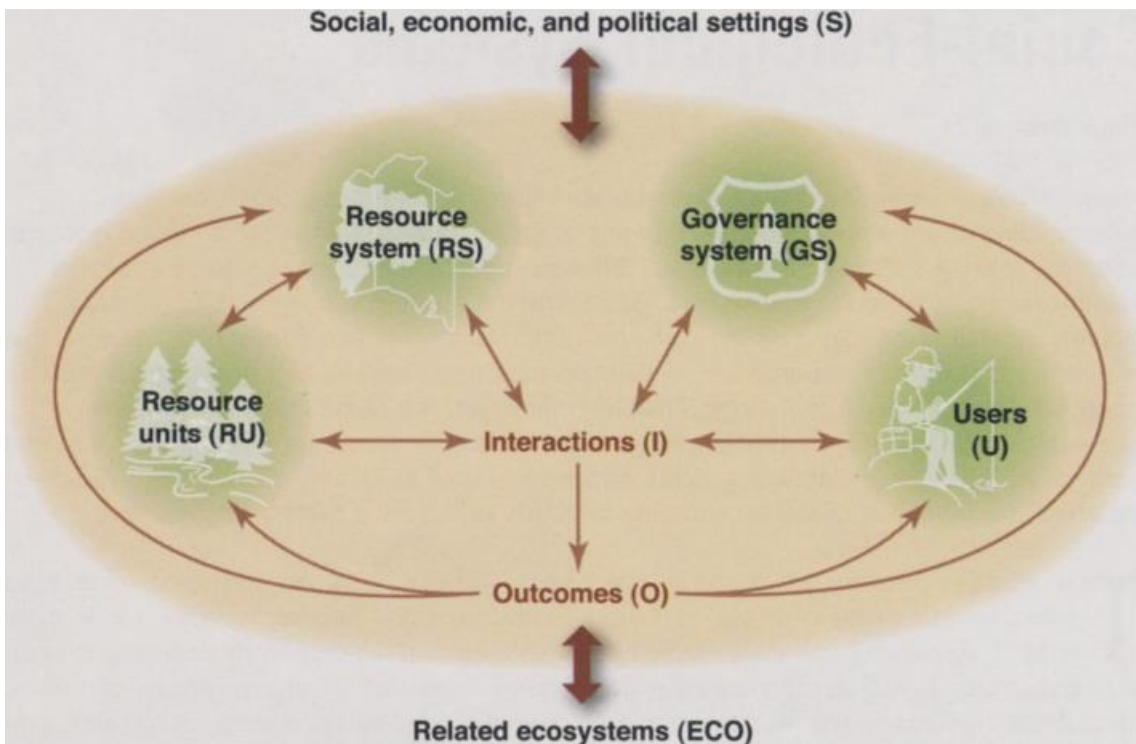
2.1 Social-Ecological System

Social-ecological systems (SES) is a general framework to organize scientific findings from various disciplines that have researched the improvement or deterioration of natural resources in a complex system (Ostrom, 2009). This framework and related researches are important to ensure the next generations well-being. Especially considering how our world resources are finite (Hardin, 1968). The aim of this framework is especially not to simplify social-ecological problems relating to the management of natural resources, that is to say, avoiding a “one-size-fits-all” recommendations (Ostrom, 2009).

Ostrom (2009) present a multilevel nested framework to deconstruct complexity and utilize it instead of eradicating it from the system. This framework are shown in Figure 2, in which the relationship between four first-level base subsystems in an ecosystem that are linked to the social, economic, political settings (Ostrom, 2009).

Figure 2

Core Subsystems in SES Framework



Source: Ostrom, 2019, page 420

The subsystems consists of resource systems (e.g. marine protected areas); resource units (e.g. fish, coral, mangrove, sharks); users (e.g. local fishers); and governance systems (those that governs the system, e.g. local government, local norms or tradition to monitor the area) (Ostrom, 2009). To specify those fundamental subsystems and concepts, Ostrom (2009) also presented several second-level variables (see Figure 3).

Figure 3

Second-level Variables in SES Framework

<i>Social, economic, and political settings (S)</i>	
S1 Economic development. S2 Demographic trends. S3 Political stability. S4 Government resource policies. S5 Market incentives. S6 Media organization.	
<i>Resource systems (RS)</i>	<i>Governance systems (GS)</i>
RS1 Sector (e.g., water, forests, pasture, fish)	GS1 Government organizations
RS2 Clarity of system boundaries	GS2 Nongovernment organizations
RS3 Size of resource system*	GS3 Network structure
RS4 Human-constructed facilities	GS4 Property-rights systems
RS5 Productivity of system*	GS5 Operational rules
RS6 Equilibrium properties	GS6 Collective-choice rules*
RS7 Predictability of system dynamics*	GS7 Constitutional rules
RS8 Storage characteristics	GS8 Monitoring and sanctioning processes
RS9 Location	
<i>Resource units (RU)</i>	<i>Users (U)</i>
RU1 Resource unit mobility*	U1 Number of users*
RU2 Growth or replacement rate	U2 Socioeconomic attributes of users
RU3 Interaction among resource units	U3 History of use
RU4 Economic value	U4 Location
RU5 Number of units	U5 Leadership/entrepreneurship*
RU6 Distinctive markings	U6 Norms/social capital*
RU7 Spatial and temporal distribution	U7 Knowledge of SES/mental models*
	U8 Importance of resource*
	U9 Technology used
<i>Interactions (I) → outcomes (O)</i>	
I1 Harvesting levels of diverse users	O1 Social performance measures (e.g., efficiency, equity, accountability, sustainability)
I2 Information sharing among users	O2 Ecological performance measures (e.g., overharvested, resilience, bio-diversity, sustainability)
I3 Deliberation processes	O3 Externalities to other SESs
I4 Conflicts among users	
I5 Investment activities	
I6 Lobbying activities	
I7 Self-organizing activities	
I8 Networking activities	
<i>Related ecosystems (ECO)</i>	
ECO1 Climate patterns. ECO2 Pollution patterns. ECO3 Flows into and out of focal SES.	

*Subset of variables found to be associated with self-organization.

Source: Ostrom, 2019, page 421

In this research, SES framework is chosen because the topic of marine biodiversity protection is related to the concern and concept in the framework, where the biodiversity could be experiencing threats such as major reductions caused by the commoners in the system and/or where the commoners are the one who ensure the sustainability of the resources. Furthermore, this framework could also provide a guideline in choosing the relevant variables for data collection and analysis of the complex SES in the focal research areas. In particular, the SES framework emphasizes the important role of the governance system. Above, the institutional settings and actors involved in this governance-system is already elaborated, as well as some observations upon flaws from literature were shared, where NGOs might offer stepping stones to improve by their activities and roles. Some variables of the Governance systems (GS) are elaborated as was done in the figure above in a tentative manner. The G1-G8 variables offer concepts to describe, understand, and improve the governance systems. In this research, NGOs (G2) and their roles, connections, and actions in the governance system is assessed. Furthermore, I1-I8 variables will be used as a concept to understand the NGOs' activities and collaboration, while O1 and O2 will be used as a concept to know the target of the NGOs'

actions. The tables in the Data Collection sections in Research Design chapter will show how those specific variables in the SES framework are applied in this research.

2.2 Participatory Approach

To achieve a sustainability, literature stipulates that there needs to be a bottom-up approach for the discussion and planning phase which will emphasize the community local situations (Flint, 2012). The communities will then be improved from a state of “livable” to “resilient, self-sufficient, and long-lasting improvement” (Flint, 2012). By engaging the community, they will also be empowered to take responsibility in their actions (Flint, 2012).

The participatory approach can also be deemed as a local capacity-building process that focuses on asset-based improvement, those assets include social and economic benefits (Flint, 2012). The benefits can be in the form of new job creation which will lowers poverty numbers and stabilize the local economies, revitalize the natural environment, and increase community authority (Flint, 2012).

Figure 4

Type of Community Participation

Typology	Components of each type
Passive participation	•People participate by being told what is going to happen or what has already happened. It is unilateral announcement by an administration or by project management; people’s responses are not taken into account. The information being shared belongs only to external professionals.
Participation in information giving	•People participate by answering questions posed by extractive researchers and project managers using questionnaire surveys or similar approaches. People do not have the opportunity to influence proceedings, as the findings of the research or project design are neither shared nor checked for accuracy.
Participation by consultation	•People participate by being consulted, and external agents listen to views. These external agents define both problems and solutions, and may modify these in the light of people’s responses. Such a consultative process does not concede any share in decision-making and professionals are under no obligation to take on board people’s views.
Participation for material incentives	•People participate by providing resources, for example labour, in return for food, cash or other material incentives. Much in situ research and bioprospecting falls in this category, as rural people provide the resources but are not involved in the experimentation or the process of learning. It is very common to see this called participation, yet people have no stake in prolonging activities when the incentives end.
Functional participation	•People participate by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organization. Such involvement does not tend to be at early stages of project cycles or planning, but rather after major decisions have been made. These institutions tend to be dependent on external initiators and facilitators, but may become self-dependent.
Interactive participation	•People participate in joint analysis, which leads to action plans and the formation of new local groups or the strengthening of existing ones. It tends to involve interdisciplinary methodologies that seek multiple perspectives and make use of systematic and structured learning processes. These groups take control over local decisions, and so people have a stake in maintaining structures or practices.
Self-mobilization	•People participate by taking initiatives independent of external institutions to change systems. Such self-initiated mobilization and collective action may or may not challenge existing inequitable distributions of wealth and power.

Source: Pretty and Pimbert, 1995

In eco-environment conservation, until now, the occurrence where the local community are being excluded or displaced from conservation areas is still happening, which definitely have detrimental impact to the local community and a rather short term solution to the conservation projects where the aim of an expansion in conservation area is contradicted with the increase in human population (Pretty and Pimbert, 1995). The local community can't be expelled each time a new conservation area is designated. Furthermore, in conservation, local communities' participation has increasingly been argued to be of a rather crucial importance. The result of Zhang et al. (2020) research is that participating community can support conservation organizations in bridging the concern upon environmental conservation and ensuring the well-being of the community. Pro-environmental behaviour in communities can be seen through their participation level (Zhang et al., 2020). These levels depend on the degree of protection in the conservations areas, for example, the level of community participation will be lower in strictly protected areas such as national parks (Pretty and Pimbert, 1995).

Figure 4 shows the participation level of community by (Pretty and Pimbert, 1995). The type of participation in Figure 4 are arranged from the lowest to highest participation (from passive participation to self-immobilization). In this research, the participatory framework is used as a complementary assessment toward how the NGOs initiated to involve the community in conservation activities.

2.3 Epistemic Community

In the 1992, epistemic communities were referring to “professional networks with authoritative and policy-relevant expertise” whose aims is to understand the policymaking process in a state of “uncertainty and technical complexity” (Cross, 2013; Araral, 2013). These epistemic communities have a role to institutionalized ideas that transcends the national boundaries (Haas, 2008). Most research would narrow down the definition into groups of scientists from various disciplinary (Cross, 2013). These communities are getting increasingly important in transnational processes, in the sense that they can influence the government and non-government actors with decision-making authority, although they do have diverse level of influence (Cross, 2013). Non-state epistemic communities can include non-governmental organizations (NGOs), international organizations, multinational companies, and advocacy coalitions (Cross, 2013). Offering additional perspectives upon the governance system (GS) and variables G1-G8, as depicted by Ostrom (2009).

In environmental conservation, epistemic communities can have a role in developing local environmental policies. For example, the local community of scholars in Fukuoka, Japan, who did environmental assessment regarding pollutions in there, then inform the local authorities to ensure the community well-being (Mabon et al., 2019). The epistemic communities in conservation nowadays usually also aim to build the local community capacity by instigating and initiating the local communities participation in conservation (White et al., 2022). The type of participation can be referred to Figure 4 about type of participation in local communities. The level of participation can step up in the “ladder” depending on the phase of the epistemic communities project. For example, in the activities done by CI and TNC, from doing social assessment (passive participation) to conducting community meeting to decide whether developing MPA is possible to protect the community resources (participation by consultation).

This epistemic community frameworks will be used as a complementary assessment in this research to understand how the NGOs with their expertise and as a collaborative network,

interact with the local government and local community to reach their goal of marine conservation.

2.4 Applying the Frameworks to NGOs' Role in Marine Biodiversity Protection

Biodiversity is “the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part this includes diversity within species, between species and of ecosystems” (CBD, 1992). These bio diversities are being threatened by human activities. With the growth of mankind’s populations in a finite world, limiting those growth is proposed by many actors in scientific field (such as Hardin (1968). Although, it is easier said than done. Therefore, in some countries, harnessing the local communities in managing and monitoring the natural resources is also proposed. For example, in the form of Marine Protected Areas (MPA).

MPA were made by incorporating ecological principles for management intention, which then leads to the term ecosystem management (Agardy, 1994). This zoning system triggers the ‘precautionary principle’, where an alteration to the ecosystem that is irremediable must be refrained from at all costs (Agardy, 1994).

Benefits that can be gained from MPA not only comprise the ecological aspect, it also encompasses the social and economic aspects. The preserved marine areas which are the result of the MPA could provide ecosystem services (e.g fishery) to the local community, while also stabilizing the tourism sector in the area (Rosadi et al, 2022). This situation ensured the prosperity of the local community. Although, a procedural injustice such as a top-down approach by the government could lead to a discontented community (Rosadi et al, 2022). This shows a need for a participatory approach. A participatory approach could also help the local community to reach a more sustainable living by redesigning their behavior regarding activities that impacted marine biodiversity, such as destructive fishing practices (Simmons and Sanders, 2022).

It seems from some literatures (Suharti et al, 2022; Phong and Van Sang, 2022), the local community take a more active role in the preservation of marine biodiversity, for example in managing the conserved mangrove area. Although the coordination between the government and local community seems to still be needed, considering how the lack of understanding in the coastal processes instead leads to the deterioration of the conserved area (Suharti et al, 2022; Phong and Van Sang, 2022).

With 23,1 Million Hectare of MPAs, the management of the areas is being divided among the governmental bodies that have a responsibility for marine conservation, which are KKP (Ministry of Marine and Fisheries), KLHK (Ministry of Environment and Forestry), provincial government, or the local governments (KKP, 2023). This division is spreads between KKP takes a role as the one who approves the proposed MPAs and aiding the local government in managing the MPAs (KKP, 2021). Anyone can propose an area as MPA’s candidate, although it will be assessed first by the ministry or governor (KKP, 2021).

As an archipelagic state, the management of Indonesia’s marine areas needs a lot of human resources, especially those with expertise in marine biodiversity protection. The government alone is not sufficient to handle all the areas. Therefore, the Indonesian government offers partnerships with NGOs as a collaborative effort to manage the MPA (KKP, 2021; Kolase, 2022; Kepmen KP, 2021; SISAMA, 2022). Some of those NGOs are even involved the development

of policy documents or plans, those are WWF-Indonesia, Coral Triangle Center (CTC), Wildlife Conservation Society (WCS), TNC/Yayasan Konservasi Alam Nusantara (YKAN), Rare, Terangi dan Dana Pertahanan Lingkungan (EDF) (Kepmen KP, 2021).

NGOs' roles as an epistemic community in conservation have become increasingly important in designing and implementing the conservation activities itself (Larsen and Brockington, 2018; Nuesiri, 2018). The roles could be in engaging with the markets to conserve biodiversity, for example, in ecotourism (Larsen and Brockington, 2018). NGOs could be involved in international conferences, national discussion, or at the local levels (Nuesiri, 2018). In a national level, the role that the NGOs take are related to the planning phase, while in a local levels it is more in the implementation phase (Nuesiri, 2018). Basically, the NGOs take a role as a political representative of the local communities (Nuesiri, 2018).

All these stakeholders involved in the management of the MPAs to conserve the biodiversity and the expansive archipelagic state of Indonesia forms a complex SES. Based on the four first-level subsystem in SES, it can be defined like this: (1) MPAs as the resource system; (2) Marine biodiversity as the resource unit; (3) Local community as the users; and (4) Government and NGO as the one who governs (*governance system*).

3. RESEARCH DESIGN

3.1 Research Framework

Based on Verschuren and Doorewaard (2010), research framework is “a schematic representation of the research objective and it includes the appropriate steps that need to be taken in order to achieve it” (p.19). The steps are as follow:

1. Characterize the Objective

The objective of this research itself was already mentioned in section 1 of introduction, which is to evaluate the impact of NGOs intervention in increasing the level of engagement of the local community and government in Raja Ampat by analyzing the interaction between the NGOs and local government in collaborating with the local community to implement the government’s regulation on marine biodiversity protection, in order to give a recommendation for future NGOs that wants to pursue the same goals in a similar area.

2. Determine the Research Object

The object in this research are NGOs that focuses on marine biodiversity protection at Raja Ampat. To be exact, the NGOs chosen are only those that work together or support the local government in engaging the local community to implement the regulations regarding the biodiversity in MPAs at Raja Ampat.

3. Research Perspective Nature

The aim of evaluating the impact of NGOs intervention in marine biodiversity protection is to assess how important the role of NGOs in Indonesia is in regard to enhancing biodiversity protection and whether this deals with governance flaws as indicated by discussed literatures. Therefore, the perspective nature is *problem-analyzing research* to know how important local community involvement is in resolving the issues in MPA enforcement. To structure this research, especially the SES model, the specifications within the Governance system (GS1 – GS8 variables) and the notion of epistemic communities are crucial, this framework is *applied* to describe the domain, to understand the *problems* as well as the role of the governance system in this, in a structured manner.

4. Research Perspective Source

The theoretical framework of this research is formed by analyzing scientific literature and grey literature such as institution and governmental reports, websites, and presentations. Table 1 consists of the key concept and theoretical framework that are used to help in specifying the sources.

Table 1

Key Concept and Theoretical Framework

Key Concept	Theoretical Framework
Marine biodiversity protection	Socio-Ecological System (SES)
Local community participation	Participatory Approach
Charateristic and role of NGOs	Epistemic Community

The three framework is already explained in the Chapter 2 about Conceptual Framework. The key concept is determined by summarizing the conceptual framework elaboration. SES’s key concept is marine biodiversity protection because it is the focus point of this research and the research system variable (adapted from Ostrom (2009)), the participatory approach’s key concept is local community participation because this

framework is used to understand the level of participation that's done by the local community, while the epistemic community's key concept is the characteristic and role of NGOs because this framework is assisting in the elaboration of what the NGOs as an epistemic community is conducting in regard to marine biodiversity protection toward the local government and local community.

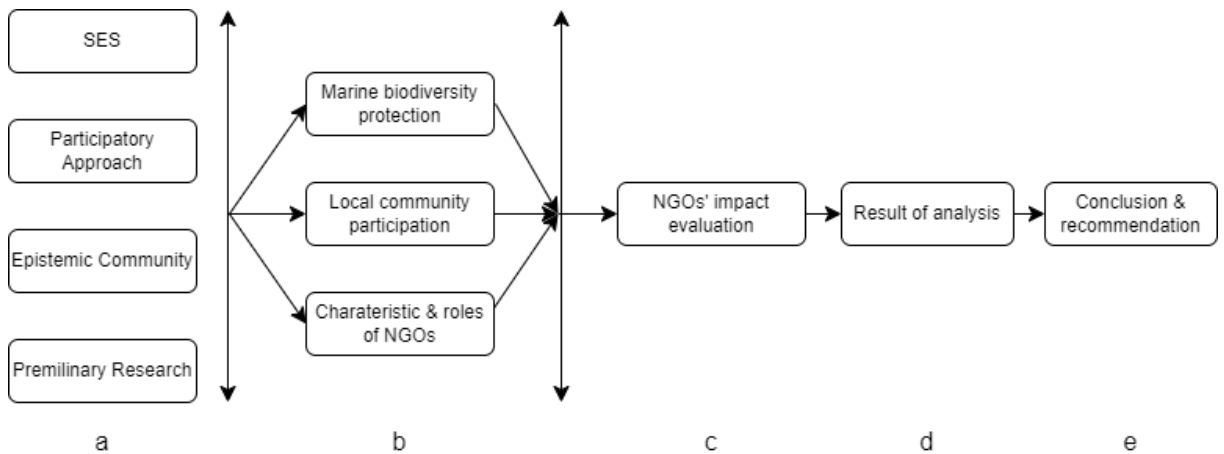
To structure this research, especially the SES model, the specifications within the Governance system (GS1 – GS8 variables) and the framework of epistemic communities are crucial, this framework is *applied* to describe the domain, to understand the *problems* as well as the role of the governance system in this, in a structured manner.

5. Schematic Presentation of Research Framework

Figure 4 visualizes the research framework in a schematic way.

Figure 5

Schematic Presentation of Research Framework



6. Formulation of the Research Framework

The research formulation start with (a) doing literature review based on the theories of SES, participatory approach, and epistemic community along with preliminary research in the form of pre-interview with the prospective NGOs. These theories are then used to (b) do a more in-depth desk research and interviews about the current situation of marine biodiversity protection in Raja Ampat and the actions or programs that the NGOs do/did in regard to it, where they involve the local community in it by sharing their knowledge to the community and also the local government that are in charge of regulating the marine biodiversity protection areas. After that, (c) an impact evaluation through analyzing the result of the interviews and desk research commenced to assess whether the NGOs' interaction with the local government in collaborating with the local community is effective enough in protecting the marine biodiversity. (d) The result of the analysis is then used to give (e) some insight about the activities of the NGOs that needs to be preserved and improved.

3.2 Research Strategy

An interview is used as the core strategy in this research, a small-scale approach to pursue *in-depth* research into the role and activities of NGOs in the researched area. Furthermore, there is also a *desk research*, because cases of marine biodiversity protection is not something new

globally, as well as local knowledge is necessary to do a meaningful exchange with the interviewees. By desk research and by elaborating relevant and informative frameworks from literature, among others upon the governance flaws in the planning and management of MPAs and the roles of NGOs, the interviews about what happens in a certain geographical area with regard to the roles of NGOs were carefully prepared. Although, it means that the generalization of the research's results is less than a *breadth* (quantitative) research. So statistical generalization is an ambition that is far out of reach, though follow up research using the idea of analytical generalization as point of departure. The results are used as a basis for the impact evaluation too.

3.2.1 Research Unit

The research unit that are the study target are the NGOs that aim to protect marine biodiversity. The number of NGOs that are interviewed and studied by considering the time constraint and through the snow-ball method, are 4 NGOs. Though the research unit is the NGO, from an analytical perspective it is the NGO embedded in a Governance system (GS), as depicted by Ostrom (2009). It is a governance system connected to the management and governance of marine conservation policies striving to protect and improve the marine ecosystem and its productivity.

3.2.2 Research Boundaries and Limitation

Setting a boundary and limitation is needed to ensure the completion of the research within the research timeframe. The area with the highest percentage of Marine Protection Areas, Raja Ampat, is chosen as the empirical domain of this study. The reasons for this is in the assumption that there are more data in relation to other areas with fewer MPAs percentage. It's also to ensure the research would be more focused and in good quality. First, the limitations are listed below, which will then determine the boundaries of this research:

1. Raja Ampat is located far in the eastern part of Indonesia. It can only be reached by 5 hours flight, then continued by 4 hours boat ride
2. Limited time and monetary resources for conducting data collection
3. Undisclosed contact information for local governmental bodies in online platforms (websites or LinkedIn). This includes the regional and village level
4. The village governmental actors don't have the necessary tools to conduct Teams meeting.

The determined boundaries based on the limitations above are:

1. The number of interviews with members of NGOs is 4. This is based on a pre-interview with some NGOs to know which NGOs are quite influential in Raja Ampat.
2. The number of interviews with local government officials is 3. The local government chosen are those that are interacting and engaging directly with the NGOs and local community.
3. The number of interviews with the local community is 4 because the local community chosen are a representative of the working area of each NGO.
4. Almost all interviews are conducted through Teams meeting, except for some local community representatives because of their limited resource for online meeting.

3.3 Data Collection

Table 2 details the data collection process and source of data. It is all based on the research questions.

Table 2

Data Collection Process

Research Question	Data/Information Required	Sources of Data	Accessing Data
<i>What are the impacts and characteristics of the NGOs that support local community and government engagement to protect marine biodiversity in the Raja Ampat?</i>	Evaluation of the effectiveness in NGOs intervention	Qualitative Research	
What is the situation regarding marine biodiversity protection governance in Raja Ampat?	Description of the situation after the NGOs implement their actions or programs toward the local community and local government	<ul style="list-style-type: none"> • Scientific Literature • NGOs website • Government articles or report • The situation from the perspective of NGOs, local community, and local government 	<ul style="list-style-type: none"> • Desk research • Interview with NGOs, local community, and local government
What kind of activity did/do the NGOs carry out towards the government and local community to protect marine biodiversity?	Description of the actions or programs the NGOs plan and/or implements	<ul style="list-style-type: none"> • NGOs website • Perspective from the NGOs 	<ul style="list-style-type: none"> • Desk research • Interview with NGOs
What are the hindrances during the NGOs' interactions and collaborations with the local government	Describe, evaluate, and analyze the effectiveness of the interaction between NGOs and local government in	The situation from the perspective of NGOs, local community, and local government	Interview with the NGOs, local community, and local government

and community to protect marine biodiversity?	regards to local community involvement for marine biodiversity protection		
What kind of NGOs' activities should be preserved? And what should be improved?	Analysis result from interviews and desk research about the effective actions or programs that the NGOs did	<ul style="list-style-type: none"> • NGOs and government website • The situation from the perspective of NGOs, local community, and local government 	<ul style="list-style-type: none"> • Desk research • Interview with NGOs, local community, and local government

The main research question is addressed and answered by qualitative research. The line up of sub-questions structure the search for and usage of primary and secondary data, data collected by desk research, and interviews. Interviews with the local government and local community was used to describe, understand, and evaluate whether the NGOs activities and roles really had an impact in marine biodiversity protection and whether it is effective in dealing with the signaled flaws in MPA governance. Desk research is comprised of scientific literatures from databases such as Scopus and Google Scholar, also grey literature from the NGOs websites and governmental report or articles. Desk research helped to get grip upon relevant frameworks as well as to get grip upon potential decentral MPAs governance flaws and how NGOs could step in.

3.3.1 Stakeholder Interviews

The interviews were done individually with each stakeholder using an in-depth semi-structured method. This means that the semi-structured interviews were asked in an open-ended way, where the interview script serve as a guide while giving a chance for the interviewee to share more detailed information than the one asked in the scripts. The duration of the interviews is around 30-60 minutes. The method for choosing the interviewee is by using a snowball sampling method. This means that the interviewee is found through networking with relevant stakeholders because some interviewee contact information is not listed publicly. This method also helps in filtering on which stakeholders are needed or not through the perspective of experts in the field. For example, the local government interviewed are those who are in the lower level of governmental bodies because based on the NGO who works with the governments, the upper level governments doesn't interact much or directly with the local community. Table 3 shows the stakeholders that were interviewed.

The interviewees from the NGOs are those who are already involved in the NGOs for a long period of time, ranging from 9 to 20 years. For the interviewees in the big NGOs (KI, YKAN, and Rare Indonesia), they hold a fixed position such as director or coordinator, while in the smaller NGOs (YOLP) the interviewee hold various position such as co-founder, fund raiser, and operational. Those interviewees all have a background as a researchers. With regard to the NGOs interviewed, half of the NGOs interviewed are now already considered as a local NGO which are KI and YKAN (this

will be explained in part 4.1). Also, based on the size of the organization and scope of work, Yayasan Orang Laut Papua (YOLP) is the smallest NGO compared to the three others. “Smallest” term here indicate that YOLP scope of work and significance is smaller than the 3 other NGOs.

The interviewees from the local community were chosen based on the working area of the interviewed NGOs. Each of the local community that are interviewed is a representative of the “informant” in each NGOs working area. Expert from Arborek 1 and 2 is a part of the village government in the YOLP and KI working area (respectively), expert from Lopintol is a part of the village government in Rare Indonesia working area, while expert from North Misool is a part of the village government in YKAN working area. This method of sampling the local community as an interviewee is with the consideration of the time constraints to conduct an interview with all the community that are involved with the NGOs. Furthermore, the interviewed local community are also those that responded within the time constraint of the data collection, because it was a bit hard to get a response from the local community (mostly because of signal problems and the busy schedule of the local community).

Table 3
List of Interviewee

No.	Stakeholders	Institution/Location	Position/Role	Interview Date
1	NGO	Konservasi Indonesia (KI)	Expert from KI	17 May 2023
2		Yayasan Konservasi Alam Nusantara (YKAN)	Expert from YKAN	19 May 2023
3		Yayasan Orang Laut Papua (YOLP)	Expert from YOLP	20 May 2023
4		Rare Indonesia	Expert from Rare Indonesia	05 July 2023
5	Local Government	Fisheries Department	Expert from Fisheries Department	01 June 2023
6		Tourism Department	Expert from Tourism Department	26 May 2023
7		BLUD UPTD	Expert from BLUD	16 and 18 May 2023
8	Local Community	Arborek Village Government	Local Community from Arborek 1	29 May 2023
9			Local Community from Arborek 2	30 May 2023
10		Lopintol Village Government	Local Community from Lopintol	31 May 2023
11		North Misool Village Government	Local Community from North Misool	26 May 2023

The interviewees from the local government were determined based on how direct and often they interacted with the interviewed NGOs, which were found out through the interview with the NGOs. They are positioned and situated in Raja Ampat itself, so they interact not only with the NGOs, but also with the local communities.

3.3.2 Applying Conceptual Frameworks in Interviews

In the previous chapter, some conceptual framework that’s considered as relevant and informative for this research were introduced. It was mentioned that this research will use the concept of the second variables in the SES framework such as the Governance

System (G1-G8), Interactions (I1-I8), and Outcomes (O1 and O2). These concepts are used to help in structuring the data collection and data analysis process. The variables are modified to ensure that the interviewee can comprehend and give the desired information. Any loss of accurate representation of the complexities centered upon in the SES framework is acceptable since this research does not strive for testing or developing the SES framework itself. It is more important to gain as much information and insights upon the activities of NGOs within the limited time available for each interview. The reasoning upon the data, giving meaning to the data is done by the researcher supported by the conceptual frameworks. Spending most of the interview time explaining the SES model would not be beneficial for reaching out for the research goals and answering the questions. That implies that some indicators of the model are presented as tentative guide for the interviewee as a tool to trigger their responses. Though that does not imply that in any manner the respondent was welcome to share their perspectives, beyond the guideline given. Table 4 represent the modification of the interactions variables in mainstream wordings that shows the kind of interactions and collaborations that could be taken by the NGOs during their activities, while Table 5 represent the modification of the SES outcomes variables that shows the target or envisioned outcomes that the NGOs might have in mind as a result of their interactions and collaborations, while Table 6 represent the modification of the governance system variables that shows the hindrance that might have been faced by the NGOs during their activities in regard to the governance situation in Raja Ampat.

As for the conceptual frameworks of participatory approach and epistemic community, it is used to give meaning to the activities that the NGOs is doing in protecting marine biodiversity. Participatory approach framework is used to understand how the local community is involved in the marine conservation activities, or in which level they were interacted with by the NGOs (see Figure 4). The epistemic community framework is used to see how NGOs as a collaborative networks with an expertise is interacting with the local government and local communities.

Table 4*Interactions and Collaborations*

No.	Interactions and Collaborations
1	Acting toward marine resources and the use of them (interventions)
2	Sharing information and knowledge
3	Helping and guiding deliberations upon proper plans and actions
4	Mediation between perspectives of actors/users, resolving conflicts
5	Fund raising activities for conservation plans, measures, and options
6	Lobbying towards actors to influence them (local government and/or local communities)
7	Help other actors to work together and build a marine resources conservation coalition
8	Initiate and manage networks on conservation
9	Initiating campaigns or protests

Table 5*Envisioned Outcomes or Target*

No.	Target
1	A sustainable community
2	Higher involvement of local community in managing the marine resources
3	Sense of belonging and responsibility of the local community in managing the marine resources
4	Stop or prevent overharvesting of marine resources
5	Preserve the biodiversity of marine species
6	A sustainable marine resources

Table 6*Hindrances*

No.	Hindrances
1	Different perspectives, goals, and/or way of doing things with the local government
2	Internal conflict in the organization (e.g. different ideas)
3	The governance is dominated by the government, so there's an imbalance in power between local government, NGO, and local community (top-down approach)
4	Conflict of interest between users in the management and/or usage of the marine resources
5	The implementation was not spread fairly among users
6	In the making of rules, some groups of users are not included, causing an injusticeness during the forming of collective "goals"
7	The policies made by the government are not well-explained or well-received by the local community
8	The sanctions is not properly and strictly enforced

3.4 Data Analysis

The data analysis is done done qualitatively. It means that the data analysis process will be comprised of organizing, transcribing, coding, and categorizing the collected data from the desk research and the interviews (see Appendix 2 for the coding). The interviews will be embraced in and complemented by the results from desk research to reach a more in-depth and comprehensive analysis. These steps are important to assess or evaluate the impact of NGOs' intervention on marine biodiversity protection without any bias. To structure this analysis well, the referred theoretical frameworks offer an acknowledged perspective, in that manner the analysis will be connected strongly to the scholarly work presented so far.

3.5 Data Validation

As was mentioned in the Data Collection section, this research data source is from interviews with stakeholders and desk research. By having multiple data sources and data collection methods, it will increase the validity of the data, because the information will complement each other. The data gathered from desk research are only from credible resources, which are literatures from Scopus, Research Gate, governmental websites or articles, and NGOs websites. The data gathered from the interviews came from interviewee that are positioned in a high position in their respective organization, governmental office, or community.

3.6 Ethical Considerations

Before conducting the interviews, an assessment of the ethical standards was done by BMS Ethics Committee at the University of Twente. This procedure was done to prevent any ethical violations. The interviews commenced after the approval was given by the ethics committee.

In the pre-interview session, the interviewee was given an overview of the research content, by email or through an online meeting. Then, during the interview, they were asked for their consent about audio recording and how the interview results will be used, which entails how the recording and transcription will not be used other than for this research and will not be published anywhere else. The attribute that's mentioned about the interviewee will only include their position, job title, and professional background.

4. RESULTS

The results chapter presents the information gained from desk research and interviews with the stakeholders: NGOs, local government, and local community. The list of interviewees can be found in part 3.3.1 of chapter 3. The results of the research are presented in four sub-sections according to the sub-questions of the research.

4.1 Current Situation

This section presents the result for research question 1, which is “*What is the situation regarding marine biodiversity protection governance in Raja Ampat?*”. The elaboration is given in the following paragraphs.

Figure 6

Map of Raja Ampat



Source: White et al., 2022

Raja Ampat is an archipelagic area located in West Papua, Indonesia. Currently, there are 7 MPA (Marine Protected Area) in Raja Ampat, as seen in Figure 5. Before the NGOs came to Raja Ampat, there was only one MPA developed by the National Government, which indicate

a lack of involvement and dedication of both the national and the local governments bottom-up approach and management (White et al., 2022).

The establishment of MPAs can be seen as a reaction upon the perceived threats towards biodiversity that were and still are present in Raja Ampat, which are mostly anthropogenic threats (Rencana Pengelolaan Dan Zonasi Kawasan Konservasi Perairan Kepulauan Raja Ampat Tahun 2019-2038, 2018). This is also stated by 3 out of 4 interviewees from the local community that was interviewed, for example a statement made by an interviewee from a local community from Arborek 1: *“Yes, until now there are conflict about illegal fishing that are prohibited from entering and destroying things that have been restored. Still happening often until now”*. The interviewee from a local community from North Misool shared that nowadays, the case of illegal fishing where the fishers used prohibited tools for fishing (e.g. bombs) wasn't done by the local community itself, but by outsiders (fishers from outside of Raja Ampat).

With these situations in mind and on the agenda, several NGOs developed activities towards the area in order to deal with these threats. Action and interaction frequently aimed at increasing local community participation (participatory approach) and collaborating with both the local government and the local community. The involved people from the involved NGOs are mostly researchers or scientists. The NGOs and involved NGOs staff developed the projects. In general, the target of all the NGOs in this research is to achieve a sustainable marine biodiversity and resources which will lead to the welfare of the local communities, according to the interviewee from the Fisheries Department and Tourism Department. The Expert from Tourism Department stated in the interview that, *“They (the NGOs) can be utilized from the point of view of what they have expertise in, they can fill in our gaps, we don't have oceanographers, marine scientists or marine biologists.”*. Another supporting statement from the interviewee from Fisheries Department, *“We are aware of our lack of human resources and budget, so the presence of NGOs is very helpful, because their team of experts and assistance is good. They really help us in socializing or giving an understanding of fishing activities.”*

Overall, the targets set up by the NGOs are perceived as a success, according to the interviewee from the Fisheries Department. The interviewee, who oversees quite some projects and timespan, and asked for a perspective, observed a change in local communities' behavior, where they are now aware of the importance of protecting the marine resources by not using destructive fishing gear. Through the support and assistance of the NGOs, the level of understanding about conservation in the local community increased according to the interviewee. This led to an increase in a sustainable community, where they can continue doing conservation related activities without the assistance of NGOs. One of the examples shared and underpinning the perspectives shared in the interview with the expert from Fisheries Department is Arborek Village. The expert shared, *“The village clean up activity still continues even if the NGO that initiated it is no longer there”*. Some of the NGOs in this research also helped in revitalizing the local wisdom, namely *Sasi*, derived from the word *sanksi* (in english: sanction), which entails the ban of a certain natural resources (in marine area, the fishing ground) for a certain time, as a method of resources preservation (Sumarsono and Wasa, 2019). According to the Expert from YKAN that was interviewed, before KI and YKAN arrived in Raja Ampat, there was no conservation management program there, so the local communities guarded their territory with their own effort and local wisdom.

Elaborating the targets per NGO included in this research, the landscape of involvement will be explained in the sub-sections below (4.1.1 until 4.1.4) for each NGOs. Before the elaboration of those target and the NGOs' introduction, the next paragraph will explain first the order of time that the NGOs entered Raja Ampat.

The first (two) NGOs that arrived in Raja Ampat were Konservasi Indonesia (in english: Conservation Indonesia) at 2001 (previously named CI (Conservation International)), followed by Yayasan Konservasi Indonesia (in english: Indonesian Conservation Foundation) at 2002 (previously named TNC (The Nature Conservancy)). It can be said that those two NGOs were the NGOs in Raja Ampat that first started to get involved intensively in the Raja Ampat MPA projects (White et al., 2022). At 2014, Yayasan Orang Laut Papua (in english: Papuan Sea People Foundation) co-founder came to Raja Ampat, but the NGO changes name in 2017 and 2019, caused by internal conflict that leads to a change in their organization. The NGO name became YOLP after 2019, but their project were already in the planning phase since 2014, by interacting with the local government and local community to identify their aim vision and mision, not only in ecological aspect but in economic aspect. Lastly, at 2016, Rare Indonesia came to Raja Ampat, although they already exited the area since 2019.

4.1.1 Konservasi Indonesia (KI)

Konservasi Indonesia (KI), one of the four NGOs that were included in this research and members were interviewed, is a local NGO that was established in September 2021. This NGO was established as the main partner of Conservation International (CI) in Indonesia and to continue the operationalization of the projects that was developed and managed by CI before they exit their operational position in Raja Ampat. So even though KI was just recently established, it can be said that the projects inside the organization already started quite some time ago, since CI arrived in Raja Ampat. Some time ago, KI signed an MOU with Indonesian governments to continue CI operational work in the area. The MOU was between KI with KEMENKOMARVES (Coordinating Ministry for Maritime and Investment Affairs) and KKP (Ministry of Marine and Fishery). According to the interview with the Expert from KI, this MOU is a requirement for an NGO to operate in Indonesia, as a commitment for the alignment of the government and the NGO in their partnership about the goals of the government in strengthening marine resources management, climate change action for the blue economy, and sustainable marine resources management (Dewanto, 2022; Muhammad, 2022).

KI choose Raja Ampat as their geographical scope because of its abundance in biodiversity and the various threats to this. The area where they work specifically is in the north part of Raja Ampat. They have a mission to support the community in nature and biodiversity conservation, for the well-being of Indonesian community. Their projects focus that is related with this thesis research is conserving fisheries and marine resources (Kerja kami – Konservasi Indonesia, n.d.). This focus involves setting an objective of empowering the local communities traditional effort in conservation, *Sasi*. The end product for *Sasi*, according to the interviewed Expert from KI, is to produce a map of *Sasi*'s locations in Raja Ampat. Regarding specific marine species protection, according to the interviewee from Fisheries Department, KI is currently focusing on sharks and manta ray. In general, the target of KI is to ensure that the conservation area continues to exist and be maintained, the people can coexist well with nature, and the marine biodiversity is preserved.

To achieve their target, various activities were undertaken, largely underpinned by science and local knowledge as their approach method. Some of the activities include researching and lobbying the government on the areas that they deemed would be important to be made into an MPA, increasing the understanding and participation of the local communities upon conservation, up to proposing and helping the local government to develop a conservation area management body, called Badan Layanan

Umum Daerah Unit Pelaksana Teknis Daerah (in English: Regional Public Service Agency Regional Technical Implementation Unit). To simplify, it will be referred to as BLUD. BLUD was established through a collaboration effort between KI, YKAN, communities, and the government to develop a financially autonomous body to manage the MPAs (White et al., 2022). Until now, Raja Ampat MPAs' network is the only one with BLUD as its management unit authority. BLUD is a part of the Department of Marine and Fisheries in Raja Ampat Regency. Further elaboration of BLUD will be done in Section 4.2.

After the development of BLUD, KI transitioned from an active role of outreaching towards the local community, increasing their knowledge about conservation, and helping the government in managing the conservation area, into an assisting role for the local government and the local communities. This transition process is their exit strategy, because as an NGO, they can't operate forever in an area of a country. The reason for that is mainly because an NGO only have a role to support the authority that governed the area, not as a permanent part of the governance system in the country. So once the NGO or their (funding) sponsor observed that their target have been achieved, the NGO will move to another area that needs them. An exit strategy is needed to ensure that the conservation program that were introduced by them will be integrated into the local community and local government, so they can operate it by themselves (sustainable conservation program). Nowadays, KI's focus is on area and community development. They assist the local community by supporting them in developing local products as an alternative economy. Furthermore, in regard to current marine biodiversity protection activity, the Expert from KI that was interviewed said, "*I work in every shark project on the science, monitoring, and species cultivation in West Papua.*". According to the interview with the Expert from BLUD (the conservation area management body that will be elaborated in section 4.2), "*KI, along with YKAN, succeeded in protecting the walking shark.. it is successful because of their results, their findings in the field*".

4.1.2 Yayasan Konservasi Indonesia (YKAN)

The second NGO included in this research is Yayasan Konservasi Alam Nusantara (YKAN) that was previously named The Nature Conservancy (TNC) before 2014. Their situation is similar to KI, where they now have become the main partner of their predecessor (TNC) to continue their operational work in Raja Ampat. As YKAN's main partner, TNC still collaborate with them to develop YKAN conservation programs. KI and YKAN have a similar program's aim, which is focusing on the marine resources and community well-being. This is the reason on the division of geographical scope. KI is in the north of Raja Ampat, while YKAN is in the south of Raja Ampat.

YKAN geographical scope is in the south of Raja Ampat. Together with KI, YKAN was one of the NGOs intensively involved in identifying potential MPAs to be proposed to the government which leads to the current MPAs network, and also the proposed establishment of conservation area management body in Raja Ampat. The mission of YKAN is to "*protect land and water areas as a life support system, we provide innovative solutions to achieve harmony between nature and people through effective natural resource management, promote a non-confrontational approach, and build a network of partnerships with all stakeholders for a sustainable Indonesia.*" (Siapa Kami - YKAN, n.d.). The main target, based on the interview with the expert from YKAN is "*ensuring a sustainable management of conservation area*". To achieve their mission, especially in the marine scope, the NGO developed several programs. Those programs

are blue economy, sustainable fishery management, coastal area resilience, and coastal area protection (Program Kelautan – YKAN, n.d.). Within these programs, there are activities that can be considered as projects.

Same as KI, in the last few years after the conservation area management body in Raja Ampat was established and the people that worked in it have been trained through capacity building programs from KI and YKAN, they transferred their operation in managing and patrolling the conservation areas to that governmental management body. In turn, YKAN now is also more focused on accompanying the local communities in the villages to develop a sustainable economic alternative for their livelihood. In the interview with the Expert from YKAN, it was shared that YKAN is now assisting the local communities by building their capacity in managing their own marine resources independently. The Marine and Fisheries Department representative that were interviewed also shared that, with the increased level of the local communities understanding of the importance of conservation to the level where it can be deemed as sufficient and strong, KI and YKAN reduce their outreach toward the communities in Raja Ampat and are now working more on species monitoring, specifically shark and stingray. They also started to move toward collaborating with the government in initiating policies to support their conservation programs in Raja Ampat. All of the activities done by YKAN are in an effort to ensure the continuity of the conservation area management, according to the interviewee from YKAN.

4.1.3 Rare Indonesia

Rare Indonesia is an international NGO that has several working areas. They choose Raja Ampat as one of their geographical scopes because of the high biodiversity, the conservation challenges they perceive in this area, as well as their consideration in the relevancy of this area to include in their program that aims for building community based MPAs management, in which the local communities are the one mainly managing the MPAs, this involves the protection and utilization of it. The specific areas where they used to work is in the Dampir Strait and Mayalibit Bay (MPA number 3 and 4, see Figure 6), because according to the interviewee from Rare Indonesia, those areas are more reachable from the capital city of Raja Ampat regency. Rare Indonesia is currently tied in an MOU with KKP, since 2019.

Based on the Expert from Rare Indonesia, their mission or target is to “*push humans to change their behaviour and protecting biodiversity.*”. Rare Indonesia wants to build communities that are empowered and involved in coastal and fishery resources management effort, so conservation of coastal and fishery ecosystem will be sustainable. The main target itself is changing communities behaviour. They mainly targeted communities behavior because, “*..all conservation issues are anthropogenic. Maybe only a little, under 10% due to nature.. humans are a source of problem. So then they became a source of solutions as well.*”, as referred from the interview with the expert from Rare Indonesia.

To achieve their target, Rare Indonesia initiated the development of a conservation coalition made up of local community, called Kelola Perikanan Adat (in english: Customary Fisheries Management). KPA activities include patrolling and zoning system of the conservation area. KPA itself is an adaptation from *Sasi*, so basically, Rare Indonesia combined their knowledge with *Sasi* to make KPA. Rare Indonesia initiated the development of KPA to encourage people to be responsible and have sovereignty

over their own resources. Rare Indonesia also tried to engage in co-production of policies with government to ensure a sustainable project implementation. Their project is called “Fish Forever”, it is a project where “*Rare Indonesia works with fishing villages and district and provincial governments to build and strengthen community-based coastal fisheries management of Indonesia’s provincial waters*” (Fish Forever in Indonesia – Rare, 2023). Rare Indonesia finished their programs in Raja Ampat in 2019, so currently they no longer work in the area. The interviewee of the Local Community of Lopintol stated that they get the benefits of a more preserved or maintained marine products after Rare Indonesia implemented their projects. But, it seems that their KPA project is at a standstill after they exit Raja Ampat, showing an incomplete integration of the project in the local government and the local community. This problem will be further elaborated in section 4.3 about hindrances.

4.1.4 Yayasan Orang laut Papua (YOLP)

Yayasan Orang Laut Papua (YOLP) is the last NGO that’s included in this research. Their current geographical scope is in Yenbekwan. The reason for choosing Raja Ampat as their working area is because coral reef restoration is expensive, so YOLP decided to focus upon Raja Ampat that still has an abundance of coral reef, although with threats from anthropogenic and nature aspects, so the restoration is not from zero (the interviewee from YOLP gave an example of Caribbean where it’s already deemed hard to restore coral reef there). YOLP main project aims to restore the coral reef by doing coral reef transplantation. Their other foci in projects are mainly related to technology, such as making websites or application to support the local government in managing conservation area, and to share the result of their activities. Their activities are “*capacity building; strengthening the ability of local community members to obtain the skills, knowledge and understanding required for improved management, protection and enhancement of local marine resources*” (The SEA People, 2023). The NGO not only targeted the local community, but also those working in the tourism sector, such as dive guides, and resort or homestay operator. By targeting them, YOLP is aiming for a collaboration in biodiversity monitoring, which will be started by training them first.

Currently, they have started to delegate their program operations to their staff who are a part of the local community, in the hope that the community can be independent. Although, the Expert from YOLP that was interviewed admitted that for now, they still do most of the jobs, such as operational management, design of vision and mission, strategy, and fund raising. This might be caused by how YOLP can be deemed as recently established, compared to the other 3 NGOs that have already established themselves in the international scope before coming to Raja Ampat.

Among their programs, currently there are several projects that have been stalled. Those projects are in the field of technological innovation. The detail regarding this will be further elaborated in section 4.3 about hindrances.

4.2 NGOs’ Activities or Programs: Their Interactions and Collaborations with Local Community and Local Government

This section presents the result for research question 2, which is “*What kind of activity did/do the NGOs carry out towards the government and local community to protect marine biodiversity?*”. The elaboration is given in the following paragraphs.

As was elaborated in section 4.1, each NGOs have their own programs or projects, even though they all are aiming to conserve and protect marine biodiversity. Furthermore, whether as a collateral target or a main target, they also aim to develop and build a sustainable community, which included enhancing the communities's well-being.

In the beginning, the researched NGOs always do a survey first before deciding on their geographical scope and programs. This survey is a base for their planning phase. The survey aims to identify the key stakeholders, the challenges and problem in the area, and the goals and expectations of stakeholders.

About the activities that all the NGOs have done related to conservation, the Expert from Fisheries Department interviewed stated, *"In interaction, KI and YKAN might be similar, but YOLP is different because of their organization size and form of activities"*. The details on the similarity and/or differences between each NGOs type of interactions and collaborations towards the targeted stakeholders (local community and local government) will be explained more detailed below.

4.2.1 Conservation Coalition

As was mentioned in Section 4.1, KI and YKAN proposed and initiated the establishment of BLUD. BLUD was established for several reasons. First, because KI and YKAN, as an external organization to the local government and local communities, can't directly intervenes in the management of the conservation area, they can only assist. For example, in the activities involved in monitoring the conservation area and giving sanctions to rule violators (e.g. Illegal fishing in MPA). Second, the interviewed Expert from BLUD also added that NGOs don't have the right to manage the resources themselves. Managing the usage of marine resources is the responsibility and right of the government with their policies, especially for the Marine and Fisheries Department. NGOs only have the right to educate or arrange a capacity building activity to ensure that the local community and government will not do anything destructive to the marine resources. Third, the management of conservation area is expensive, so there needs to be a legal body that can gather and manage funding without completely relying on the National Government. The Expert from KI that was interviewed stated, *"BLUD is funding themselves by managing funds from conservation fee. This fee is applied to every tourists that enters Raja Ampat... This funding is then used for the patrol team (for monitoring the MPAs), restoring damage by tourists, and salary of staff"*. Lastly, BLUD was proposed by KI and YKAN to be made as a way for those two NGOs to slowly step back from directly managing the patrol team. They used to do a lot of field work before BLUD was established. Expert from KI stated, *"After years of BLUD establishment, all of KI and YKAN assets are given to BLUD. From speed boat until all the staff that were trained by KI and YKAN. This is the transition process"*. Now, KI and YKAN's role is to assist BLUD in regard to the MPA management.

Another form of conservation coalition is Kader Manta. It's a local community group comprised of young people in the village surrounding the manta ray sighting area. Kader Manta is a part of a working group focusing on manta ray tourism management (see Sub-section 4.2.2, first paragraph). The people inside Kader Manta is chosen by BLUD. They are trained on how to explain to the guests (e.g. tourists) about the best location for snorkling and diving, the rules and regulations there, also the ethic code. Initiating

the formation of local monitoring groups with the government also helped in increasing the trust of the local communities toward the government, that the government still care about them.

As for YOLP, they're still in the planning phase to develop a conservation coalition in Mansuar Island. The NGO is still in the process of identifying the key stakeholders to be involved in this program. The aim is to have a committee that will hold a meeting several times a year to discuss and plan about what the communities needed and how to overcome the challenges toward a sustainable island.

4.2.2 Conservation Networks

According to the interview with the expert from KI, the supporting actors for the management of MPAs in Raja Ampat involves many stakeholders. For example, KI have an annual program in developing a national action plan document for sharks and rays. The review process involved the local stakeholders mentioned before, the ministries (KKP and KEMENKOMARVES), and other NGOs. Another example given by the interviewed expert from KI is an initiative started at 2016 by KI to survey the capacity an area has in accomodating tourists through a method called 'carrying capacity'. The survey approach was by using manta ray tourism. In this initiative, a working group for manta ray tourism management was developed. The working group consists of the local government, local community, customary institution, and NGOs. All those stakeholders worked together to develop a concept on the manta ray tourism management in Raja Ampat. The interviewee from KI stated, "*...we always involve all the previously mentioned stakeholders to make a work plan or management plan in the area.*".

The patrol team in the MPAs that was initiated by KI and YKAN also involve several stakeholders. Before the establishment of BLUD, YKAN and KI initiated the formation of groups of local communities that have different roles in implementing conservation programs. The local community representative in those groups were there to assist YKAN and KI in their conservation activities. The interviewee from YKAN explained in the interview, "*We formed teams, then some local community were recruited and divided into those teams. There are those that assist the outreach team, others are with the monitoring team in which they were trained to do scuba dive and coral identification, and the rest joined in the administration team*". After BLUD was finally established, those trained local communities were transferred to BLUD.

In BLUD, the patrol team that managed by them always consists of 2 law enforcement authority (the naval police) and 2 local community members, while BLUD's staffs itself are managing and providing the funding for the patrol team activities. This conservation network was built with the aim to empower local communities to feel a sense of ownership toward the MPA that exist in their living area (White et al., 2022).

For Rare Indonesia, to ensure the sustainability of their program in Raja Ampat, Rare Indonesia push and facilitate the integration between the village government (local community representative) and BLUD (local government), in terms of activities and funding. The activity itself is called KPA (Customary Fishing Management), a form of

conservation network where Rare Indonesia assist the patrol team that's consisted of the local community and BLUD.

4.2.3 Sharing Information, Knowledge, and Expertise

Sharing information and knowledge can be implemented in several ways. KI has a program called Pendidikan Lingkungan Hidup or PLH (in english: Environmental Education). In this program, KI introduced the ecosystem to children in school ages. A similar program targeted towards the older generation is called MPA101, where KI trained the local community stakeholders about the ecosystem in MPAs. Those stakeholders involved all actors in the community which are the customary institutions, local community itself (positioned below the customary institutions), teachers from school, sunday school (a school that also teach christian religion), et cetera.

Through their expertise, the NGOs also worked through their limitation as an external organization (from the government and community) in managing the utilization of marine resources. Despite the situation where the NGOs don't have the authority to prohibit the utilization of (certain) marine resources, they can still assist the local government and local community in the prevention of marine resources overharvesting through their advising and lobbying activities by sharing their research result in a workshop that they initiated on why overharvesting prevention is important. This workshop program can also just be a method to share and discuss their research results on marine resources together with all the local community members.

Giving training to stakeholders is also a part of the activity. In relation with BLUD, YKAN shared their expertise by training the patrol group that's managed by BLUD on how to do surveillance. Together with KKP and the police, YKAN developed a Standard Operating Procedure (SOP) that's used until now to; deal with rule violations in the MPAs, how to manage the surveillance patrol in there, and how to give capacity building to the patrol team. YOLP, that seems to focus more on the technical and technological aspect of conservation, taught the local community that joined their organization as a staff to scuba dive. As was mentioned in Section 4.1, YOLP activities are also aimed toward the tourism sector (dive guide or resort operator). The NGO trained those tourism actors to do their business using the concept of eco or green tourism. For example, by training them in coral transplantedation, the tourists can contribute to the coral restoration effort.

YOLP way of sharing information and knowledge is through digital tools that they designed themselves, for example their website about all the things related to the conservation area in Raja Ampat. In the website they also share and report their activities and results, in order to be transparent about their programs, activities and outcomes. Their target of developing the website is so that the people can learn what works in conservation based on the YOLP approach, success, and failure in their programs. This website was developed through a collaboration with BLUD.

4.2.4 Lobbying

The NGOs' activity includes influencing and convincing the local government that were not yet convinced that the existence of the MPA will not limit the local communities's

source of livelihood, which is fishing activity. At the beginning of their arrival and MPA initiative in Raja Ampat, KI and YKAN activities were mainly ensuring that initiating the MPAs establishment will instead lead to the reduction of threats to natural resources, and along with it, that those two NGOs will make a strategic plan to utilize the existing natural resources in a suitable manner through initiating activities that attract tourists, based upon using those resources in a responsible manner.

By using their expertise and information, the NGOs' also have a role in the discussion upon the plans and actions of the government, assisting in the deliberation of whether something is good or bad in the scope of marine conservation and local communities' well-being. One of the example of this, right at the beginning of KI and YKAN and their interaction with the local government, is the situation wherein the local government of Raja Ampat wanted to develop the economic sector of nickel industry with potential adverse impacts (White et al., 2022).

Rare Indonesia initiated policies and collaborated with the provincial and district government as a governance approach. The aim of the policy initiation was to make sure that the change of behaviour in the local community they instigated would continue and maintain itself, even after they would leave Raja Ampat area. In the process of policy development referred to, lobbying took place as a form of advocacy toward the pinpointed government body. KI and YKAN are also heading towards policy making, because the community level of understanding is evaluated as sufficient enough, so KI and YKAN attention can shift to other activities, other than increasing the communities understanding of conservation. The policies are made with a similar goal as the one Rare Indonesia had in mind, which is to support the activities or changes that were already established in the community. The only organization that has not been involved in policy making is YOLP, based on the interview with the interviewed expert from Tourism Department.

One interesting insight gained from the interview with the expert from the Tourism Department is, when lobbying, their strategy is through identifying first the role of each stakeholder (in the local communities or local government). In the local communities, *“by looking for local actor that have a big influence that can be approached to convey their message or perspective (to local community). Another strategy of them is by identifying the ‘local champion’ that will be the initiator in implementation.”*, while in the local government *“...identifying the actors that have an access to the specific problem. For example, tourism problem means they will approach the tourism department”*.

4.2.5 Conflict Mediation

The NGOs' role in a situation where there are conflicts in the MPA is rather limited. NGOs have no authority in giving sanctions towards rule violators. They usually only act through mediation activities to assist the law enforcement authority by providing advice based on their knowledge or expertise about laws, to deliberate upon which laws should be applied to punish the offender. One of the examples in KI and YKAN experience is when a patrol team caught an illegal fisher that was using bombs in an MPA, the NGOs assisted and mediated the process by advising the law that should be

applied based on the evidence at hand. Although, as mentioned by the interviewee from KI, they can only assist and mediate through the local authority such as BLUD or the police in Raja Ampat. NGOs can't directly intervene in the discussion itself when there's a conflict because in the end, the NGOs are still non-constitutional institution. In a similar event (using bomb for fishing), the expert from YKAN also shared their experience in the interview regarding their assisting activity, *"..we paid for the transportation and accomodation of the police to come to Makassar because there was a forensic laboratory there to prove that the evidence (fish) was really fished by a bomb"*. This shows that the NGOs can use their resources (funding) to support law enforcement activities.

Rare Indonesia experience in mediating role was concerning the catchment areas in the MPA. The interviewee from Rare Indonesia said in the interview, *"So if a village feels that their territory has exceeded their administrative boundaries, we will assist in settling that."* The example given by the expert from Rare Indonesia is when the territory that the local communities claimed as theirs overlapped with each other, Rare Indonesia suggested that the overlapped area is treated as a shared area. This suggestion was given through the customary leaders, not directly by the NGO.

Another advisory activity done by the NGOs in a conflict was in initiating the development and legalisation of the customary law in Raja Ampat. KI was one of the NGOs involved. In 2016, Dewan Adat Suku Maya (in English: Customary Council of Maya Tribe) decided on a customary law about the protection and management of marine area (Asdhiana, 2016). This customary law was made because of how the sanction by the national government do not manage to deter the offenders (Fajar, 2017). There were also some cases where the offenders were not sanctioned because there was not enough evidence, so the offender couldn't be jailed. The offender was instead returned to the local communities to get a sanction through the customary law. The sanction usually include the confiscation of boats and fishing equipments, and paying a big amount of fines. By partnering with the Customary Council and through the legalisation of this customary law, KI grand plan is to pass this customary law into a local regulation in Raja Ampat. This is to ensure the recognition of the indigenous local community (their existency and sovereignty) in a higher governmental level (Fajar, 2017).

4.2.6 Fund Raising

In general, fund raising activities are defined by all of the expert of the NGOs that were interviewed as the acts of looking for donation to support their programs. As a non-profit organization, it's not allowed for NGOs to do any commercial activities that would produce profits for the organization, for example, by selling merchandise (Direktori Organisasi Internasional Non-pemerintah (OINP) Di Indonesia, 2011). Funding is one of the main support for NGOs project implementation. The interviewed expert from YKAN shared, *"we're always looking for funding, because we can't do (much) work without funds"*. Depending on the government's own allocation for conservation is not sufficient. In fact, the NGOs' are supposedly helping the government with the gap in the government funding (insufficient funds). The most reknown method for NGOs are by seeking for funding from a donor.

Before seeking donations from external sources (sources besides the government), KI and YKAN hired a consultant called Starling Resources to calculate the funding needed in a conservation area. From the result, then KI and YKAN calculated the gap in the governmental funding which will then determine the amount that KI and YKAN will look for in external sources. For the sustainability of their projects, the expert from YKAN mentioned in the interview, two sustainable funding strategies. YKAN and KI were involved in both. The first is a sustainable funding model attached to BLUD, and the second model has a bigger geographical scope which encompasses the Bird's Head Seascape in Papua, it's called Blue Abadi Fund. Blue Abadi Fund is aimed toward the local conservation institution. This funding body is being surveiled by voluntary governance committee staffs, which came from the NGOs (KI, YKAN, and WWF Indonesia), governments (KKP, West Papua Province), local community representative (Papua People's Assembly), international agency (USAID, Walton Family Foundation), and three other stakeholders (the information about them is insufficient) (Blue Abadi Fund, n.d.).

Among the NGOs in this research, only KI and YKAN could access the funds from Blue Abadi Fund because they already became a local NGO. Rare Indonesia and YOLP have to get their funding from international funding bodies because of their status as an international NGO. The Expert from Rare Indonesia stated, *"Rare cannot raise funds domestically, only from abroad.. for example Bloomberg Philanthropy and then the Walton Foundation"*. For YOLP, the expert from YOLP that was interviewed said that they also built a foundation focusing on fund raising activity in their country of origin, France. The foundation is named Sea People. The interviewee said, *"(Sea People) represent programs outside of Indonesia and help raise funds, while the other (YOLP) provides the program in Indonesia that complies with Indonesian laws and regulations.. to collaborate with the government"*.

4.2.7 Empowering and Enhancing

Before the NGOs came to initiate the expansion of MPAs network in Raja Ampat, the local communities of Raja Ampat already have their own local wisdom regarding marine resources conservation, which originated from their ancestors. It was already mentioned in Section 4.1, about the local wisdom already referred to multiple times called *Sasi*. The interviewee from KI said, *"All villages, areas, indigenous people.. have this Sasi zone"*. *Sasi's* zone is determined separately from the zonation regulation by the government that was decided through the Ministry of Marine and Fishery Regulation No. 31 of 2020 about Conservation Area Management. Through *Sasi*, the local communities can prohibit the over-utilization of their marine resources, through closing an area for a period of time. One of the activity related to *Sasi* that was done by KI was initiating a meeting and assisting in a discussion with stakeholders in the communities to know their *Sasi's* location, so that there won't be any overlapping location. By taking *Sasi* into the conservation program of NGOs, the NGOs' preserve the local wisdom, and preventing conflict from a possible overlapping *Sasi* zone. Rare Indonesia was also doing a similar thing with the local communities, although they named their activity as Kelola Perikanan Adat (in English: Manage Customary Fisheries). The activity didn't stop at initiating a meeting to identify the protected areas, but also the catchment areas.

Furthermore, Rare Indonesia activity also included the deliberation process upon the rules on fishing activity by the communities. For example, deciding on the kind of fishing gear that's allowed. By including the local communities in the deliberation process, the expert from Rare Indonesia that was interviewed stated Rare Indonesia target, "*This means that they must then comply with what they have agreed to*". The activity that Rare Indonesia did was *Sasi* but with additional rules in it to further protect the marine resources and to reach their target which is changing human behavior.

Another activity in this category is through capacity building activity for a sustainable and independent community. KI and YKAN are currently supporting, assisting, and facilitating local community to develop their own local product. Expert from KI elaborated, "*a product that are produced by the local community, for example Virgin Coconut Oil, soap, and lotion made from coconut. KI only helps in the community group establishment, facilitating the production, and help to sell it outside the village*". The end goal is so that the local community will no longer depends on KI regarding their income. YKAN also do this activity by giving grants to local community for their local product development using local resources.

As a recently established organization (compared to the other 3 NGOs), YOLP's way of empowering the local communities is by starting to delegate their staff (that's part of the local community in Raja Ampat) that have been trained to conduct coral transplantation, to do the program by themselves. YOLP aim is to train those staff until they will be the leader of the program and run the coral restoration program independently, especially after YOLP exit Raja Ampat.

4.3 Hindrances or Challenges

This section presents the results for research question 3, which is "*What are the hindrances during the NGOs' interactions and collaborations with the local government and community to protect marine biodiversity?*". The elaboration is given in the following paragraphs and the interviewee are giving their responses according to or guided by Table 6.

In a program or a project, hindrances or challenges is something that will happen, no matter how small or infrequent it is. In the duration of the NGOs conservation activities in Raja Ampat, those hindrances might originate from several sources; the local community, local government, outsiders (those from outside of Raja Ampat), or even the NGO itself. The four subsections below elaborated upon the hindrances coming from those 4 sources.

4.3.1 Local Community

Resistance toward conservation plan. In the beginning, when KI and YKAN had just entered Raja Ampat with their conservation ideas, there was some resistance from some actors in the local community. These actors referred to as "bad boy" by the NGOs, to refer to a group of people who are in control in a community. This resistance emerged because of several reasons. The expert from YKAN that was interviewed stated that this rejection towards the conservation plan of the NGOs emerged because they need time and understanding in knowing the benefit of conservation. Another reason was shared by the interviewee from KI, "*Or maybe the village people who are "bad boys" who haven't accepted those regulations, also happens to be a tourism operator*", so there was a possible conflict of interest. The resistance could also be caused by the dissatisfaction

toward the government that used to neglect the local communities (see subsection 4.3.2), which then leads to the distrust toward the NGOs in the beginning. According to the interviewee from KI, the solution was through embracing and communicating with them more intensively than with the others, because most of the times these people is the key whether a program is going to be successful or not. By turning these people into “local champions”, which are the people who are at the forefront of the local community in protecting the conservation area. Another resistance was shared through the interview with the expert from Tourism Department about a village that consumes turtles during their customary event as a tradition and doesn’t accept the regulation made by the government on how the turtle species is protected. The resistance is high, so the NGOs then asked for assistance from the customary institution to communicate. This concern seems like it’s still ongoing.

Equal participation. In the implementation phase of the NGOs conservation program, it seems some of them experienced a case where there were people in the local community that felt like they are not being involved. This is a normal occurrence according to the NGOs and Local Community, because in forming a group of people, for example, patrol the seas with speed boat or monitoring species by diving, a specific skill for that is needed, and not all people have it. This problem is manageable as long as the NGOs communicate it to the people that were unsatisfied with the situation. The expert from YKAN said YKAN has a different method, “*The one who explains the situation is the local community who have been working with us, so the people who complains will accept the explanation.*”.

4.3.2 Local Government

Local community involvement. There were some members of local communities that feel that they were not being involved in the MPAs management activities while they should be. One of the example is in the selection of Kader Manta representatives. The interviewed expert from KI observed, “*There are 6 villages around this (the manta sighting area). But in its implementation, the Kader Manta (representative) was only taken from 1 village, Arborek. So the conflict was, village youths in the other villages said, why only them were chosen.*”. The problem is, the NGOs can’t intervene to solve this or even to mediate, because the only one that have the authority to pick the local community representative is BLUD.

Collaboration and support from local government. Around 2002, Raja Ampat was just recently separated from the Regency of Sorong and was made into a regency in its own right. The local government was more focused on the development of the infrastructure in the central regency governmental area, rather than the natural resources in Raja Ampat. Based on the perspective of the expert from YKAN that was interviewed, this prioritization was understandable because local governments have limited funding to focus on more than one thing (development of new regency and conservation). Furthermore, the access towards all the islands in Raja Ampat is only through the sea. The interviewed expert from YKAN stated, “*So it was indeed the difficulties of the local government at that time that made services to the community very limited*”.

Local government resistance and corruption. A hindrance that’s currently still happening in Raja Ampat is from the Regency Government. The Regency Government couldn’t accept the amendment in the national regulation regarding the conservation area management. In the new regulation, the authority in charge of the conservation area

management have changed from the Regency Government into the Province Government. Furthermore, there's a misconception in which the Regency Government thought that some percentage of the conservation fees profit should go to the regency. This is another hindrance that can't be solved by the NGOs because it concerns a regulation that affects all of the conservation areas in Indonesia, not only in Raja Ampat. Also, NGOs can't be involved in a political problem in the government like this. Another resistance, is where the local government used to be skeptical about how a conservation area could improve the local communities' welfare and income. Although this one happened in the past and was already resolved through the NGOs' effort in communication to convince them.

Different perspective. One example given by Tourism Department is when they need to build harbour on a location where there are mangroves, because that's the only available location. Other stakeholders sees it as them being contradictive to their conservation belief, but the Tourism Department sees it as a logical action because a harbour is an important infrastructure in an island.

Insufficient law enforcement facilities and tools. About sanctions that are not strictly enforced, there are differing opinion from the interviewee. Some said that it is already strict, some also said it's not. The expert from KI stated that it's already strict by giving an example, "In a patrol activity, a ship from Vietnam was caught fishing for shark, because Raja Ampat is the only one in Indonesia that has local regulation about full protection of shark and stingray (Local Regulation No. 9 year 2012). The fisher is prisoned and their ship drowned." For those that agree it's not strict enough, the expert from YKAN is one of them, but they give a reasoning to it. Expert from YKAN explains that mostly the problem is the non proper tools and facility to enforce the sanction. For example, there was a case where a foreign fishers used a bomb, and they were brought to the police by the local community. But in the end they couldn't be arrested because there was no sufficient evidence, because to prove it they need a forensic tool to detect whether the fish is truly fished using bombs. In a case where the law enforcement from the government is helpless, the local community sanctioned the offender using their own tribe sanction.

Capacity. From the perspective of the expert of YOLP that was interviewed, as someone that also focuses in developing technological innovation to help the conservation area operations, they also face a challenge where the upper-level governments are not technically adept enough in operating the technology made by YOLP, so some of their project are postponed. In turn, despite the datas collected from the application, there was no follow-up from the upper-level who couldn't access the results.

4.3.3 Outsiders

Illegal fishing. Those from outside of Raja Ampat seems to be the main sources of disturbance in the MPAs, namely the fishers and tourists. The interviewed expert from KI even said that this kind of hindrances happens quite often compared to the other hindrances, although manageable. A lot of outsiders came to gather marine resources with destructive method (e.g. with bombs). Several example given by the interviewee from KI are; when a boat from Vietnam caught sharks in Raja Ampat, and people from

Sorong (an area in West Papua) used bombs for fishing. The expert from YKAN also shared in the interview, about how the outsiders that fished in the conservation area even threatened the local community, although this only happened in the beginning, when KI and YKAN have just entered Raja Ampat. After BLUD and its patrol team was established, this situation have reduced.

Tourists. There were also occasions when tourists violated the rules of the limit amount of divers in 1 location, in which it can only reach the maximum of 20 divers/hour. This conflict was also resolved by BLUD. The tourism operators were banned from diving there for 1 month.

4.3.4 NGO

Funding and the continuity of NGOs' program. NGOs are dependent on their funding resources. Insufficient funding would lead to either the NGOs have to abruptly exit Raja Ampat without a proper integration of their program, abrupt hiatus of a program, or (the better outcome) they have to prioritize on which program to focus on. The first case was experienced by Rare Indonesia. According to the interviewee from the Expert from BLUD, Lopintol, and Fisheries Department, Rare Indonesia left Raja Ampat while their programs was still not fully integrated to the local community and government. As a result, their initiated programs stopped. The expert from Lopintol admitted in the interview that the program stopped because of the lack of resources to implement the program, which is the fuel to patrol the conservation area. The interviewee from Rare Indonesia responded in the interview that limited funding resulted in the temporary working situation of an NGO in their working area, but “*We need a smoother exit strategy*”. An example is in the hindrance faced by BLUD and YOLP. Before that, see subsection 4.3.2 about YOLP perspective on BLUD regarding “technicality”. From the perspective of BLUD, YOLP is being criticized in regard to their project in developing website and application. BLUD stated that, “*(website) project is cut off in the middle because until now we can't use it yet*”. So in here, it seems there are discrepancies in which both sides feels there is something wrong with the other side. Expert from YOLP admitted in the interview, that they don't have enough resources (time and funds) to train the upper-level government.

Internal conflict. The only one that experience this is YOLP. This eventually leads to them restructuring and reorganizing their organization. For the big NGOs like KI, YKAN, and Rare Indonesia, this hindrance doesn't happen.

Communication. Expert from BLUD feels that YOLP is not transparent in their activities because they are not consistently communicating or reporting their project activities to BLUD. It seems the perspective upon communication intensity differs between the expert from YOLP and expert from BLUD.

Overlapping program. In the beginning, Rare Indonesia proposed a program with a concept that's very similar to the ones that have already been implemented in Raja Ampat, the Customary Fisheries Zone. That program was similar to *Sasi*, so there was a refusal from the governments in Raja Ampat. After several discussion, Rare Indonesia decided to change it into Manage Customary Fisheries, in which the concept is to complement *Sasi*.

4.4 Future Recommendation for Marine Conservation NGOs in Raja Ampat

This section presents the result for research question 4, which is *“What kind of NGOs’ activities should be preserved? And what should be improved?”*. The elaboration is given in the following paragraphs.

Based on the previous subsections in chapter 4, there are lesson to be learned about which activities should be preserved and followed by future NGO, and which activities needs to be improved. The interviewee also offered their recommendations in regard to the marine conservation effort.

4.4.1 Preserved Program

The interviewee from KI suggested the utilization of marine biodiversity tourism as an approach toward MPAs management because using species intervention approach will not only alarm the stakeholders in the case of threatened species, but also acts as a signal on the ecosystem quality through observing the disrupted food chain or the source of threats toward the species. The interviewee also stated, *“MPA management (assistance) must be continued because BLUD can’t work alone, it still need the assistance from NGOs and other stakeholders in the area.”*. Lastly, about the collaboration and networks between the local community and government. It should be maintained by continuously involving the local communities in MPAs management activities. The interviewee from YKAN stated, *“This means encouraging the community to have motivation, a sense of belonging to protect their natural resources”*.

The NGOs’ method of designing and socializing their program in general should be preserved. The Tourism Department elaborated it perfectly. *“In general, how the NGOs work should be preserved, in the case where they always involve every stakeholders in the process of consideration, consultation, and discussion. They also always share their research data results. Furthermore the bring up issues that are not noticed by the local government that are actually urgent to solve.”* How the NGOs do a persuasive approach in socializing the importance of conservation towards the local community can truly be seen and felt in the way the local community in Raja Ampat are now very open if there are NGOs that come to do activities that are related to conservation, this situation is noticed by the Marine and Fisheries Department representative.

Continuing the effort to push customary laws to be legalised is also important. This would lead to the empowerment of the local communities and decentralized law enforcement. The expert from YOLP stated in the interview that, *“...customary laws that can possibly help with decentralization (concept), you don’t have to go through the capital city, it can be done directly on the spot so it reduces costs and there can be direct sanctions.”*.

4.4.2 Improved Program

For the parts that needs to be improved, there are some important points mentioned by the interviewees. One of them is how to finish up the NGOs’ program or how they design their exit strategy. There should be a phase where the NGOs start to reduce their involvement in program implementation, and instead start to internalize it to the local community and local government. Maybe by allocating some time, funding, and human resources that focuses on ensuring the transfer of their knowledge and skill to the local community and government. The sustainability of the program also depended on the community’s strength in the economic sector, so there needs to be a program that focuses

on that. The current activities done by KI and YKAN is an example of strengthening the local communities economic sector. The collateral benefit is that the conservation program can commenced without the local communities returning to their old (destructive) ways of utilizing the marine resources. There is of course also the need to have some monitoring upon whether, after the NGOs downscale their activities, the governance system in place remains basically functioning as it should with regard to MPAs and the management of them.

In the case when there were a problem with overlapping scope of work (as was what happened with Rare Indonesia), the expert from Fisheries Department suggested to, *“Make a secretary body including all NGOs in it, as a place to discuss the location designation and all needed coordination to evade overlap of projects”*.

The interviewee from KI proposed the improvement of the tourism programs because Raja Ampat can't be separated from the tourism sectors. So, there needs to be an improvement to address the behavior of the tourists that can interfere with the management in the area.

5. CONCLUSION AND DISCUSSION

5.1 Answers to the Research Question

This thesis research has four sub-questions that helped in reaching the answer towards the main question. The following four paragraphs will elaborate upon the conclusion to the sub-questions first, which will then be ended by last paragraph on the conclusion towards the main question.

The first sub-question was *“What is the situation regarding marine biodiversity protection governance in Raja Ampat?”*. The NGOs are now seen as a resourceful expert (in funding and knowledge) in conservation, that can fill the gaps of the local government in protecting the marine biodiversity. It's proven by the expansion of the MPAs network, from only 1 MPA to 7 MPAs. Through the NGOs' initiation, training, and assistance, the governance of the MPAs is now managed and monitored collaboratively by the local government and communities. The local communities now participate actively in the conservation activities initiated by the NGOs, such as patrolling the MPAs, sanctioning the rule violators, transplanting coral reefs, and making their own products from the natural resources in their surrounding areas. BLUD, the governmental management unit authority, has fully taken over the NGOs' role in all operational works concerning conservation in the MPAs of Raja Ampat.

The second sub-question was *“What kind of activity did/do the NGOs carry out towards the government and local community to protect marine biodiversity?”*. There are various activities that the NGOs did/do towards the local government and community to protect marine biodiversity. Those activities are; 1) Initiating the development of conservation coalition, 2) Initiating and bridging the conservation networks, 3) Sharing the information, knowledge, and expertise that they have, 4) Lobbying in the effort to initiate MPAs establishment and the management of it, 5) Mediating the conflict between stakeholders through their assistance and advisory role, 6) Developing fundraising strategies to ensure the sustainability of the conservation program by involving the local government and local communities in the management of it, 7) Empowering and enhancing what the local communities already have so that they can live well and sustainably even without the NGOs in the future.

The third sub-question was *“What are the hindrances during the NGOs' interactions and collaborations with the local government and community to protect marine biodiversity?”*. The hindrances or challenges can originate from the local community, local government, outsiders (those actors coming from outside of the Raja Ampat Regency), and from the NGOs itself. The local community used to show resistance toward the conservation plan in the beginning and the residual resistance is from those that still can't let go of their (destructive) tradition, and they demanded equal participation in the management of the MPAs. The local government method of taking a representative of the local communities in MPAs' management is still deemed as unfair, the local government used to have no collaboration with the local community, there is resistance from the corrupt Regency Government, there are differences in the perspective of building infrastructure in the NGOs and Tourism Department understanding, insufficient law enforcement facilities and tools, and their capacity in managing the MPAs still needs to be increased. The outsiders make hindrances through the act of illegal fishing and violating the rules in the tourists' location. Last, the NGOs hindrance are in how they have limited funding which then leads to the possibilities of discontinued programs, internal conflict, insufficient communication with the local government, and an overlap in working scope with the other NGOs. It can be seen that most of the hindrances came from the local government.

The fourth sub-question was “*What kind of NGOs’ activities should be preserved? And what should be improved?*”. Based on the previous results of sub-questions 1 until 3 and the interviewees responds, there are several programs that needs to be preserved and improved. The program that needs to be preserved are using species intervention approach to manage and monitor the MPAs, the assistance of NGOs and other stakeholders in assisting BLUD as the MPAs management authority, the collaboration and networks between the local community and local government, the NGOs’ method of designing and socializing their programs through involving every stakeholders, and initiating the customary law for local communities recognition. The program that needs to be improved is in the strategy on which the NGOs finished their program so they can exit smoothly and with an integrated program in the local community and government, this includes strengthening the economic aspect of the local communities. Next is the formation of a secretary body as a place to coordinate the NGOs so there won’t be any overlap in their working scopes. Lastly, the improvement of the tourism programs.

The main research question, “*What are the impacts and characteristics of the NGOs that support local community and government engagement to protect marine biodiversity in the Raja Ampat?*” is therefore answered through combining the results from the four sub-questions. The NGOs in Raja Ampat have a big impact in building the local communities and local government understanding of the importance of marine conservation in Raja Ampat. The level of understanding that increased incrementally, combined by the training, sharing, and assisting role of the NGOs, resulted in a highly collaborative effort among the stakeholders in Raja Ampat, especially between the local government and local communities. The initiative of developing BLUD as an operating local government management unit is a ground-breaking innovation. Even though the operationalization is still not perfect, the idea of a financially autonomous body that’s are free to recruit their own staff (governmental or non-governmental) and gathered funding without any restriction on the resources and activity, will be very helpful in the future because the conservation activities can be boundless.

The characteristics of the NGOs in this research have similarity and differences that are notable, except for KI and YKAN which have very similar programs. Although the aims of all the NGOs in this research is the same, to reach sustainable marine resources and sustainable communities. The hindrances that they faced differ based on the activities that they’re doing.

5.2 Limitations

For the interview with the local communities, it would be more ideal to engage with them first for at least a few days before the interview itself. This engaging process would help to get the local communities to be more open and unguarded in their responses. In this research, the interviewer is only able to get in contact with the local communities through the NGOs, so there might be some bias in their responses because they would try to be careful in interacting with an outsider (the interviewer) about the organization that have been helping them. There were also some occasions where an NGOs’ representative would stay nearby while a member of the local community was being interviewed. This could lead to the interviewee to hold back on being unbiased and truthful with their answers.

In the local government, there was one actor in the Province of Raja Ampat that was recommended by the interviewees from NGOs and local government in this research. He was deeply involved, engaged, and interlinked with all the NGOs in Raja Ampat from the start, so he was a great candidate to interview. But, the interview wasn’t possible because of the actor’s busy schedule and the time limit of this research.

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APPENDIX 1

Considering the length of the coding document, it is provided in the form of the google drive link below:

<https://docs.google.com/spreadsheets/d/1Op5INKJjB6KRepSRIB0dVaCWf3-Qg5YG/edit?usp=sharing&ouid=111867931145594899944&rtpof=true&sd=true>

APPENDIX 2

Interview Questions or Guide

Part 1 – Introduction

- 1) What is your role in the organization?
- 2) How long have you been involved in the organization?

Part 2 – Activities and Aim of the Organization

- 3) Why did the organization choose this specific location?
- 4) What kind of actors are involved and influencing the formation of the organization?
(e.g. other NGOs, governmental bodies, international organizations, local community)

There are activities planned and implemented to support the protection of marine biodiversity, based on your website. Those activities come with many forms of interaction and collaboration. The table below are some examples of those activities.

- 5) What kind of activities and interactions did/do you do during your involvement in the NGO, that relates to the local community and/or local government in their relationship (all upon the effort to protect marine resources and biodiversity)?
 - In Table 1 below, there are some examples of activities and interactions, would you like to correct or amend your answer based on this table, or do you want to amend the table?
- 6) What is the reason for choosing those activities and interactions, while opting out of the other options?

Table 1

Example of Interactions and Collaboration in Conservation

No.	Interactions and Collaborations
1	Acting toward marine resources and the use of them (interventions)
2	Sharing information and knowledge
3	Helping and guiding deliberations upon proper plans and actions
4	Mediation between perspectives of actors/users, resolving conflicts
5	Fund raising activities for conservation plans, measures, and options
6	Lobbying towards actors to influence them (local government and/or local communities)
7	Help other actors to work together and build a marine resources conservation coalition
8	Initiate and manage networks on conservation
9	Initiating campaigns or protests

On the organization website, I learned about the projects that the NGO have. I would like to know about the envisioned outcomes of those projects. Table 2 are an example of the outcomes that might be the aim or goals of your projects.

Table 2

Envisioned Outcomes

No.	Envisioned Outcomes
1	A sustainable community
2	Higher involvement of local community in managing the marine resources
3	Sense of belonging and responsibility of the local community in managing the marine resources
4	Stop or prevent overharvesting of marine resources
5	Preserve the biodiversity of marine species
6	A sustainable marine resources

- 7) Based on the examples in Table 2, what are the aims or goals of the organization when designing or engaging in the collaboration and interaction in each of its projects?
 - Is there any envisioned outcomes that are not mentioned in the table? Please elaborate
- 8) How does the organization measure the success rate of its projects?
 - Are/were there plans and projects that are/were not successful? (*Doesn't/didn't produce the expected result*)
- 9) Is/was there a shift of aims or goals over time?
 - Which aims or goals changed?
 - What are the reasons for the change?

Part 3 – Hindrances

Along the way, there might be some factors in the governance system that could hinder the implementation of those projects. Table 3 shows some examples of those hindrances.

Table 3

Example of Hindrances

No.	Hindrances
1	Different perspectives, goals, and/or way of doing things with the local government
2	Internal conflict in the organization (e.g. different ideas)
3	The governance is dominated by the government, so there's an imbalance in power between local government, NGO, and local community (top-down approach)
4	Conflict of interest between users in the management and/or usage of the marine resources
5	The implementation was not spread fairly among users
6	In the making of rules, some groups of users are not included, causing an injusticeness during the forming of collective "goals"
7	The policies made by the government are not well-explained or well-received by the local community
8	The sanctions is not properly and strictly enforced

10) Based on the examples in Table 3, what are the hindrances that the organization faced during the implementation of the project?

- Is there any hindrances that are not mentioned in the table? Please elaborate

11) What was the biggest hindrance?

12) How did the organization deal with those hindrances?

- Is there a change in strategies on how to deal with those hindrances?

Part 4 – Closing

13) What actions or projects of the organization do you think should be preserved and/or improved in regard to marine biodiversity protection?

14) What are the organization's plans for the future?

- Timeline of the organization

15) What are opportunities the organization can make good use of ('capitalize upon') in the future?