A thesis submitted to the Department of Environmental Sciences and Policy of
Central European University in part fulfillment of the
Degree of Master of Science

Influence of Grants on Biodiversity Threat Mitigation in the Ancestral Domain of Sibuyan Mangyan Tagabukid, Sibuyan Island, Romblon, Philippines.

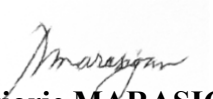
Marjorie Marasigan

July 2021

Vienna

Author's declaration

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institution of learning.



Marjorie MARASIGAN

CENTRAL EUROPEAN UNIVERSITY

ABSTRACT OF THESIS submitted by:
Marjorie MARASIGAN
for the degree of Master of Science and entitled: *Influence of Grants on Biodiversity Threat Mitigation in the Ancestral Domain of Sibuyan Mangyan Tagabukid, Sibuyan Island, Romblon, Philippines*

Month and Year of submission: July 2021

Indigenous and community conserved areas (ICCA) is a recognized unique governance structure for biodiversity conservation. However, often, indigenous communities lack financial resources to implement interventions that could address biodiversity threats inside their ancestral lands. A conservation grant is one form of funding available for the indigenous community that requires monitoring and evaluation to measure progress made toward the achievement of conservation objectives. But there has been a limited study on the linkage of grants and biodiversity conservation for such governance types. There are several monitoring tools available with differing use and applicability. The modified threat reduction assessment (MTRA) is used in the ancestral domain of the Sibuyan Mangyan Tagabukid (SMT) in Romblon, the Philippines that uses threats to biodiversity as proxy indicators to measure the success of conservation. The objective of the research is to determine how grants influence the ability of the SMT to reach conservation objectives, particularly in mitigating threats. Comparison of two assessment periods: 2009-2014, without grant funding; and 2015-2019, with grant funding, were made. The study revealed a total of 9 threats with 8 threats present in both assessment periods. The MTRA index shows both periods having positive threat reduction although very low threat mitigation of 1.94% is determined in 2009-2014 that has been attributed to the lack of funding while there is considerable high threat reduction of 68.64% in 2015-2019 with which 80% have been attributed to the grants received. The result of the study also revealed the lack of monitoring and evaluation (M&E) in the ICCA that hinders the management team to fully understand the effect of activities done to address threats.

Keywords: Biodiversity conservation, threats, modified threat reduction assessment (MTRA), indigenous and community conserved areas (ICCA), grants, Sibuyan Mangyan Tagabukid (SMT)

Acknowledgment

I would like to express my sincere gratitude to all who have been part of this research. I am forever grateful to my supervisor, Prof. Brandon P. Anthony for his encouragement, guidance and patience all throughout my journey in finishing this research successfully. My deep appreciation to the Sibuyan Mangyan Tagabukid who made this possible, for openly sharing their knowledge and experiences, and for the kind understanding extended upon me during the data gathering when there are limitations due to the pandemic. I am also grateful to the Foundation for the Philippine Environment for providing valuable insights and materials needed. Further, I would like to thank the Central European University for providing the research grant for this study. And finally, my heartful thanks to my family and friends for the continuous support and encouragement.

Table of Contents

List of Figures

List of Tables

List of Acronyms

ADSDPP	Ancestral Domain Sustainable Development and Protection Plan
ATSMT	Asosasyon ng Tribong Sibuyan Mangyan Tagabukid
BMB	Biodiversity Management Bureau
CBD	Convention on Biological Diversity
CCA	Community Conserved Areas
CHPC	Cantingas Mini-Hydro Power Corp.
DENR	Department of Environment and Natural Resources
FPE	Foundation for the Philippine Environment
FPIC	Free and Prior Informed Consent
GEF	Global Environmental Facility
ICCA	Indigenous and Community Conserved Areas
IP	Indigenous People
IPAF	Integrated Protected Area Fund
IPMR	Indigenous Peoples Mandatory Representative
IPRA	Indigenous Peoples Right Act
IUCN	International Union for Conservation of Nature
LEA	Legal Education Activities
LGU	Local Government Unit
M&E	Monitoring and Evaluation
METT	Management Effectiveness Tracking Tool
MIPPEG	Mainstreaming Indigenous People's Participation in Environmental Governance project
MTRA	Modified Threat Reduction Assessment

NIPAS	National Integrated Protected Areas System
NCIP	National Commission on Indigenous Peoples
PA	Protected Area
PAME	Protected Area Management Effectiveness/Enhancement
RBM	Results-based Management
ROMELCO	Romblon Electric Cooperative Inc.
SEC	Securities and Exchange Commission
SMT	Sibuyan Mangyan Tagabukid
TRA	Threat Reduction Assessment
UN	United Nations
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WCPA	World Commission on Protected Areas
WWF	World Wildlife Fund

1. Introduction

1.1. Background

As biodiversity continues to decline globally brought by anthropogenic threats such as development, mining, encroachment, and unregulated recreation (Coad *et al.* 2015; CBD 2021b), strategies for biodiversity conservation continue to evolve. One of the emerging strategies are indigenous and community conserved areas (ICCAs), recognized by the Convention on Biological Diversity (CBD) and the International Union for Conservation of Nature (IUCN) as a significant governance system for conservation of nature (IUCN 2019). Around 22% of the world's land surface is occupied by indigenous people that is home to an estimated 80% of global biodiversity (Sobrevila 2008; UNEP 2017), making them an important actor in biodiversity conservation.

However, despite the critical role that indigenous communities play in biodiversity conservation, they have often been marginalized and their conservation efforts not adequately supported (Sobrevila 2008). Financial resources are needed for any conservation objectives to be realized (Bonham *et al.* 2014) to which one form of funding is through conservation grants. Often, translation of grants to a measurable outcome is a requirement from donor organizations (Bonham *et al.* 2014) but monitoring and measuring progress to achieve conservation objectives can be challenging particularly for a community-based organization (Coad *et al.* 2015; The Royal Society 2003). The measurement of biodiversity is not only difficult but can be costly and time-demanding (Anthony 2008). Further, the study of the relationship between conservation funding and the achievement of conservation outcomes is limited (Bonham *et al* 2014). There is therefore a need to look for an adequate tool that could be applied. One of the known tools for measuring conservation success is the threat reduction assessment (TRA) that measures threats to biodiversity as a proxy to biodiversity itself (Salafsky and Margoluis 1999).

This tool was subsequently improved and named the Modified Threat Reduction Assessment (MTRA) (Anthony 2008).

In the Philippines, there are two important conservation strategies. The primary one is the role of protected areas (PA) through the National Integrated Protected Areas System (NIPAS), and the other is through the recognition of ancestral domains (Bryant 2000). Conserved ancestral domains, internationally referred to as ICCAs, are not yet legally enacted in the Philippines but rather supported through the Indigenous People's Right Act (IPRA) (Pedragosa 2012). Both these area types have received attention for grant funding but, unlike PAs that have established tools that monitor management effectiveness (Coad *et al*. 2015), little is known about the monitoring and evaluation of the effectiveness of ancestral domain management, more importantly towards conservation of biodiversity. The Sibuyan Mangyan Tagabukid (SMT), an indigenous community in the Philippines received grant support between 2015 and 2019 from one of the national donor agencies, the Foundation for the Philippine Environment (FPE), for biodiversity conservation in their ancestral land.

1.2. Objectives

This study aims to determine to what extent grants influence the ability of the Sibuyan Mangyan Tagabukid (SMT) to reach the conservation objectives of their ancestral domain, specifically threat mitigation.

Specific objectives of the study are to:

1. analyze the status of threats and management interventions of SMT between 2010-2014 and 2015-2019;
2. determine elements of FPE grant support to SMT;

3. assess to what extent FPE grants contribute to threat mitigation in the ancestral domain between 2015-2019, in comparison to 2010-2014 when FPE grant support was absent; and
4. determine the applicability of the MTRA as a monitoring tool in an ICCA.

1.3. Research Contribution

The research will contribute to the limited study on the relationship between conservation funding and conservation outcomes. The use of the MTRA in an ICCA would also contribute to the growing field of monitoring and evaluation. Further, the indigenous community will benefit from the study as it will assist them to reflect on their management and help them in their upcoming revision of their management plan. The study could provide them a tool that can be used for monitoring. In addition, the funding agency could also benefit from the study by providing valuable insights into the implementation of conservation projects in the study site and the potential inclusion of another tool to link funded projects to conservation outcomes.

1.4. Structure and Organization of the Research

This study is structured and into 5 chapters: (1) introduction that provides background information on the research and, the aims and objectives that the study responds to; (2) literature review that provides a synthesis of key concepts used and context to which the study was conducted; (3) the methodology that discusses the tools and process for data collection and analysis; (4) results and discussion for the key findings of the study; and (5) conclusion and recommendations.

2. Literature Review

2.1. Biodiversity Conservation

2.1.1. Biodiversity

Biological diversity or biodiversity is a term widely used in natural resources management. It can be traced to the conservation movement between 1960-1970 and has gained recognition by the 1980s (Murray 2002). However, its definition varies in scope and characteristics, depending on its users. Some authors simply equate it to the number of species (Swingland 2001; Reid and Miller 1989; Ceballos *et al.* 2017), some argue that ecological processes should be included (Noss 1990), while others would distinguish the ecological processes from genetic and organism composition (Reid and Miller 1989), and others would say that it is "fundamentally undefinable" (Swingland 2001). In 1996, De Long had reviewed about 85 definitions of biodiversity in an attempt to have an encompassing definition that could address the challenge in conservation brought by the different meanings and to facilitate more effective collaboration between stakeholders. De Long's (1996) suggested definition covers the hierarchical variety from genetic up to ecosystem, including biotic processes and spatial scale. Even so, it is the Convention of Biological Diversity's (CBD) definition of *"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) that has been globally accepted and been widely used in recent years.

The CBD is the international legal framework for biodiversity conservation that was formally established in 1992 in response to the growing biodiversity crisis. It has three main objectives: (1) conservation of biological diversity, (2) sustainable use of its components, and (3) a fair and equitable sharing of benefits (Rawat and Agarwal 2015).

Benefits from biodiversity are wide in range, from basic needs (i.e., food) to life support coming from the ecosystem services it provides that are vital for human survival and development (Murray 2002). However, biodiversity continues to decline globally (Coad *et al.* 2015; CBD 2020). An estimate of around 100 species of vertebrates in the last century are going extinct (Ceballos *et al.* 2017) and around 24% of terrestrial ecosystems including those of South-East Asia are degrading (CBD 2010). It is widely believed that the loss of biodiversity is largely linked to anthropogenic pressures or threats (CBD 1992; Ceballos *et al.* 2017).

2.1.2. Biodiversity Threats

By definition, a threat is *"any process or event whether natural or human induced that is likely to cause adverse effects upon the status or sustainable use of any component of biological diversity"* (Rawat and Agarwal 2015). However, as conservation often operates to counter threats, and initiatives are fundamentally through projects which rely upon human-driven actions taken by individuals, groups of people, or organizations, various stakeholders characterize threats differently (Salafsky *et al.* 2002; 2003). In some cases, the organization uses different terminologies in their project cycle i.e. The Nature Conservancy (TNC)'s five-S framework for site conservation uses the term *"stresses"* to pertains to causes of the degradation or impairment in the ecosystem (TNC 2003). The absence of a unified system with clear and compatible terms to define and characterize threats affects global conservation efforts particularly in planning cycles (Salafsky et al. 2003). Thus, Salafsky *et al*. (2008) developed a unified threat classification linking threats to biodiversity actions. In this classification, threats are categorized into two main types:

1. Direct threats – “the proximate human activities or processes that have caused, are causing, or may cause the destruction, degradation, and /or impairment of biodiversity targets”. This is further classified into:

    a. Internal Direct Threats – “factors that have a direct impact on biodiversity and are caused by the stakeholders living at the project site, such as overhunting of large mammals by community residents”, and
    b. External Direct Threats – **“**factors that have a direct impact on biodiversity and are caused by outsiders, such as logging by large multinational companies”

2. Contributing factor / Indirect Threats **–** “social, political, and economic factors that induce changes in the direct threats, such as threats from poverty or inadequate government policy”

Direct threats in this unified classification also pertain to stresses and/or pressures (IUCN 2021b). The threat classification system is laid out in a hierarchical form with 12 broad categories (IUCN 2021b) as follows:

1. Residential and commercial development – these are “threats from human settlements or other non-agricultural land uses with a substantial footprint”. It has 3 sub-categories namely: housing and urban areas, commercial and industrial areas, and tourism and recreation areas
2. Agriculture and Aquaculture – these are “threats from farming and ranching as a result of agricultural expansion and intensification”. It has 4 sub-categories namely: annual and perennial non-timber crops, wood and pulp plantations, livestock farming, and ranching and, marine and freshwater aquaculture.

3. Energy Production and Mining – these are "threats from the production of non-biological resources". It has 3 sub-categories namely: oil and gas drilling, mining and quarrying, and renewable energy.
4. Transportation and Service Corridors – these are "threats from long narrow transport corridors and the vehicles that use them". It has 4 sub-categories namely: roads and railroads, utility and service lines, shipping lanes, and flight paths.
5. Biological Resource Uses – these are "threats from consumptive use of 'wild' biological resources". It has 4 sub-categories namely; hunting and collecting terrestrial animals, gathering terrestrial plants, logging and wood harvesting, and fishing and harvesting aquatic resources.
6. Human Intrusion and Disturbance – these are "threats from human activities that alter, destroy and disturb habitats and species associated with non-consumptive uses of biological resources". It has 3 sub-categories namely: recreational activities, war, civil unrest and military exercise and, work and other activities.
7. Natural System Modifications – these are "threats from actions that convert or degrade habitat in service of managing natural or semi-natural systems for human welfare". IT has 3 sub-categories namely: fire and fire suppression, dams and water management/use and, other ecosystem modifications.
8. Invasive and Other Problematic Species, Genes and Diseases – these are "threats from non-native and native plants, animals, pathogens/microbes, or genetic material that have or are predicted to have harmful effects on biodiversity following their introduction, spread and/or increase in abundance". It has 6 sub-categories namely: invasive non-native/alien species/diseases, problematic native species/diseases, introduced genetic material, problematic species/disease of unknown origin, viral/prion-induced diseases and, diseases of unknown cause.

9. Pollution – these are "threats from the introduction of exotic and/or excess materials or energy from point and nonpoint source". It has 6 sub-categories namely: domestic and urban wastewater, industrial and military effluents, agriculture and forestry effluents, garbage and solid waste, airborne pollutants and, excess energy.
10. Geological Events – these are "threats from catastrophic geological events". It has 3 subcategories namely; volcanoes, earthquakes/tsunamis and. Avalanche/landslide.
11. Climate Change and Severe Weather – these are "threats from long-term climatic changes which may be linked to global warming and other severe climatic/weather events". It has 5 sub-categories namely: habitat shifting and alteration, droughts, temperature extremes, storms and flooding, and other impacts.
12. Other Options – this is for "new or emerging threats to be recorded"

This unified threat classification was later adopted by the International Union of Conservation for Nature (IUCN) and is now globally used, particularly in the taxa documentation of the IUCN red list. This threat lexicon is also used in this study, excluding indirect threats which are not within the scope of research.

2.1.3. Indigenous Peoples and Biodiversity Conservation

An estimate of about 5% of the world's population are indigenous peoples (IP) and albeit small in number, it is believed that 80% of the world's biodiversity is used, managed, and protected by this group (IWGIA 2020; Sobrevila 2008). Further, about 22% of the world's land surface is occupied by indigenous people, legally owning 11% of forest lands (White and Martin 2002). It is therefore unsurprising that the culture and tradition of IP are heavily embedded in the ecosystems they inhabit. As such, many claim that biodiversity conservation is part and parcel of the IP way of life and in which their empowerment and engagement play a crucial role (Toledo 2013; Sobrevila 2008). Gadgil et al. (1993) claim that indigenous

knowledge, systems, and practices (IKSP) have improved biodiversity. For example, research in Amazon in Brazil has shown an increase in conservation capability with the presence of IP (Sobrevila 2008). However, some raised issues on their role, arguing that the way of IP in managing their territories does not mean they are conserving biodiversity (Wilshusen *et al.* 2002). But indigenous groups themselves have acknowledged their role and consequently lobbied for their rights to be recognized in biodiversity conservation legal frameworks, although the process has been slow. In 1992, during the Earth Summit, the delegates of IP compiled the "Indigenous Peoples Earth Charter" which calls for the inclusion of IP strategies for policies on environment and biodiversity (Conference of Churches in Aotearoa New Zealand 1992). However, this was not considered during the CBD negotiations although the CBD had made a few references on IP rights and advocates for partnership and working with IP on biodiversity conservation in its convention document (Sobrevila 2008; CBD 1992).

From the Earth Summit in Rio, IP have been pushing for an international legal agreement that could provide a mechanism for projects implemented in their ancestral territories (Sobrevila 2008). It was not until 2007, however, when they gained a declaration from the United Nations (UN) acknowledging their rights over their territories for sustainable development, including conservation and protection of the environment (UN 2007). Although Article 29 of the declaration has supported for the countries to "establish and implement assistance programmes for indigenous peoples for such conservation and protection" (UN 2007), some claimed that IP are still being excluded and limitedly supported (Paulson et al. 2012; Alcorn 2010). Nevertheless, the international recognition of IP has established their rights to be part of conservation initiatives, especially within their territories.

2.1.4. Indigenous and Community Conserved Areas

Prior to the UN declaration of IP rights, management of indigenous areas for biodiversity conservation have already been emerging and could be traced to the IUCN Vth World Parks Congress in 2003 and the CBD's Conference of the Parties (CoP) in 2004 (Kothari 2006). Initially referred to as community conserved areas (CCA), it is defined by IUCN as *"natural and modified ecosystems, including significant biodiversity, ecological services, and cultural values, voluntarily conserved by indigenous peoples and local and mobile communities through customary laws or other effective means"* (Borrini-Fereyabend *et al.* 2004; Kothari 2006). It later evolved to indigenous and community conserved areas (ICCA) to explicitly include the indigenous community. There has been a differing view on whether these areas could be considered as protected areas (PA), defined by IUCN as *"a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values"* (Dudley 2008). Borrini-Feyerabend *et al.* (2004) reasoned that based on the IUCN's definition indigenous and community conserved areas, could be considered as protected areas because:

a. "they are *an area-based instrument;*
b. *it involves an explicit and declared intent to protect and maintain biodiversity (e.g. through dedication or designation) that may also be recognized by the government, and/or involve explicit measures (e.g. regulation) for the purposes of biodiversity conservation;*
c. *it is managed through legal or other effective means (including customary law), it has some kind of management body in place (including community-based institutions) and,*

d. *it is intended to continue indefinitely into the future"*.

The CBD also acknowledged ICCA as an emerging model of protection and is under its programme of work on protected areas (CBD 2004; Ervin *et al.* 2010). On the other hand, some argue that, unlike protected areas, areas managed by the indigenous community are not primarily for the purpose of biodiversity conservation and management and governance of ICCA may differ from that of protected areas (Maretti and Simões 2020; Wilshusen *et al*. 2002).

Thus, it is reasonable to state that it depends on the context in which indigenous conserved areas are being viewed. In the case of Australia, indigenous conserved areas are integrated into their protected areas system (Smyth 2006). In Brazil, protected areas are mandated by the government and in cases of overlap with indigenous territories, co-management can exist as a mechanism (Maretti and Simões 2020). In many Southeast Asian countries, however, where protected areas are legally mandated, there has been an ongoing struggle towards the institutional mechanisms and legal recognition of ICCAs, although there has been a long history of community-based conservation management (Ferrari 2006). But regardless of legal and institutional mechanisms, ICCA has been growing in recognition as a form of biodiversity conservation. At the global level, the ICCA is recognized by the IUCN as a distinct governance system for conservation (Dudley 2008). An ICCA registry was also established by the United Nations Environment Programme – World Conservation Monitoring Centre (UNEP-WCMC) that compiles data on areas managed by IP and local communities in 2008 (UNEP-WCMC 2016). Then, in 2010, an International ICCA consortium was established in Switzerland to promote ICCA locally, nationally, and internationally (ICCA Consortium 2020).

2.1.5. Grants for Conservation

Since the creation of the CBD and the establishment of its financing mechanism through the Global Environmental Facility (GEF), conservation programs and projects towards biodiversity have developed tremendously across the globe. The GEF however, mainly provides funding that helps countries to simply fulfill their international obligations to the CBD and therefore had limitations in terms of supporting national or country-based biodiversity conservation programs (Sobrevila 2008; Bayon *et al.* 2000). National funding mechanisms, therefore, have been encouraged by the CBD through maximization of existing country-based financial institutions and collaboration with other funding organizations, including non-government organizations and private institutions at the national, regional and global level. International fund facilities such as GEF and other bilateral and multilateral agencies had often supported the establishment of domestic grant facilities or conservation trust funds e.g., Mexico and Peru (Bayon *et al.* 2000) and the Philippines (Guiang and Braganza 2014), which provide grants to conservation projects (Bonham *et.al.* 2014). Consequently, there is a wide range of financing tools used for biodiversity conservation such as national and international taxation, grants and subsidies, loans, and debt-related instruments (Bayon *et al.* 2000). For the purpose of this study, the scope is limited to grants and thus, it is important to define this instrument.

Broadly, a grant is defined as an amount of money given by a government or nonprofit organization to fund certain projects (Financial Glossary 2011), but grant sources are not limited to government and non-profit organizations, i.e. there are multilateral development banks including the World Bank, Asian Development Bank, Inter-American Development Bank (Bayon *et al.* 2000) and German Development Bank (Calleja 2020) that provide grant funding as well. Further, grants could be defined as non-repayable funding and having a defined awarding process (CBD 2001; Bonham *et al.* 2014; Bath 2020). The grant scheme

often requires a reporting mechanism to document the progress of activities being funded and implemented toward achieving the grant objectives and the disbursement of funds (GEF 1998; Bonham *et al.* 2014).

2.1.6. Monitoring and Evaluation of Biodiversity Conservation

The success of biodiversity conservation depends on management that requires effective monitoring and evaluation (M&E) (Margoluis and Salafsky 1998). However, there are often difficulties in conservation actions towards set objectives or outcomes (Hockings and Phillips 1999). M&E helps management teams make informed decisions (Stem *et al.* 2005) and is also often required by organizations providing financial support for biodiversity conservation (Bonham *et al.* 2014). But monitoring for biodiversity conservation has been challenging due to factors including the appropriateness of measures used in management and/or M&E, availability of documentation and baselines, and financing of such activities (Noss 1990; Dudley *et al.* 2005; Crane and Royal Society 2003; Stem *et al.* 2005).

According to Stem *et al.* (2005), there is a wide range of approaches and tools for conservation and it depends upon the objectives of the organization or individual to select the most appropriate for their conservation. Objectives of M&E for conservation can be for assessment of status and/or measuring of intervention effectiveness (Stem *et al.* 2005). Often, assessment of status using biological indicators is sought for M&E conservation efforts towards biodiversity e.g. species populations and habitat conditions (Noss 1990; Salafsky and Margoluis 1999; Crane and Royal Society 2003). However, Salafsky and Margoluis (1999) argued that biological indicators have several disadvantages such as expertise needed in data collection, financial requirements, and (often) low sensitivity of biological indicators from damaging activities. Surveys and assessments of both species and habitat require specialists or trained people to do so and, often utilizing specialized equipment, thus would require

substantial financial resources. For example, changes in habitat often need remote sensing i.e. geographic information systems (GIS) (Salafsky and Margoluis 1999). Ecosystem composition and species surveys also need thorough 'ground truthing' and "repeating inventories of species distributions would be impractical for monitoring purposes" (Noss 1990). In addition, Dixon *et.al.* (2019) suggested that M&E is also affected by the institutional arrangement e.g. protected areas and conserved areas, and several other factors like design and data management. The M&E geared towards measuring effectiveness like impact assessments and adaptive management are also not without criticism. For example, Brooke (1998) opined that environmental impact assessment tends to narrow down the effects on certain species or habitats and overlook the relationship between species and habitat. In addition, it also tends to be reactive rather than proactive (Stem *et. al* 2005).

For the purpose of this study, a few approaches and tools were reviewed. Several tools are used in measuring management effectiveness in biodiversity conservation which are outlined below.

2.1.6.1. Management Effectiveness Tracking Tool

The Management Effectiveness Tracking Tool (METT) is one of several assessment tools used for protected area management effectiveness (PAME) evaluation (Coad *et al.* 2015; Hockings *et al.* 2006). The PAME follows the framework for assessment set by the World Commission on Protected Areas (WCPA) that guides in establishing an evaluation system following a six-part management cycle, namely context, planning, inputs, processes, outputs, and outcomes (Hockings *et al.* 2000). The framework undergoes stages of defining the current status, values, threats, and opportunities in the area, including the institutional setting, thus, providing the *context*. It is then followed by *planning,* the identification of conservation objectives, and strategies to meet them by allocating resources or *inputs*. The implementation

of strategies follows a certain *process* that produces goods and services or the *outputs* and therefore resulted in *outcomes* that respond to the identified objectives (Hockings *et al.* 2006).

The METT tool was developed by the World Wildlife Fund (WWF) and the World Bank to monitor forest PAs that are supported by these organizations (WWF 2007). The tool is composed of two parts: (1) the datasheet and the (2) the assessment form. The datasheet contains information on the area and the assessment form has a set of questions concerning the 6 elements of the PAME framework; including budget and staffing (WWF 2007; Coad *et al.* 2015). The questions are systematized to a performance scorecard using an ordinal scale of 0 to 3, with 0 as very poor/low performance (Hockings *et al.* 2006; Coad *et al.* 2015). The current version, METT-4, has 38 parameters (Stolton *et al.* 2020). The METT measures progress in the management over time and have the potential of standardizing PA assessment. It is becoming popular in recent years and is widely used across the globe. METT is not only used by WWF and the World Bank in their sites, but also by many others including the GEF (Stolton and Dudley 2016), Global Conservation Fund (GCF) (Bonham *et al*. 2014) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) (Guiang and Braganza 2014). It, however, had some limitations such as it is primarily designed to measure the progress of a specific site and therefore does not allow comparison between sites (WWF 2007). In addition, the scoring in the assessment might be unbalanced across the parameters. The scoring of the questionnaires uses the same weight when some parts of it that could be more significant than the others (WWF 2007; Anthony 2014). METT is also designed in a way that it is not a standalone tool but rather a tool that could complement more comprehensive assessments (Hockings *et al*. 2006).

2.1.6.2. Results-based Management

The results-based management (RBM) approach, also known as result-chain (Margoluis *et al*. 2013) or outcome-based M&E (McKernan *et al.* 2016), determines how conservation interventions affect threats that in return positively affect biodiversity (Margoluis *et al.* 2013). It is focused on "achieving outcomes, implementing performance measurement, learning and adapting" (McKernan *et al.* 2016). The RMB is said to originate from the logic framework, a similar approach to RMB that describes targets and indicators to achieve a certain objective (McKernan *et al*. 2016; Stem *et al.* 2005). Some authors use results and logic frameworks interchangeably (i.e. Rayndal 2015). RBM is often used by donor or aid agencies including the United States Agency for International Development (USAID) (McKernan *et al.* 2016). Matrices are often used both in planning and the M&E, and it presents the objectives, indicators, baselines information, targets and the intended results (Kusek and Rist 2004). The advantage of the RMB is it increases accountability (Ika 2012) and provides clear linkages between management interventions and conservation outcomes (Margoluis *et al.* 2013). However, it tends to overlook the process and managing of results (Ika 2012; Stem *et al.* 2005). In addition, RBM could be costly especially for the establishment of baselines and indicators, and it takes time to be able to measure an outcome (Margoluis *et al.* 2013; Herzon *et al*. 2018).

2.1.6.3. Threat Reduction Analysis

Another PAME tool is the threat reduction assessment (TRA) that was developed by Salafsky and Margoluis (1999). The TRA evaluates the conservation success by using threats as an alternative indicator (Salafsky and Margoluis 1999; Anthony 2008). The TRA has three basic assumptions:

1. *"all biodiversity destruction is human-induced,*

2. *all threats to biodiversity at a given site can be identified, distinguished from one another, and ranked in terms of their scale, the intensity of impact, and urgency; and*
3. *changes in all threats can be measured or at least estimated"* (Salafsky and Margoluis 1999)

The TRA addressed some of the difficulties in M&E attributed to using biological indicators such as sensitivity to the short period that conservation projects usually have, financial resources and experts needed, and associating results to interventions (Margoluis and Salfsky 2001). These are also some of the criticisms of the use of the RMB. In addition, it directly links interventions to the reduction of threats and can be done retroactively (Salafsky and Margoluis 1999). Also, unlike the METT that needs relevant training (Guiang and Braganza 2014), the TRA provides a simpler approach that does not need substantive prior training and can also be done in a time-efficient manner (Margoluis and Salafsky 2001; Anthony 2008; Matar 2009; Milatovic 2017). It can also be used to complement other tools or be used independently (Margoluis and Salafsky 2001).

One of the weaknesses of the TRA however, is that it excludes new or worsening threats (Salafsky and Margoluis 1999). Anthony (2008) addressed this weakness by modifying the original tool, extending the values in the "percent threat reduced" to incorporate new and worsening threats. The MTRA has been carried out in Lebanon, Grenada, and South Africa covering both government-declared PAs (Matar 2009; Loughney 2013; Milatovic 2017) and privately managed PAs (Wilmot 2020).

Further details on the MTRA and justification of the use of this method for this study will be discussed in the methodology chapter.

2.2. The Study Site

2.2.1. The Philippines and its Biodiversity

The Philippines is an archipelagic country in Southeast Asia with more than 1,700 islands. It is located between Taiwan and Borneo and is surrounded by the Pacific Ocean on the east, the West Philippine Sea (also the South China Sea) in the west, and the Celebes Sea to the southwest. It is divided into three main divisions from north to south, namely: Luzon, Visayas, and Mindanao (Boquet 2017). There are about 110 major indigenous groups in the country comprising about 15% of the total population (De Vera 2007).

The Philippines is one of the most megadiverse countries of the world with around 75% of the world's plant and animal species found in the country (Ani and Castillo 2020; CBD 2021a). It has around 228 key biodiversity areas that cater to about 855 globally important species of flora and fauna (BMB-DENR 2016). The Philippines has three major natural ecosystems: forest, inland waters/wetlands, and coastal and marine; and about 23% of the total 30 million hectares of land are considered forest areas (BMB-DENR 2016). The inland waters/wetlands are composed of 216 lakes, 421 principal rivers, and 22 marshes (BMB-DENR 2016). The country is believed to hold around 5% of the world's flora and is fifth in terms of the number of plant species (Garcia *et al*. 2014; CBD 2021a). For mangroves alone, the Philippines has 50% of the estimated 70 species of mangroves worldwide (Primavera et al. 2004). The country has a high species endemism, ranking fourth in terms of bird species (CBD 2021a), around 38% of fish species (BMB-DENR 2016), more than 40% of terrestrial wildlife, and around 25 genera of plants (CBD 2021a). About 150 new species of plants, birds, amphibians, mammals, and reptiles were also discovered in the Philippines between 2005 to 2012. The country is also considered as one of the Southeast Asian centers for amphibians and reptiles (BMB-DENR 2016).

However, the Philippines is experiencing a continuous decline of biodiversity mainly due to habitat degradation and forestland conversion. These are associated with threats such as indiscriminate logging, mining, unsustainable production, and consumption of wildlife, narrowing food waste that results in agrobiodiversity loss, the introduction of invasive alien species, climate change, and weak capacities on natural resource management. (BMB-DENR 2016). There is an estimated annual average of 150,000 hectares of forest cover being lost in the last century. Further, the Philippines has an existing mining code providing a way for mineral products extraction such as gold, copper, marble, limestone, among others (BMB-DENR 2016). The existing arrangement has threatened conservation areas, including declared protected areas and ancestral domains that are coinciding with areas with mineral reserves (BMB-DENR 2016). Poaching of flora and fauna for medicine, ornament, trade, and domestic use also resulted in the decrease of species populations (BMB-DENR 2016). By 2004, around 42 species of mammals, 127 bird species, 24 reptile species, and 14 amphibian species were considered threatened. Overall, a total of at least 1375 species of flora and fauna are estimated to be threatened (IUCN 2021a), including 76 species of fish, making the Philippines a biodiversity hotspot and priority for global conservation (CBD 2021a).

2.2.2. Biodiversity Conservation in the Philippines

The main instrument for biodiversity conservation in the Philippines is through the protected area system. Prior to the signatory of the Philippines to the CBD, the government had established the then Protected Areas and Wildlife Bureau (PAWB), the agency's name later changed to Biodiversity Management Bureau (BMB), in 1987 for biodiversity conservation and, creation and management of protected areas. The conservation efforts were heightened when the Philippines entered the CBD and consequently passed Republic Act no. 7586 otherwise the National Integrated Protected Areas System (NIPAS) (Ong *et al.* 2002; Mallari *et al.* 2016). Another instrument that emerged almost at the same period is related to

indigenous peoples and is based on the recognition of their rights over their ancestral domains. Bryant (2000) noted that at the heart of the campaign towards the recognition of indigenous rights is its strategy for conservation which also supports community-based forest management (CBFM), passed in 1995 as a national strategy for forestland resources (Pedragosa 2012). But unlike the progress of indigenous peoples in the UN, the Philippines had passed a law known as the Indigenous Peoples' Right Act (IPRA) or Republic Act 8371 a decade earlier in 1997.

The IPRA recognizes and protects the rights of the indigenous community over their ancestral territories; and fortunately for the indigenous peoples, both the NIPAS and the IPRA have a similar principle when it comes to ancestral territories. Both laws acknowledge that the indigenous peoples are responsible for the management of their ancestral domain (Tongson and Dino 2004). However, ancestral domains are not formally acknowledged for biodiversity conservation, unlike protected areas. The campaign to acknowledge ancestral domain for such is in the developing efforts towards a legal declaration on ICCAs which are indigenous territories, sacred sites, and cultural landscapes and seascapes. But for the time being, the IPRA law is enabling ancestral domain to be viewed as an ICCA (Pedragosa 2012). The Philippines is also part of the ICCA Consortium and ancestral domains of the country can be registered to the global registry of ICCA at the UNEP-WCMC.

Financing of biodiversity conservation in the Philippines had a variety of sources mainly from the government (national and local) including special user fees collected in protected areas, official development assistance (ODA) such as loans and grants, and other financing schemes including payment for environmental services (PES) and corporate social responsibility (CSR) (BMB-DENR 2016). However, there has always been a concern in terms of lacking or insufficient financial support for conservation. Between 2012-2013 for instance, only 1% of the total government annual budget was allotted for biodiversity conservation programs (BMB-DENR 2016). For ICCAs in particular, since it doesn't have a legal basis, it

also doesn't have an established financing mechanism, unlike protected areas that benefit from the integrated protected area fund (IPAF) that support projects and operations of the PA system (Sandalo and Lumbres 2017).

Similarly, M&E for conservation under the ICCA in the Philippines is not yet established unlike that for PAs. In 2014, the Biodiversity Management Bureau (BMB), implemented the Protected Area Management Enhancement (PAME) project funded by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The project builds on the METT and was implemented to around 25% of 240 declared PAs, including the training of about 17,000 staff from the Department of Environment and Natural Resources (DENR) and those assigned in the PAs (Guiang and Braganza 2014). This tool is now used nationwide in the PA system, also in compliance with the obligation of the Philippines to CBD.

2.2.3. Sibuyan Island

Sibuyan Island is one key biodiversity site of the Philippines and one of the conservation centers for plant diversity (FPE 2018a). It is one of three islands in the province of Romblon, in mainland Luzon (figure 1). It is around 350 kilometers south of Manila, the capital city of the Philippines, and is composed of three municipalities, and has an area of about 42, 842 hectares. It is surrounded by islands of Marinduque and Burias in the north, Panay in the south, Masbate in the east, and Tablas in the west (Mallari *et al*. 2015). The island has about 10 land cover classifications including closed forest, open forest, mangrove forest, shrubland, wooded grassland, grassland, annual cropland, perennial cropland, built-up areas, and inland waters (figure 2). The island is believed to be isolated and has never been connected to other islands (Heaney and Regalado 1998), resulting in high species endemism (Pelser *et al.* 2011). In the 2018 assessment conducted by the Foundation for the Philippine Environment (FPE 2018b), there is about 24.5% floral endemism and 22% faunal endemism in the area. About

144 species of trees, 64 species of birds, 10 amphibians, 25 species of reptiles, and 18 species of mammals were also recorded in 2015; and 18 species are listed under the IUCN Red list. New species discovery is also still emerging in Sibuyan such as species of reptiles under the genus *Ramphotyphlops* (blind snake) and *Pseudogekko* (gecko) (Mallari *et al.* 2015).

Similar to many conservation sites, the island's biodiversity is threatened with various activities. Among them is the infrastructure development such as bridges, roads, and concrete fences that results in loss of biodiversity in its freshwater, mangrove, and beach forest ecosystems. Logging is also one of the observed threats in the area together with the non-timber forest products collection including orchids and resins (FPE 2018b). Sibuyan is also rich in minerals such as nickel, gold, manganese, iron, limestone, and quartz which also threatened the forest resources of the area (Goodland and Wicks 2008)

There are several conservation and protection instruments on the island, two are under the national protected areas system: the Mt. Guiting-Guiting Natural Park (MGGNP) declared under Presidential Proclamation no. 746 in 1996 and the Sibuyan Island Mangrove Swamp Forest Reserves under Presidential Proclamation no. 2152 in 1981. The ancestral domain title is under the IPRA law, awarded to the Sibuyan Mangyan Tagabukid in 2004. There is also a community-based forest management agreement between a farmer's cooperative and the DENR awarded in 1998. At the local level, there are two marine protected areas declared each by the municipalities of Magdiwang and Cajidiocan (FPE 2018a).

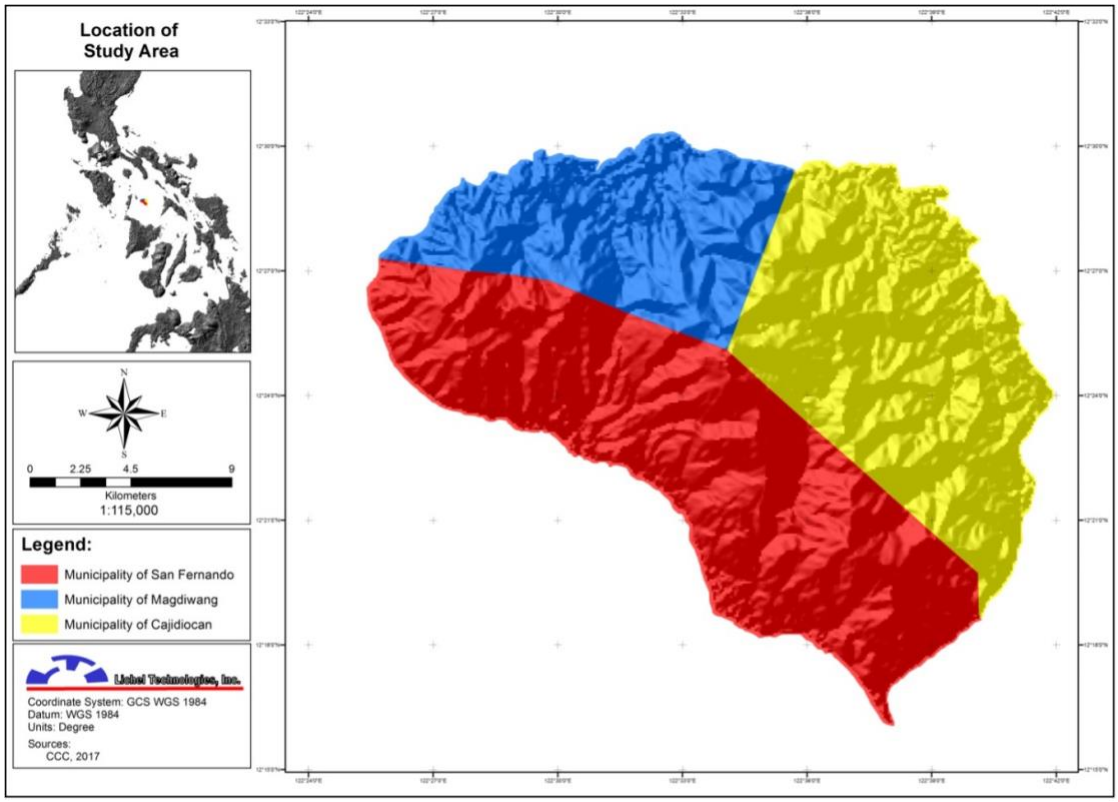


Figure 1. Location of Sibuyan Island
(source: FPE 2018a)

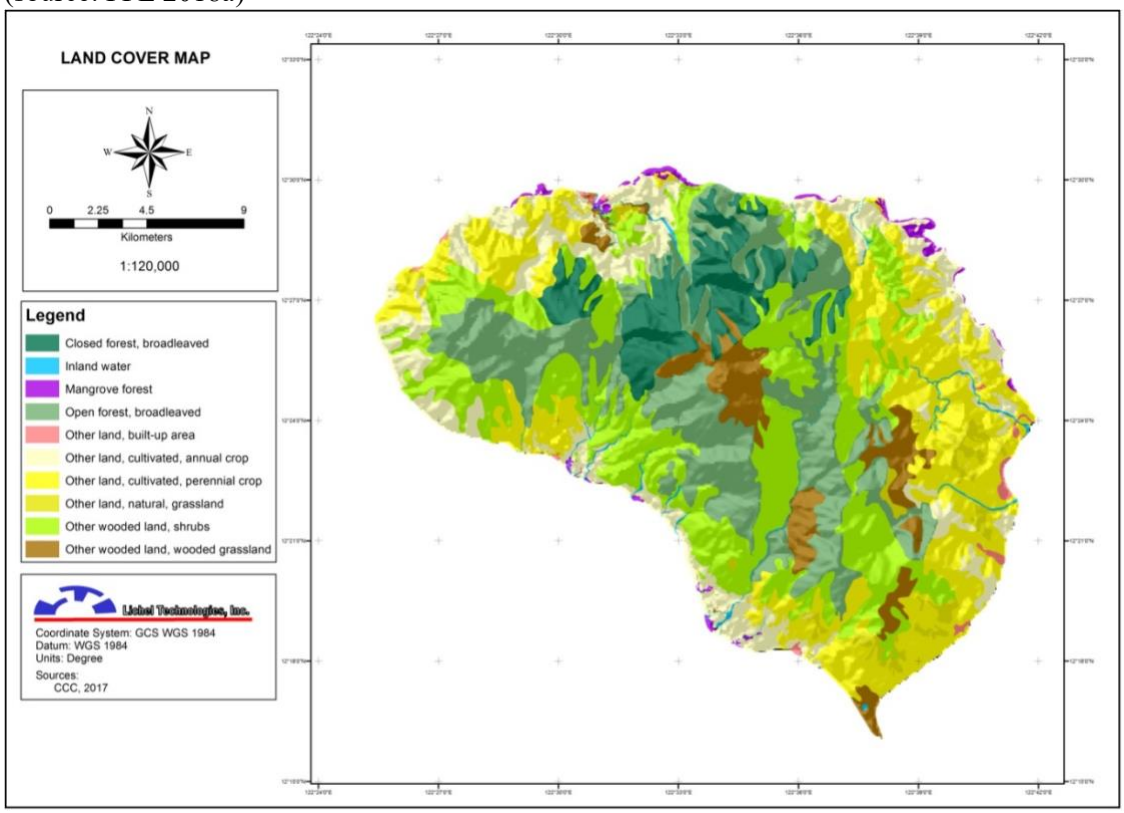


Figure 2. Land cover of Sibuyan Island
(source: FPE 2018a)

2.2.4. Sibuyan Mangyan Tagabukid and their Ancestral Domain

Sibuyan Mangyan Tagabukid (SMT) is the sole indigenous group on Sibuyan Island. They identify themselves as the legitimate indigenous people of the mountains *(tunay na katutubo ng bukid)* to distinguish themselves from the lowlanders *(taga-ubos)* (SMT 2016). More than 20% (8,408.84 hectares) of the island belong to SMT (figure 3), traversing the municipalities of San Fernando and Cajidiocan, and portions overlap with Mt. Guiting-Guiting Natural Park (SMT 2016). The ownership of the land was legally supported through the Certificate of the Ancestral Domain Title (CADT) that was issued to SMT in 2004 (SMT 2016; FPE 2018a). The ancestral domain is mainly composed of secondary and old-growth forest areas. Further, the land uses in the area are of settlement, forest, agriculture, hunting grounds, and sacred areas (SMT 2016). It is home to about 34 genera of plants, 40 species of birds, 13 species of mammals, and 24 of 54 recorded species of reptiles and amphibians (SMT 2016; Mallari *et al.* 2015). It also has three major river systems: the Danao, Cantingas, and Tampayan, that are the source of not only drinking water but electrical needs within the island (SMT 2016).

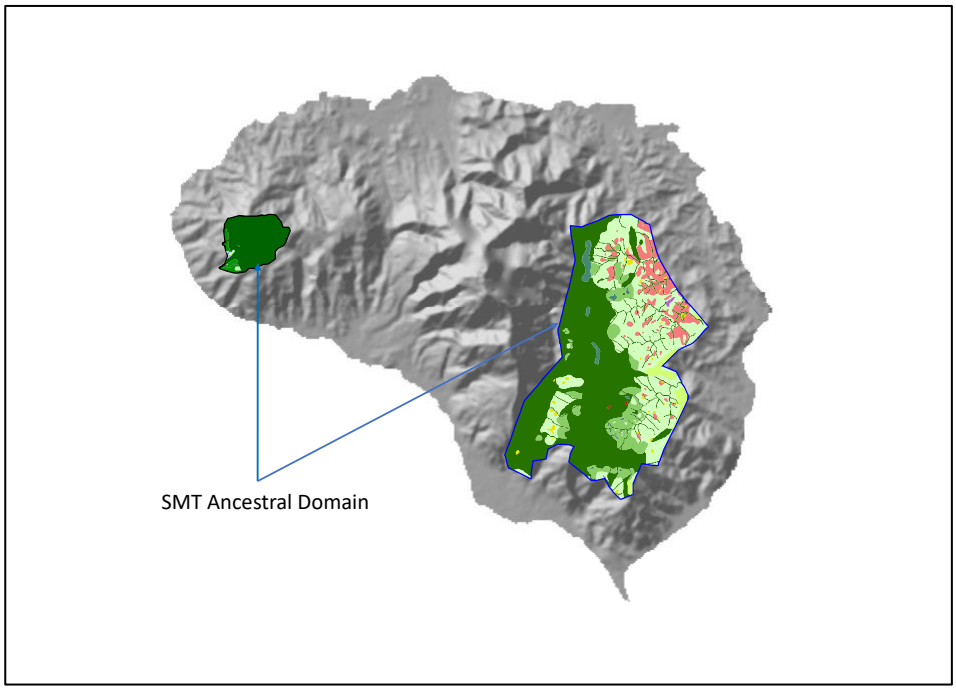


Figure 3. SMT Ancestral Domain
(source: SMT 2016)

The main livelihood of SMT is agriculture, particularly the growing of crops including rice, corn, and tubers. Swidden farming/slash and burn agriculture *(kaingin)* is a common practice by SMT for their agriculture practice. Every household has swidden fields *(uma)* and settlement land for houses but the forest areas are considered the common property of the community. Collection of non-timber forest products like honey *(dugos)* and harvesting of freshwater shrimp *(uyang)* are also a source of income and subsistence for the SMT. Further, hunting is also still practiced in the ancestral domain with the use of a spear *(bangkaw)* (SMT 2016).

Like many other indigenous groups, SMT has high regard for nature spirits. The community still practices traditional healing, rituals and uses medicinal plants. The SMT is governed by their traditional leaders called *Managhusay*, composed of elders from different kin groups in their respective clusters. The council of elders is the decision-making body of the community (SMT 2016). They have an organization named *Asosasyon ng Sibuyan Mangyan Tagabukid* (ATSMT) that serves as the management team of SMT (SMT 2016) and handled the project and program implementation inside the ancestral domain. The lead or the President of the ATSMT sits as part of the protected area management board (PAMB) of MGGNP because of the NIPAS and IPRA laws, especially that part of the ancestral domain is overlapping the MGGNP (SMT 2016). There has been an initial conflict between the SMT and the park authorities toward the differing management perspective, both agreed on the conservation of the areas but the SMT would like to remain using the forest that has been the source of the subsistence and livelihood e.g. non-timber forest products (Tongson and McShane 2006). A co-management for the overlapped area including its governance structure is still in discussion (SMT). According to Tongson and Dino (2004), the PAMB is "not an appropriate management structure" due to the unequal balance in the decision-making as SMT is overpowered by government representatives. A co-management on the other hand will offer

equal management and decision-making rights for the SMT and the park management (Tongson and McShane 2006).

Management of the ancestral domain is laid out in its Ancestral Domain Sustainable Development and Protection Plan (ADSDPP) following the IPRA law. An ADSDPP was initially developed in 2005 following the issuance of the CADT but a copy of this is not available (Tongson and McShane 2006; SMT 2016). The existing ADSDPP 2016-2021 (SMT 2016) had specified three objectives: (1) biodiversity conservation and sustainable development, (2) strengthening of cultural identity, and (3) organizational strengthening. The ADSDPP had identified threats in the ancestral domain that SMT would be addressing within the period, including institutional (governance), social (health, education), physical (infrastructure), and environment. It is noted however that some of the threats, particularly those that are related to infrastructure, are considered needs as these are facilities desired or requested by the community e.g. hospital, health center, bridge, evacuation center, school, water pipes for drinking water, and market road. On the other hand, environmental threats are human-driven threats that fit with the adopted concept of threat for this study. Among the threats identified are mining; illegal logging; development of the hydro plant; the illegal and excessive gathering of forest products (*sobrang pagkuha at maling pagkuha ng produktong gubat*); poisoning of rivers and creeks (*paglason ng ilog/sapa*)*; the* gathering of wild plants (*nangangani ng buhay-ilang*)*;* and wildlife research. The SMT had identified activities to address the threats, the budget needed, and targets. Among the activities identified are reforestation, paralegal training, and deputation of forest guards, patrolling, and monitoring. These activities are tied up to the biodiversity conservation objective but their link to the identified threats is not clear. The budget source/s of the funds needed amounting to a total of Php 2,125,000 (est. 36,488 EUR), 70% of which are for biodiversity conservation and sustainable development, are not specified in the plan but there is a mention of proposal

submissions to agencies, including counterpart which means internal funding, but the amount was also not specified. On the other hand, noted in the matrix plan are specific biodiversity targets such as at least 5% of animals that were not seen are returned inside the ancestral domain and 30% of deforested areas are rehabilitated. However, there was no baseline data on these targets written in the plan that could measure the success or failure of the interventions. In addition, there was no mention of any monitoring scheme or tool in the ADSDPP. Although, monitoring and evaluation should be part of the plan as per the guidelines for the ADSDPP development (NCIP 2018).

2.2.5. Foundation for the Philippine Environment

The Foundation for the Philippine Environment (FPE) was established through an initiative of various non-government organizations, the World Wildlife Fund, and the Philippine Development Forum (PDF) with the support of the United States Agency for International Development (USAID) (Gasgonia *et al.* 2021). USAID had provided grants through their natural resources management amounting to US$ 125 million from 1990-1998 to the Philippines including debt-to-nature swap support for FPE (Guiang and Braganza 2014; Gasgonia *et al.* 2021). FPE was legally registered in January 1992 as a non-government grantmaking organization that funds biodiversity programs across the Philippines. The strategy of the FPE is to provide financial resources to non-government organizations, people's organizations, and grassroots communities to enable them to implement biodiversity conservation and sustainable development (Gasgonia *et al.* 2021).

The FPE uses a standardized process of appraising, approving, implementing, monitoring, and evaluating projects through its programs manual (UNDP 2019) which is in line with logic or results-based framework. The FPE had specific templates and formats used for project proposals, progress reports, and closure reports for projects granted downloadable

on their website. The progress monitoring of grant projects only measures target outputs based on activities. In the micro assessment conducted by the United Nations Development Programme (UNDP) in 2019, the FPE scored low in program management which includes the M&E of projects to realize the integration of biodiversity conservation and sustainable development in grants administration (UNDP 2019).

In 2010, the FPE implemented a project, "Mainstreaming Indigenous People's Participation in Environmental Governance" (MIPPEG) in partnership with the European Union-Fundacion Desarollo Sustenido covering indigenous communities which include the SMT. The MIPPEG project supported the empowerment of indigenous peoples in asserting their rights to self-governance and self-determination (FPE 2011). This provides an opportunity for the FPE to operate in Sibuyan Island. By 2015, the FPE adopted Sibuyan Island as one of its priority sites for 2015-2025 (FPE 2015). Since the adoption, FPE has provided grant funding for conservation initiatives on the island and one of the grant holders is the Sibuyan Mangyan Tagabukid.

2.3. Justification of Research

The ICCA as acknowledged by IUCN as a unique governance body is growing recognition as a mechanism for conservation, globally and in the Philippines as well. The ancestral domain of SMT is an important ICCA that could prevent biodiversity loss. The ADSDPP of SMT will commence this year and since the FPE has been supporting the organization since 2015, it is timely and relevant that conservation initiatives should be evaluated to know whether threats are being addressed or not, and how grants affect threat mitigation.

Further, currently, the SMT is reporting their projects based on FPE's monitoring template but it is oversimplified and does not translate to the progress towards the threat mitigation and the achievement of conservation of the ancestral domain even though threats are explicitly

identified in their plan. It will be useful for the ancestral domain management to have a tool that measures the initiatives that directly address threat mitigations to guide them in reflecting and adjusting their management interventions and possibly incorporating them into their monitoring scheme or help them in crafting their M&E system. In addition, it will also be helpful for the FPE to look into other tools that could monitor and link projects to biodiversity conservation outcomes and address the weakness in the linkage.

3. Methodology

This research used a combination of qualitative and quantitative methods. The qualitative method is composed of a review of available records and documents that provide an understanding of the problem the study addressed, focus group discussion, and informal interviews for insights from the stakeholders to better analyze the conditions surrounding the study. The quantitative method is the MTRA workshop.

3.1. Qualitative methods

3.1.1. Secondary Data Review

To better understand the research problem and the context surrounding the study, archival analysis was undertaken. A review of scientific journals, books, and other available sources about the foundational concept on biodiversity, biodiversity conservation, IP, ICCA, its management, and grants for conservation were done. Further, reports, studies, and other pertinent documents about the ancestral domain, SMT, and the projects implemented by the SMT were also reviewed. The National Strategic Biodiversity Action Plan (NBSAP) reports from the CDB, the NIPAS law, and the IPRA law was also reviewed to provide context on the Philippines' biodiversity and its management and conservation. In addition, the ADSDPP of SMT and the resource and socio-economic assessments for Sibuyan Island were heavily consulted to provide insight into the threats and status of the locality in relation to biodiversity. Documents such as those from the UNDP and annual reports of FPE were checked to better understand the grant mechanism provided by the foundation. The TRA manual (Margoluis and Salafsky 2001) and past studies using the same methodologies (Anthony 2008; Matar 2009; Loughney 2013; Milatovic 2017; Wilmot 2020) were also reviewed.

3.1.2. Focus Group Discussion

To better understand the governance and management structure of SMT, the planning and management interventions made in the ancestral domain, and how the grants influence the interventions made in the ancestral domain, a semi-structured group interview was conducted after the MTRA workshop. It was attended by officers of the ATSMT including the former president who served as the management team leader during the period that the organization received grant funding from FPE.

3.1.3. Informal Interviews

Supplementary informal interviews were conducted with the former and current president, and the bookkeeper of the ATSMT to further provide insights on management interventions and grants management. A representative from the FPE was also interviewed to provide insights on the grant process, reporting, monitoring, and evaluation.

3.2. Quantitative method

3.2.1. Modified Threat Reduction Assessment (MTRA)

Threat reduction assessment (TRA) is a tool used to evaluate the success of conservation interventions by measuring threats as a proxy to biodiversity indicators (Anthony 2008). It offers an alternative approach to biological-indicator monitoring that community-based management teams often found difficult to implement and use (Margoluis and Salafsky 2001). This could be addressed by the TRA and is also the reason that the TRA methodology was chosen. It was modified by Anthony (2008; hereafter MTRA) to include emerging and worsening threats into the tool, providing better accuracy in the assessment of the degree of change over the period.

3.2.1.1.Justification of the Chosen Methodology

Translating grants used for conservation to a measurable outcome has been a challenge to many donor agencies (Bonham *et al.* 2014) and there is still no established M&E tool for ICCA

outside the PA system. As the main objective of this study was to assess how grants influence the ability of an indigenous group to reach their conservation objectives in an ICCA, the MTRA was chosen due to the following reasons:

1. The tool could provide a comparison in a temporal frame over a defined spatial extent. This will provide the basis for the analysis of the relationship between the grants' expenditure and threat reduction.
2. It can be done retroactively
3. As previously mentioned, it can be easily used by a community-based organization without needing substantive prior training.
4. It is time and cost-efficient.

To provide the basis for the comparison of the results of the MTRA or the indices, the extent of the amount used from grants was also measured during the workshop. The workshop was chosen to be done as previous studies using the same methodology demonstrated that this is the most effective way of conducting the assessment (Anthony 2008; Matar 2009; Milatovic 2017; Wilmot 2020).

Two MTRAs were conducted: (a) without FPE grant funding from 2010-2014 and (b) with FPE grant funding from 2015-2019. The time was chosen because although the ADSDPP of SMT covers 2016-2021, the creation of the document started in 2015, and thus, some of the interventions identified in the plan are timed from 2015 onwards. This is also timely with the start of funding support from FPE in 2015.

The MTRA was carried out into two parts: the preparatory consultations and the actual workshop.

3.2.1.2. Preparatory Consultations

To facilitate the workshop, initial communications were made about the study, and clarifications were also made with SMT. The workshop guidelines are mainly adopted from

previous studies and the TRA manual (Margoluis and Salafsky 2001; Anthony 2008; Milatovic 2017) which was provided to SMT before the workshop (Appendix 1). Included in the guidelines are the worksheets (Appendix 2, 3, and 4) used and the lexicon of threats (Salafksy *et al.* 2008). The main contact from SMT is the former president of the ATSMT who had been spearheading the projects funded by FPE between 2015-2018, the selection of workshop participants was discussed with the contact person with criteria about having enough knowledge on the locality, the situation, and threats during the period specified in this study, the grants received, projects implemented in the ancestral domain, and be able to do the ranking, justifications, and further background information.

Before the workshop, a briefing was conducted to walk through the process and provide time on any clarifications on the process. The participants were also advised to review and bring available documents like the ADSDPP and project reports.

3.2.1.3.Workshop proper

The workshop was conducted via an online facility (zoom) due to the current covid-19 situation. It was carried out in a mixture of the Filipino and English languages. The workshop was attended by 5 members of the ATSMT. It started with getting the verbal consent on the participation of the participants following the Central European University's approved research ethics protocol to secure informed consent from participants of any research. The protocol allows for verbal consent in cases that written consent is not possible such as in this case. Consequently, it was followed by a summary of the research and then the guidelines and the step-by-step process of the MTRA. The first step which was the definition of area and assessment period was also briefly discussed for any comments, this is predetermined prior to the workshop upon review of records. There were no further comments received from the participants on this aspect. The process mainly followed the TRA procedures by Margoluis and Salafsky (2001) with additional steps on the listing and estimating of the grants used for threat

mitigation. Steps from developing the list of threats to the ancestral domain until the computation of the TRA index were repeated to have the TRA index for two periods: 2009-2014 (without grants) and 2015-2019 (with grants). The key process is as follows:

1. *Developing the list of threats in the ancestral domain.* Participants were asked to identify the threats in the given period and list them. Participants were encouraged to discuss and specify the threats even in their native language (*Ini)* and later translate it to Filipino and then English, to avoid misinterpretation and loss of information. The raw descriptions of the threats were maintained and then further reviewed based on the available document. Threats are then categorized based on the IUCN lexicon (Salafsky *et al.* 2008).
2. *Defining 100% reduction of each threat***.** Participants were instructed to discuss and agree on the meaning of 100% threat reduction for them, with the guidance that 100% elimination should mean complete elimination of the threat (Anthony 2008).
3. *Ranking each threat based on area, intensity, and urgency*. Participants were asked to rank each of the threats according to the area, intensity, and urgency. The ranking equates to the total number of threats identified with number 1 assigned as the lowest score and 8 for the highest in 2009-2014; 9 in 2015-2019.
4. *Adding up the ranking scores*. The three criteria scores were added to have the total ranking. It was revisited after the first round of ranking to allow participants to modify the ranking to increase the validity of the scores (Milatovic 2017).
5. *Determining the degree to which each threat has been reduced*. Participants were again given time to discuss and estimate how much the threat has changed over the specified period. The participants were advised to revisit their definition of 100% threat reduction to guide them in the scoring. A positive score with a maximum score of +100% was given to a threat that is "completely eliminated" and a negative score with an undefined

maximum score was given to a threat that has worsened. If a threat is worsened by 2 times or more, a threat can be given a score of -200% or more (Anthony 2008).

6. *Calculating the raw score.* Raw scores were calculated by multiplying the total ranking by the estimated percentage of change *(*Margoluis and Salafsky 2001)
7. *Calculating the MTRA index.* MTRA index was then determined with the formula below (Margoluis and Salafsky 2001)

$$\textbf{\textit{TRA index}} = \sum \textbf{\textit{raw scores}} / \textbf{\textit{total ranking}} * 100$$

Additional steps to identify and measure to what extent are the activities being funded, the following were integrated into the MTRA workshop:

1. *Identifying interventions made to each of the threats, if any (added process)*. Participants were asked to list down all activities or projects done to address the threats.
2. *Determining how much of the interventions were funded*. Participants are given time to discuss and then estimate how much each of the listed interventions was funded. 100% are given to those interventions that were fully funded by FPE.
3. *Calculating how much of the funds for threat mitigation are grant funds.* The calculation is made by adding the total estimate value and dividing the total value and then multiplying by 100, to get a percentage.

3.3. Limitations in the Study

Due to the current covid-19 pandemic, the study has been conducted via an online platform that resulted in some limitations in the study. Foremost is the number of participants, it could have been attended by a few more but since participants need to gather to a location for the internet signal and a lockdown was in place, a larger group was not pursued. Another was the unstable internet signal, as the study site is on a rural island. The workshop was interrupted several times and by the time of the focus group discussion, exhaustion was already evident from the participants which prevented me to have longer

time for follow-up questions. Similar problems were also encountered during the individual interviews and some of the interviewees went to mandatory quarantines in areas with limited connection. These were addressed by having shorter but multiple interview sessions. Another is the unavailability of other documents like the older ADSDPP although the workshop participants have informed that the 2005 ADSDPP does not have any management intervention and that the plan only contained a list of what they needed e.g., tribal hall and crops for planting. But it could have provided a better understanding of the context of the threats during the period covered. Nevertheless, the participants are residents and have a historical memory of the locality and events during the period under study. And lastly, maps for visualization are also limited which could have been useful in the discussion of the results.

4. Results and Discussions

4.1. Workshop Result

The workshop was conducted via zoom, the participants were gathered at the satellite office of the National Commission on Indigenous Peoples (NCIP) in Cajidiocan, Sibuyan Island. It was attended by the 5 members of the SMT, who are also officers of the ATSMT including the incumbent and former President (lead of management team). All the participants have been residents of the island and are very knowledgeable about the locality. They have also attended some seminars and some training on biodiversity conservation, leadership, and management. Participants are all fluent in Filipino but not in English and thus, the workshop was carried out in a mixture of both languages with a bit of their local language, the *Ini*. The *Ini* words were used when the participants could not immediately find a Filipino translation of a word, but these words are still infused into the Filipino sentences. The workshop lasted around 3 1/2 hours including the focus group discussion.

There were two TRA calculations made as shown in Tables 1 (2009-2014) and 2 (2015-2019). There are a total of 8 threats listed in the period between 2009-2014 which is the same list of threats identified between 2015-2019. There is however an additional threat in 2015-2019 which is the 'research' in the relation to the data collection made inside the ancestral domain.

4.1.1. MTRA 2009-2014

The MTRA index shows a low score in 2009-2014, only 1.94%, displaying that 5 out of the 8 identified threats worsened during the period. The participants attributed this to the fact that there was neither internal or external funding available during the period to support threat reduction activities or any other management interventions. Threat mitigation is largely through individual or voluntary actions which is mainly following their customary laws like

not cutting trees or collecting plants only when needed. Many of the identified threats are activities that are traditionally allowed inside their ancestral domain like logging, charcoal-making, aquatic harvesting, collection of plants, and swidden farming. But these activities should be within their designated areas and mostly for subsistence use. One of the identified threats - mining, however, has never been allowed inside the ancestral domain. The establishment and operation of the mini-hydro by the Romblon Electric Cooperative Inc. (ROMELCO) and Cantingas Mini-Hydro Power Corp. (CHPC) has been identified as the number 1 threat in the area and had shown a significant worsening (-50%) during the assessment period.

Table 1. TRA Index 2009-2014

	THREATS	IUCN THREAT CODE	CRITERIA RANKING			TOTAL RANKING	THREAT REDUCED	RAW SCORE
			AREA	INTENSITY	URGENCY			
A	Mining *(pagmimina)*	3.2.	5	7	6	18	-20%	-3.6
B	Illegal Logging	5.3	7	6	7	20	50%	10
C	Illegal Charcoal-making *(pag-uuling)*	5.3	4	4	5	13	80%	10.4
D	Poisoning of river for aquatic harvesting *(paggamit ng lason sa paghuli uyang)*	5.4	3	3	2	8	-20%	-1.6
E	Electrocution for aquatic harvesting *(pagkuryente sa paghuli ng uyang at iba pa)*	5.4	2	2	3	7	-20%	-1.4
F	Illegal poaching of plants *(pagkuha ng buhay ilang katulad ng orkidyas)*	5.2	1	1	1	3	60%	1.8
G	Swidden farming/Slash and Burn (*kaingin*)	2.1	6	5	4	15	-10%	-1.5
H	Operation of mini hydro	7.2	8	8	8	24	-50%	-12
I								0
J								0
	TOTAL		36	36	36	108		2.1

TRA INDEX FORMULA	TOTAL RAW SCORE		TOTAL RANKING		Convert to %		TRA Index (%)
TRA INDEX CALCULATION	2.1	÷	108	=	X 100	=	1.94%

4.1.2. MTRA 2015-2019

The MTRA for 2015-2019 on the other hand shows a remarkable change of having a 68.64% modified threat reduction index. Two of the identified threats: mining and illegal poaching of plants were considered by the workshop participants as completely eliminated.

One of the threats, the operation of the mini-hydro, however, has neither worsened nor improved. The details of the threats are further discussed in the next section.

Table 2. TRA Index 2015-2019

	THREATS	IUCN THREAT CODE	CRITERIA RANKING			TOTAL RANKING	THREAT REDUCED	RAW SCORE
			AREA	INTENSITY	URGENCY			
A	Mining *(pagmimina)*	3.2.	4	6	4	14	100%	14
B	Illegal Logging	5.3	6	8	6	20	80%	16
C	Illegal Charcoal-making *(pag-uuling)*	5.3	7	7	7	21	95%	19.95
D	Poisoning of river for aquatic harvesting *(paggamit ng lason sa paghuli uyang)*	5.4	8	4	3	15	50%	7.5
E	Electrocution for aquatic harvesting *(pagkuryente sa paghuli ng uyang at iba pa)*	5.4	2	3	5	10	80%	8
F	Illegal poaching of plants *(pagkuha ng buhay ilang katulad ng orkidyas)*	5.2	3	2	2	7	100%	7
G	Swidden farming/Slash and Burn (*kaingin*	2.1	5	5	8	18	99%	17.82
H	Operation of mini hydro	7.2	9	9	9	27	0	0
I	Research (in relation to data collection)	12.1	1	1	1	3	80%	2.4
J								0
	TOTAL		45	45	45	135		92.67

TRA INDEX FORMULA	TOTAL RAW SCORE		TOTAL RANKING		Convert to %		TRA Index (%)
TRA INDEX CALCULATION	92.67	÷	135	=	X 100	=	68.64%

4.1.3. Discussion on the Threats Identified

The following are the detailed discussion on the identified threats for both assessment periods.

a. Mining

Mining is an activity that was never allowed by the SMT inside the ancestral domain although there are mining applications and permits on the island (Goodland and Wicks 2008). Gold mining has been observed inside the ancestral domain particularly within the overlapped areas with the MGGNP. This has been identified as a threat because mining areas are near their sacred places and forest areas. Small-scale mining for income is done by both the members of the SMT and few lowlanders. Gold can be sold on the island at around Php 12.00 (0.21 EUR) per gram. Because observed mining is considered only of small scale, a -20% was given to the worsening of the threat between

2009-2014. The threat is, however, fully eliminated between 2015-2019. According to the workshop participants, a moratorium was passed in 2015, stopping all mining activities inside the ancestral domain. The SMT also filed cases against the miners that are not members of the SMT in the respective local government units (LGU) who hold jurisdiction of the area where the individual was apprehended.

b. Illegal logging

Logging for building houses, tribal halls, and other facilities are allowed traditionally inside the ancestral domain. Trees can be cut from their designated common forest areas but not in their restricted areas e.g., sanctuaries. Logging for commercial purposes and outside of the designated areas is therefore considered illegal by the SMT. Among the common tree species that are being cut are White Lauan (*Shorea contorta*), Red Lauan (*Shorea negrosensis*), Batikuling (*Litsea leytensis*), Marang (*Artocarpus odoratissimus*), Tindalo (*Afzelia rhomboidei*). Except for Tindalo, the others are on the IUCN red list. The Lauan species are both under the category of least concerned but with decreasing number of population while Marang and Tindalo are both nearly threatened and are also decreasing in population (IUCN 2021a). The cutting of trees is usually for income, the timber can be sold at around Php 35.00 (0.60 EUR) per board ft. and is usually sold to furniture makers on the island. The workshop participants had estimated that there has been a decrease of this threat of around 50% between 2009-2014 and 80% between 2015-2019. They had attributed it to the members' compliance and the patrolling being done around the area. In addition, the few apprehended individuals during their patrolling are mostly the lowlanders.

c. Illegal charcoal-making

Charcoal-making is related to the slash and burn practice of the SMT. It is an activity that is allowed between February to April, when they are preparing their farmland

(*uma/kaingin*) for the planting season. According to SMT, all tree species could be charcoaled but one that was mentioned was the Kuyawyaw/Batino (*Alstonia macrophylla*), classified as least concerned in the IUCN red list (IUCN 2021a). Another common practice for charcoal-making is the 'salvage' or the processing of the fallen or damaged trees during typhoons or storms. The common salvaged tree is the Manga (*Mangifera indica*). Charcoal can be sold at around Php 120.00 (2 EUR) per sack or used by the household. Charcoal-making beyond the allowed time and their farm areas (*uma/kaingin*) are considered illegal. Because of the same response in the illegal logging activities and fewer individuals apprehended, workshop participants had given positive threat reduction for charcoal making, 80% in 2009-2014 and 95% in 2015-2019.

d. Poisoning of the river for aquatic harvesting

Traditionally, SMT uses a traditional trap, a net made of vine called *taon*, (figure 4), to harvest fish and other aquatic animals. One of the widely collected species along the rivers is the freshwater shrimp called *uyang*, sold commercially for Php 400.00 (6.87 EUR) per kilo. Harvesting or collection of *uyang* is usually at night or when it is still dark with the aid of light. Because of this, monitoring was relaxed during 2009-2014 but during the same period, the SMT noted that people are using a chemical named 'cymbus' in collecting *uyang,* particularly the lowlanders. Members of the SMT are also using poison but these are traditional poisons from plants. There are two identified poisons: (1) a small shrub called *tuba*, of which the leaves and fruits can be pulverized and used as a poison, and (2) a vine called *tubli*, whose roots are squeezed to obtain poison. Consequently, the SMT observed the decreasing population of *uyang* in that period, and with that, they had given a -20% to estimate the worsening condition of the threat. The use of chemical and other poisons not only affected the population of the

freshwater shrimp but also the health of the members of the SMT who sourced their drinking water from the river. By 2015-2019, SMT had strengthened the enforcement in the areas known for the *uyang* harvesting and set aside a small sanctuary as a breeding ground effectively decreasing the threat by 50%.

Figure 4. *Taon* (Traditional trap)

e. Electrocution for aquatic harvesting

The use of electricity through a battery with around 12 volts is another threat identified that is related to the harvesting of *uyang.* Aside from *uyang*, eel or *kasili* have been affected by the method of electrocution. According to the workshop participants, they had observed that *uyang* and *kasili* have difficulty in reproduction because of electrocution. In addition, it also poses threat to humans who are crossing the rivers during the collection. But unlike *uyang* that is harvested more frequently even in small volumes, *kasili* are only harvested when ordered and sold at Php 500.00 (8.58 EUR) per kilo. Similar to the use of poison, electrocution has worsened between 2009-2014. But between 2015-2019, there had been only a few incidences where SMT apprehended people who use electrocution for the harvesting during patrolling, thus, the workshop participants had given an 80% reduction on this threat.

f. Illegal poaching of plants

Collection of plants for medicinal and aesthetic uses are traditional practices of the SMT. However, the collection of plants like Dapo/Kabkab/Pakpak Lawin (*Drynaria quercifolia*), a plant belonging to the fern family, and orchids have been rampant in the area. This is also observed by FPE (2018b) in the research conducted in 2018. One of the noted orchid species is the endangered species of Pitogo (*Cycas circinalis*) (IUCN 2021a). Plants are being sold at a minimum of Php 15.00 (0.26 EUR) to Php 25.00 (0.43 EUR) per piece. But the pitcher plants (*Nepenthes spp.*) could be sold at an estimate of between Php 500.00-2,000.00 (8 to 34 EUR). Because this specific threat has been immediately regulated, the workshop participants had given a positive 60% threat reduction during the 2009-2014 period. And between 2015-2019, with the help of the local DENR, enforcement for the illegal poaching of plants helped in the complete elimination of the threat.

g. Illegal swidden farming/slash and burn

Slash and burn or swidden farming is the practice and primary source of livelihood of SMT. They have their designated farm areas, the *uma/kaingin*. The farming follows a cycle: (a) burning of the land area to prepare for the planting between February to April; (b) planting around May to June which is also the onset of the rainy season in the Philippines and, (3) harvesting which is around October to November. Areas that are within the fallow/resting period are called *latihan*. Areas that are cleared, burned, and cultivated beyond the *uma/kaingin* and *latihan* areas are considered illegal by the SMT. A few members of the SMT were observed exceeding their designated areas which further threatened the forest areas and the wildlife therein thus, the workshop participants assessed a worsening of the threat of about -10% during the 2009-2014

period. On the other hand, because families belonging to SMT have their own designated *uma/kaingin* areas and it was just a matter of enforcing their customary laws which were strengthened between 2015-2019, SMT had given a 99% threat reduction for this threat in that period.

h. Operation of mini-hydro

The operation of the mini-hydro was the number one threat based on the overall ranking for both assessment periods. The two private companies, Romblon Electric Cooperative Inc. (ROMELCO) and Cantingas Mini-Hydro Power Corp. (CHPC) have established a mini-hydro powerplant along the Cantigas River around the year 2010 which is inside the ancestral domain. The power plant is currently supplying the electricity needs of the island but has been causing concerns with the SMT. According to the workshop participants, the establishment and operation of the mini-hydro caused problems in the waterflow, some of the river streams are getting dry particularly during dry or summer season. It consequently affects the aquatic wildlife and the community who are sourcing their water needs from the river. Therefore, the workshop participants have given a negative (-50%) threat reduction for this threat between 2009-2014. Afterward, the SMT has been into a legal battle with ROMELCO and CHPC. The SMT is not aiming or foreseeing the removal of the mini-hydro. The complete elimination of this threat is defined by the workshop participants as having an agreement and joint management of the resource. The community is moving towards a form of payment for ecosystem services (PES) scheme with ROMELCO and CHPC. As protector and 'owner' of the river, they could receive a certain amount of payment that they said they could use as an income or revolving fund to support conservation activities and other management interventions inside the ancestral domain. In 2018, SMT, ROMELCO, and CHPC have reached an agreement that SMT would be receiving a royalty payment of about 3% of

the power plant income from 2016 onwards and a monitoring team with members from the SMT would be created for the management of the mini-hydro. However, there was no follow-up or movement in the case. Because of this, SMT had given a 0% on the threat reduction between 2015-2019.

i. Research

This threat is only identified for the assessment period of 2015-2019. Research is considered a threat due to the collection of data, particularly species or specimens that SMT was not made aware of until after the research or study was done. But because SMT had made steps in coordinating with the local agencies like the LGU and DENR, entrance and necessary permits are being required to researches, this is also in compliance with the Free and Prior Informed Consent (FPIC) under the IPRA law. An 80% threat reduction was given by participants for this threat.

4.2. Management Interventions and Grant Support

Between 2009-2014, there was no clear management intervention or activities to address threats in the ancestral domain. The main reason is the absence of a comprehensive plan. There was also no fund available during the period, internally or externally. The absence of the funds had made it difficult to conduct conservation activities and thus, the SMT mainly relied upon the commitment of the members to follow their traditional practices and customary laws.

Prior to the grants from FPE, the SMT have been a project partner of the FPE for the MIPPEG project, which mainly empowers the community for their self-determination. At the end of the project, 2 members of the SMT have been part of the municipal council, one each in the municipalities of Cajidiocan and San Fernando, as ex-officio members. These ex-officio members or the Indigenous Peoples Mandatory Representative (IPMR) are receiving salaries

and 10% of which are set aside to be the internal funds of the SMT since 2016. Funding of any management interventions therefore from 2015 onwards is a mixture of the IPMR salaries, grants accessed from FPE, and other support from the local NCIP.

According to the staff of FPE, the grant provided to their partners is composed of two main components: the administrative cost and the direct costs. The administrative costs are those related to salaries, transportation costs, and supplies that could be up to 30% of the total grant amount. The rest will be the direct cost of activities or interventions to be implemented. Since 2015, the FPE provided around Php 1,050,000 (18,144 EUR) to SMT for their conservation projects. For SMT, the accessing of grants is based on two factors: (1) what is urgent to be done at the time that they are developing the grant proposal and (2) the project should be for the benefit of the whole community and not just part of the community. But one of the notable effects of having a grant from the FPE is the shift of focus towards conservation, according to the interviewed individuals. The previous perceptions and plans to address the needs of the community like infrastructure moved to a stricter rule in cutting trees, the need for replanting and, forest and wildlife protection. This is also because the FPE would only approve a proposal for granting if biodiversity conservation and sustainable development are clear in the project objectives.

As shown in Table 3, there are several interventions implemented to address the identified threats in the ancestral domain, but the grant received specifically went to reforestation, information and education campaigns, and legal expenses. An estimate of 50% of the amount needed for activities to address threats are from the grants received from the FPE, the other half are from the other sources of funds.

Before patrolling, members of the SMT had undergone a series of law enforcement training called LEA or legal education activities. These allow them to know and understand existing national and local laws like the Wildlife Resources Conservation and Protection Act

or Republic Act No. 9147, the Philippine Mining Act or Republic Act No. 7942, and other national and local ordinances; and allows them to harmonize their customary laws. These helped the SMT in their apprehensions and filing of cases to appropriate authorities, especially if an offender is not a member of the SMT. The patrolling within the ancestral domain is done twice a week with around 10 members. Further, the process of apprehension will first follow their customary laws, the offender will be brought to the elder/s for fact-finding and penalties. This applies to both the members of the SMT and the lowlanders. Penalties are depending on the severity of the offense i.e., an individual may be ordered to replace a cut-down tree with 20 seedlings or trees. If the case could not be resolved, particularly for lowlanders, the case will be handed over to the LGU. But based on the ADSPP (SMT 2016), the following is the set monetary penalty:

a. *1st Offense – P 3,000.00 (52 EUR)*
b. *2nd Offense – P 5,000.00 (86 EUR)*
c. *3rd Offense – P 10,000.00 (173 EUR)*

Although as per the interviewed individual, a monetary penalty is not usually enforced as individuals, particularly members of the SMT have not enough money to pay. On the other hand, information and education campaigns (IEC) are done mostly through a conference type activity aided by visual and printed materials like tarpaulin. Officers and other members went to different *Sitio*, a geographical subdivision inside the ancestral domain, to conduct the IEC. For reforestation, SMT uses the *rainforestation* approach. *Rainforestation* is originally from the *rainforestation farming* concept that aimed to address both forest biodiversity conservation and agricultural land productivity, combining agricultural crops and using native tree species. *Rainforestation* was later simplified to the planting of native trees in reforestation initiatives (Milan 2020).

Table 3. Threat Interventions supported by Grants 2015-2019

Threats	Interventions Implemented	% Grant Funded
Mining Illegal logging Illegal charcoal making Illegal poaching of plants	Law enforcement training	0%
	Reforestation	100%
	Information & Education Campaigns	100%
	Patrolling	0%
Poisoning of the river for aquatic harvesting Electrocution in aquatic harvesting	Information & Education Campaigns	100%
	Patrolling	0%
Swidden farming (kaingin)	Information & Education Campaigns	100%
	Patrolling	0%
Operation of mini-hydro	Case filing and legal negotiations	50%
Research (in relation to data collection)	Information & Education Campaigns	50%
	TOTAL:	500%

Total % of Grants Used for Threat Mitigation =	Sum/Total Value X 100%
	50%

When asked what proportion of the threat reduced index of 68.64% in 2015-2019 could be attributed to the grants, the workshop participants had given a high 80% or 54.92% because they perceived the activities funded by the FPE through the grant as interrelated. One activity is either a requirement or complementation of the other for the threat to be reduced. For example, the patrolling will not be successful if not for the law enforcement training and education campaigns. For them, having the funds to implement the activities greatly increases their ability to respond to the threat. In addition to the monetary support to implement the activities, members of the SMT are appreciative of the individual and group empowerment that they have received through handling the grant funds. Further, they also credited the prior interventions of the FPE under the MIPPEG project that prepared them in handling the grants. The FPE had provided them different financial and technical management training as a grant holder and as partners for conservation. Consequently, it increases their management capability

and strengthened their confidence to negotiate and cooperate with agencies outside their community. Moreover, it also opened opportunities for them to access other funding schemes which in return enable them to respond to the threats inside the ancestral domain. This applies to not just the biodiversity and the environment but towards responding to the social and economic threats. In the coming year, they are expecting to receive funding support from the NCIP mainly for livelihood projects and the review and development of the new ADSDPP.

4.3. MTRA as a Monitoring Tool

As mentioned in chapter 2 based on the ADSDPP 2016-2021 (SMT 2016), there was no monitoring in place to measure the progress of management or interventions within the ancestral domain. According to the interviewed individuals, this is because they were not aware of the need for monitoring and evaluation and a certain extent the importance of M&E. In addition, the development of the current ADSDPP 2016-2021 and the 2005 ADSDPP were made possible with the help of external people and/or organization who happened to not include any monitoring and evaluation in the plan. Having no existing M&E in the organization, the SMT had said that the MTRA used for this study has been "a big help especially in (the upcoming planning cycle for) the next ADSDPP, we've seen at least a portion of impact (of the management intervention)/ *malaking tulong lalo for the next ADSDPP, nakita namin kahit paano kung may impact ba"*. A 'portion' of the impact was mentioned because there were several other threats in the plan beyond the scope of this study that were mentioned in chapter 2. However, the SMT noted that the tool could apply to cover the governance and social threats because of its simplicity and structure. Another interviewee observed that the advantage of the tool is that it is "based on the experience and knowledge on what is happening in their area and therefore it is easily understood/ *base sa experience ng SMT, mas nauunawaan base sa aming kaalaman sa nangyayari"*. The participants also commented that the result of the MTRA could be used in their proposal development for a new grant or project.

On the side of the FPE, the staff interviewed informed that the existing M&E of the organization is still unclear. Ideally, the FPE should conduct assessments through the Resource and Socio-Economic Assessment (RSEA) in their adopted sites that have a period of 10 years - at the onset of the site adoption, mid-implementation and, at the end of adoption period or the exit to the site, for comparison or evaluation. The RSEA mainly has two parts: the biodiversity component and the socio-economic component which were also used in this study as a reference and better understanding of the biodiversity in Sibuyan Island. However, according to the interviewed staff, only the RSEA at the beginning is usually done without mid or end assessment to measure changes. Further, that the project monitoring through the available templates is an activity-based result rather than the outcome-based result that made it difficult to established relations towards their impact on biodiversity conservation. The FPE is still working on the improvement of its systems, including monitoring and evaluation.

4.4. Other Concerns Raised

There are other concerns or issues raised during the workshop and the interviews that are related to this study and are worth noting.

1. The SMT had not received grant funding in about 2 years from the FPE due to administrative internal problems e.g., expired registration of the ATSMT as an organization to the Securities and Exchange Commission (SEC) of the Philippines. As the body that accesses the grants, this is needed by FPE to establish the legitimacy of SMT as a grant recipient.
2. In connection to the above, activities are also affected because of the lack of funds particularly those related to conservation. Some of the participants noted that some of the threats like the illegal poaching of plants are being observed again despite its elimination between 2015-2019.

5. Conclusion and Recommendations

In conclusion, the result of the study shows that there are a total of 9 threats in 10 years. These threats are brought both by members of the SMT and the lowlanders who have access inside the ancestral domain. The reduction of these threats varies but in the recent period shows a more positive threat reduction which could be attributed to the evolving activities and availability of financial resources to support such activities. In the past, because of the lack of financial means, management interventions are primarily through the existing indigenous practices and customary laws that are set for the sustainable use and management of the resources inside the ancestral domain. But the SMT had adopted more mainstreamed activities in recent years like patrolling and education campaigns in coordination with local government agencies. The coordination has been necessary particularly in addressing the threats that are mostly attributed to the lowlanders who are fundamentally under the jurisdiction of the local government units. The threat index which shows a considerable difference between 2009-2014 and 2015-2019 could be attributed to the assistance received by the SMT from the FPE, both financially through grants and the empowerment through capacity building and training. The assistance received in 2015-2019 had significantly contributed to the ability of the SMT to respond to the threats in the ancestral domain. It is however a limitation of this study that these are all based on the perception of the SMT. Further study would be needed to establish a more concrete causal link between grants and threat reduction.

The lack of M&E inside the ancestral domain hinders the management team to fully understand the effects of conservation activities being done by their team towards addressing the identified threats. In addition, reemerging threats are not being monitored and actions needed are potentially being delayed because of the lack of M&E. The MTRA could be a potential tool for monitoring and evaluation both for the SMT and FPE. For SMT given that there is no existing tool and M&E yet, they could potentially use MTRA until further research

or a much appropriate tool could be used or applied for ICCAs. In the part of FPE, the MTRA could complement their RSEA and other research to strengthen their M&E system.

The following are some recommendations:

1. For the SMT, it is suggested to conduct another MTRA to cover the recent years without the grant and assess the possible effect of not having conservation activities due to the lack of funding.
2. On a similar note, the above could also be for further research of an interested researcher. Establishing a trend in a series of assessment periods could provide a further understanding of the relationship between grants and threat reduction.
3. In administrating the tool, it is important to observe the dynamic/attitude of the participants, especially if the workshop will be done through an online mechanism. Challenges might arise e.g., the internet connection that might frustrate, tire, or lose the attention of the participants during the workshop and thus, adjustments and rescheduling should be done accordingly.

References

Alcorn, J. 2010. Indigenous peoples and conservation. *MacArthur Foundation Conservation White Paper Series*. URL: https://www.macfound.org/media/files/csd_indigenous_peoples_white_paper.pdf

Ani, P.A.B. and Castillo, M.B. 2020. Revisiting the state of Philippine biodiversity and the legislation on access and benefit sharing. URL: https://ap.fftc.org.tw/article/1836

Anthony, B. P. 2008. Use of modified threat reduction assessments to estimate success of conservation measures within and adjacent to Kruger National Park, South Africa. *Conservation Biology* 22(6): 1497-1505.

Anthony, B.P. 2014. *Review of international protected area management effectiveness (PAME) experience*. Report prepared for Association for Water and Rural Development (AWARD), South Africa.

Bath, P., Lujan-Gallegos, V. and Guzman-Vallades, A. 2020. *Practice standards for conservation trust funds - 2020 edition*. New York: Conservation Finance Alliance.

Bayon, R. Lovink, J.S. and Veening, W.J. 2000. Financing biodiversity conservation. *Sustainable Development Department Technical papers series, ENV-134*. URL: https://publications.iadb.org/publications/english/document/Financing-Biodiversity-Conservation.pdf

Biodiversity Management Bureau (BMB) Department of Environment and Natural Resources (DENR). 2016. *Philippine biodiversity strategy and action plan (2015-2028); bridging resilience to Filipino communities*. Quezon City, Philippines: BMB-DENR, United Nations Development Programme – Global Environmental Facility, Foundation for the Philippine Environment.

Bonham, C., Steininger, M.K., McGreevey. M., Stone, C., Wright, T., and Cano, C. 2014. Conservation trust funds, protected area management effectiveness and conservation outcomes: lessons from the global conservation fund. *Parks* 20 (2): 89-100.

Borrini-Feyerabend, G., Kothari, A., and Oviedo, G. 2004. *Indigenous and local communities and protected areas towards equity and enhanced conservation*. Gland, Switzerland and Cambridge, UK: International Union for Conservation of Nature

Boquet, Y. 2017. *The Philippine archipelago*. Switzerland: Springer International Publishing AG.

Bryant, R. L. 2000. Politicized moral geographies: debating biodiversity conservation and ancestral domain in the Philippines. *Political Geography* 19: 673-705

Calleja, N.C.P. 2020. Myanmar's Indawgyi lake villagers form network vs illegal logging. *The Global New Light of Myanmar* (Myamar), March 30.

Ceballos, G., Ehrlich, P.R. and Dirzo, R. 2017. Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. *Proceedings of the National Academy of Sciences* 114 (30): E6089-96.

Coad, L., Leverington, F., Knights K., Geldmann, J., Eassom, A., Kapos, V., Kingston, N., de Lima, M., Zamora, C., Cuadros, I., Nolte, C., Burgess, N.D., and Hockings, M. 2015. Measuring impact of protected area management interventions: current and future use of the global database of protected area management effectiveness. *Philosophical Transaction of the Royal Society B: Biological Sciences* 370 (1681).

Conference of Churches in Aotearoa New Zealand. 1992. *Indigenous Peoples Earth Charter*. Auckland: Conference of Churches in Aotearoa New Zealand

Convention on Biological Diversity. 1992. Convention on biological diversity. United Nations. URL: https://www.cbd.int/doc/legal/cbd-en.pdf

_____. 2001. Mobilizing funding for biodiversity conservation: a user-friendly training guide. URL: https://www.cbd.int/doc/nbsap/finance/Guide_BioProsp_Nov2001.pdf

_____. 2004. *Programme of work on protected areas.* Montreal: Secretariat of the Convention on Biological Diversity

_____. 2010. *Global biodiversity outlook 3.* Montreal: Secretariat of the Convention on Biological Diversity

_____. 2020. *Global biodiversity outlook 5 – summary for policy makers*. Montreal: Secretariat of the Convention on Biological Diversity

_____. 2021a. Country profile: Philippines. Accessed May 24. URL: https://www.cbd.int/countries/profile/?country=ph#facts

_____. 2021b. Protected areas: cornerstone of biodiversity conservation. Accessed March 7. URL: https://www.cbd.int/programmes/pa/pow-goal-15.pdf

Crane, P.R and Royal Society. 2003. *Measuring biodiversity for conservation*. London: Royal Society

De Long, D.C. 1996. Defining biodiversity. *Wildlife Society Bulletin* 24 (4): 738-749.

De Vera, D.E. 2007. Indigenous peoples in the Philippines: a country case study. Paper presented at the RNIP Regional Assembly, 20-26 August, at Hanoi, Viet Nam.

Dixon, K.M., Cary, G.J., Worboys, G.L., Banks, S.C., and Gibbons, P. 2019. Features associated with effective biodiversity monitoring and evaluation. *Biological Conservation* 238: 108221

Dudley, N. 2008. *Guidelines for Applying Protected Area Management Categories*. Gland: International Union for Conservation of Nature.

Dudley, N., Baldock, D., Nasi, R., and Stolton, S., 2005. Measuring biodiversity and sustainable management in forest and agricultural landscapes. *Philosophical Transactions: Biological Sciences* 360 (1454): 457-470

Ervin, J., Mulongoy, K.J., Lawrence, E., Game, E., Sheppard, D., Bridgewater, P., Bennett, G., Gidda, S.B., and Bos, P. 2010. *Making Protected Areas Relevant: A Guide to Integrating Protected Areas into Wider Landscapes, Seascapes and Sectoral Plans and Strategies*. Technical Series 44. Montreal: Secretariat of the Convention on Biological Diversity.

Ferrari, M. 2006. Rediscovering community conserved areas in South-east Asia: peoples' initiative to reverse biodiversity. *Parks* 16 (1): 43-48

Financial Glossary. 2021. Grant. Accessed March 6. URL: https://financial-dictionary.thefreedictionary.com/Grant

Foundation for the Philippine Environment (FPE). 2011. Foundation for the Philippine Environment 2011 Annual Report. URL: https://fpe.ph/publication/annual-reports/6

_____. 2015. Six KBAs top FPE's strategic plan for 2015-2025. URL: https://fpe.ph/news/six-kbas-top-fpes-strategic-plan-for-2015-2025

_____. 2018a. Data gaps in baselines of Luzon's site-focused areas. Internal report. Available from the Foundation for the Philippine Environment

_____. 2018b. Bio-physical baseline research: Sibuyan Island, Romblon. Internal report. Available from the Foundation for the Philippine Environment

Gadgil, M., Berkes, F. and Folke, C. 1993. Indigenous knowledge for biodiversity conservation. *Ambio* 22 (2/3): 151-156.

Garcia, K.B., Malabrigo, P.L. and Gevaña, D.T. 2014. Philippines' mangrove ecosystem: status, threats and conservation. In *Mangrove ecosystem of Asia*: *status, challenges and management strategies,* eds. I. Faridah-Hanum, A. Latiff, K.R. Hakeem and M. Ozturk. New York: Springer

Gasgonia, D., Barber, C. and Solomon, B. 2021. Foundation for the Philippine Environment (FPE). Accessed May 28. URL: https://www.cbd.int/financial/trustfunds/Philippines-fpe.pdf

Global Environment Facility (GEF). 1998. Evaluation of experience with conservation trust funds. URL: https://www.cbd.int/financial/trustfunds/g-gefevaluation.pdf

Goodland, R and Wicks, C. 2008. *Philippines: mining or food?, case study 6: gold and nickel mining – Sibuyan Island.* London, United Kingdom: Working Group on Mining in the Philippines

Guiang, E.S. and Braganza, G.C. 2014. *Protecting our children's future: addressing threats, report on the management effectiveness and capacity assessment of protected areas in*

the Philippines. Manila, Philippines: Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) GmbH.

Heaney, L.R. and Regalado, J.C. Jr. 1998. *Vanishing treasures of the Philippine rainforest*. Chicago, USA: The Field Museum.

Herzon, I., Birge, T., Allen, B., Povellato, A., Vanni, F.,Hart, K., Radley, G., Tucker, G., Keenleyside, C., Oppermann, R., Underwood, E., Poux, X., Beaufoy, G. and Prazan, J. 2018. Time to look for evidence: results-based approach to biodiversity conservation on farmland in Europe. *Land Use Policy* 71: 347-354

Hockings, M. and Phillips, A. 1999. How well are we doing? some thoughts on the effectiveness of protected areas. *Parks* 9(2): 5-14

Hockings, M., Stolton, S. and Dudley, N. 2000. *Evaluating effectiveness: a framework for assessing management effectiveness of protected areas*.Gland, Switzerland and Cambridge, UK: International Union for Conservation of Nature.

Hockings, M. Stolton, S., Leverington, F., Dudley, N. and Courrau, J. 2006. *Evaluating effectiveness: a framework for assessing management effectiveness of protected areas*. 2nd ed. Gland, Switzerland and Cambridge, UK: International Union for Conservation of Nature.

Ika, L.A. 2012. Project management for development in Africa: why projects are failing and what can be done about it. *Project Management Journal* 43 (4): 27–41.

Indigenous and Community Conserved Areas (ICCA) Consortium. 2020. A movement association. Accessed April 25. URL: https://www.iccaconsortium.org/index.php/movement/

International Union for Conservation of Nature (IUCN). 2019. ICCAs for biological and cultural diversity. URL: https://www.iucn.org/news/protected-areas/201905/iccas-biological-and-cultural-diversity

_____. 2021a. The IUCN red list of threatened species. Accessed June 16. URL: https://www.iucnredlist.org/

_____. 2021b. The IUCN red list of threatened species. Accessed July 3. URL: https://www.iucnredlist.org/resources/threat-classification-scheme

International Work Group for Indigenous Affairs (IWGIA). 2020. *The indigenous world 2020* ed, D. Mamo. Copenhagen, Denmark: International Work Group for Indigenous Affairs

Kothari, A. 2006. Community conserved areas: towards ecological and livelihood security. *Parks* 16 (1): 1-13.

Kusek, J.Z., Rist, R.C. 2004. *Ten steps to a result-based monitoring and evaluation system: a handbook for development practitioners*. Washington, D.C.: World Bank

Loughney, E. 2013. Protected area management effectiveness in Grenada: a modified threat reduction assessment of the Molinere/Beausejour marine protected area. Master of Science thesis, Central European University, Budapest

Mallari, N.A.D., Collar, N.J., McGowan, P.J.K. and Marsden, S.J. 2016. Philippine protected areas are not meeting the biodiversity coverage and management effectiveness requirement of Aichi target 11. *Ambio* 45 (3): 313-322

Mallari, N.A., Tumaneng, R., Lapuz, R.S., Nuevo, C.E., Marasigan, J.P., de Alban, J.D., Rico, E.L., Monzon, A., Parina, M., Pornel, L.M., Pales, J.R., Guinto, A.F., Wenceslao, J.L., Ledesma, M., Veridiano, K., Supsup, C., and Tablazon, D. 2015. *Sibuyan island resource and socio-economic assessment*. Internal report. Available from the Foundation for the Philippine Environment

Maretti, C.C. and Simões, J.F. 2020. *ICCAs: analysis of the legal context and policies implementation in Brazil; territories and areas conserved by indigenous peoples and traditional and local communities in Brazil and relations with the concepts associated with ICCAs*. Brazil: Institute Society, Population and Nature.

Margoluis, R and Salafsky, N. 1998. *Measures of success: designing, managing and monitoring conservation and development projects*. Washington, D.C.: Island Press

Margoluis, R. and Salafsky, N. 2001. *Is our project succeeding? a guide to threat reduction assessment for conservation.* Washington, D.C.: Biodiversity Support Program.

Margoluis, R., Stem, C., Swaminathan, V., Brown, M., Johnson, A., Placci, G., Salafsky, N. and Tilders, I. 2013. Results chain: a tool for conservation action design, management, and evaluation. *Ecology and Society* 18 (3).

Matar, D. 2009. New insights into monitoring protected area management in Lebanon. Master of Science thesis, Central European University, Budapest.

McKernan, E., Kennedy, K., and Aldred, A. 2016. Adopting results based management in the non-profit sector: Trocaire's experience. *Project Management Research and Practice* 3: 5122.

Milan, P. P. 2020. *Rainforestation: paradigm shift in forest restoration in the Philippines*. Makati, Philippines: Forest Foundation Philippines.

Milatovic, L. 2017. Use of modified threat reduction assessment to estimate the conservation effectiveness of protected areas in Limpopo province, South Africa. Master of Science thesis, Central European University, Budapest.

Murray, M. G. 2002. Current issues in biodiversity conservation. *Wildlife management working paper number 4*, ed. D. Williamson . Rome: Food and Agriculture Organization of the United Nation.

National Commission on Indigenous Peoples (NCIP). 2018. *A resolution approving the revised guidelines on the formulation of the ancestral domain sustainable development an*

protection plan (ADSDPP), denominated as administrative order no. 02 series of 2018. Quezon City, Philippines: National Commission on Indigenous Peoples.

Noss, R.F. 1990. Indicators for monitoring biodiversity: a hierarchical approach. *Conservation Biology* 4(4): 355-364.

Ong, P.S., Afuang, L.E. and Rosell-Ambal, R.G. 2002. *Philippine biodiversity conservation priorities: a second iteration of the national biodiversity strategy and action plan*. Quezon City, Philippines: Department of Environment and Natural Resources – Protected Areas and Wildlife Bureau, Conservation International Philippines, Biodiversity Conservation Program – University of the Philippines Center for Integrative and Development Studies, and Foundation for the Philippine Environment.

Paulson, N., Laudati, A., Doolittle, A., Welsh-Devine, M., and Pena, P. 2012. Indigenous peoples' participation in global conservation: looking beyond headdresses and face paint. *Environmental Values* 21 (3): 255-276

Pedragosa, S. 2012. Recognition and support of ICCAs in the Philippines. In *Recognising and supporting territories and areas conserved by indigenous peoples and local communities: global overview and national case studies,* eds. A. Kothari, C. Corrigan, H. Jonas, A. Neumann and H. Shrumm. Montreal, Canada: Secretariat of the Convention on Biological Diversity

Pelser, P. B., Barcelona, J.F. and Nickren, D.L. 2011 onwards. Co's digital flora of the Philippines. URL: https://www.philippineplants.org/Biogeography.html

Primavera, J.H., Sabada, R.B., Lebata, M.J.H. and Altamirano, J.P. 2004. *Handbook of mangroves in the Philippines - Panay*. Tigbauan, Iloilo, Philippines: Aquaculture Department, Southeast Asian Fisheries Development Center.

Rawat, U.S. and Agarwal, N. 2015. Biodiversity: concept, threat and conservation. *Environment Conservation Journal* 16: 19-28

Rayndal, V. 2015. Terminal evaluation: fifth operational phase of the GEF small grants programme, Ecuador. URL: https://erc.undp.org/evaluation/documents/download/8911

Reid, W.V. and Miller, K.R. 1989. *Keeping options alive: the scientific basis for conserving biodiversity*. Washington, D.C.: World Resources Institute

Salafsky, N. and Margoluis, R. 1999. Threat reduction assessment: a practical and cost-effective approach to evaluating conservation and development projects. *Conservation Biology* 13(4): 830-841

Salafsky, N., Margoluis, R., Redford, K.H., and Robinson, J.G. 2002. Improving the practice of conservation: A conceptual framework and research agenda for conservation science. *Conservation Biology* 16 (6): 1469–1479.

Salafsky, N., Salzer, D., Ervin, J., Boucher, T., and Ostlie, W. 2003. *Conventions for defining, naming, measuring, combining, and mapping threats in conservation: an initial proposal for a standard system*. Washington D.C.: Conservation Measures Partnership

Salafsky, N., Salzer D., Stattersfield, A.J., Hitlon-Taylor, C., Neugarten, R. , Butchart, S.H.M., Collen,B., Cox, N., Master, L.L., O'Connor, S., and Wilkie, D. 2008. A standard lexicon for biodiversity conservation: unified classifications of threats and actions. *Conservation Biology* 22 (4): 897-911.

Sandalo, R.M. and Lumbres, A.G.B. 2017. Potentials of conservation financing in planning for areas with high biodiversity value in the Philippines. *Public Policy*. URL: https://cids.up.edu.ph/wp-content/uploads/ppj-18-sandalo-2017.pdf

Sibuyan Mangyan Tagabukid (SMT). 2016. Ancestral Domain Sustainable Development and Protection Plan 2016-2021. Available from the Sibuyan Mangyan Tagabukid

Smyth, D. 2006. Indigenous protected areas in Australia. *Parks* 16 (1): 14-20.

Sobrevila, C. 2008. *The role of indigenous peoples in biodiversity conservation: the natural but often forgotten partners*. Washington, D.C.: The World Bank

Stem, C., Margoluis, R., Salafsky, N. and Brown, M. 2005. Monitoring and evaluation in conservation: a review of trends and approaches. *Conservation Biology* 19 (2): 295-309

Stolton, S. and Dudley, N. 2016. METT handbook: a guide to using the management effectiveness tracking tool (METT). Woking, United Kingdom: World Wildlife Fund.

Stolton, S., Hockings, M. and Dudley, N. 2020. METT-4: a guide to the online excel version of the management effectiveness tracking tool (METT) for protected and conserved areas, fully updated questions and coverage drawing on 20 years of practical experience in thousands of sites around the world. URL: https://www.protectedplanet.net/en/thematic-areas/protected-areas-management-effectiveness-pame?tab=METT

Swingland, I. 2001. Biodiversity, definition, of. In *Encyclopedia of biodiversity*, ed. S.A. Levin, 399-410. San Diego, California: Academic Press

The Nature Conservancy (TNC). 2003. *The five-s framework for site conservation: a practitioner's handbook for site conservation planning and measuring conservation success*. Arlington, Virginia: The Nature Conservancy.

The Royal Society. 2003. *Measuring biodiversity for conservation*. London: The Royal Society.

Toledo, V.M. 2013. Indigenous peoples and biodiversity. In *Encyclopedia of biodiversity, eds.* S.A. Levin. San Diego, California: Academic Press

Tongson, E. and Dino, M. 2004. Indigenous peoples and protected areas: the case of the Sibuyan Mangyan Tagabukid, Philippines. In *Getting Biodiversity Projects to Work*, eds. T.O. McShane and M.P. Wells. New York: Columbia University Press

Tongson, E. and McShange, T. 2006. Securing indigenous rights and biodiversity conservation through partnerships in Sibuyan Island, Romblon, Philippines. *Policy Matters* :286-296.

United Nations. 2007. United nations declaration on the rights of indigenous people. URL: https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

United Nations Development Programme. 2019. Micro assessment of foundation for the Philippine environment (FPE). URL: https://info.undp.org/docs/pdc/Documents/PHL/109362%20MA_Foundation%20of%20the%20Philippine%20%20Environment%202019_Final.pdf

United Nation Environmental Programme (UNEP). 2017. Indigenous peoples: the unsung heroes of conservation. URL: https://www.unep.org/zh-hans/node/477

United Nation Environmental Programme World Conservation Monitoring Centre (UNEP-WCMC). 2016. *Global databases to support ICCAs: a manual for indigenous people and local communities 1.0*. Cambridge, United Kingdom: UNEP-WCMC

White, A., and Martin, A. 2002. *Who owns the world's forest? Forest tenure and public forest in transition*. Washington, D.C.: Forest Trends.

Wilmot, J. 2020. Testing the applicability of implementing the modified threat reduction assessment tool within private protected areas of South Africa. Master of Science thesis, Central European University, Budapest.

Wilshusen, P. R.,Fortwangler, C.L. and West, P.C. 2002. Reinventing a square wheel: critique of a resurgent 'protection paradigm' in international biodiversity conservation. *Society and Natural Resources* 15 (1): 17-40.

World Wildlife Fund (WWF). 2007. *Management effectiveness tracking tool: reporting progress at protected area sites.* 2nd ed. Gland, Switzerland: World Wildlife Fund.

Appendices

Appendix 1. Modified Threat Reduction Assessment (MTRA) Workshop & Focus Group Discussion Guidelines

(Adopted from Margoluis and Salafsky 2001; Anthony 2008 and Milatovic 2017)

I. Background Information

Threat reduction assessment (TRA) is a tool used to evaluate success of conservation interventions by measuring threats as proxy to biodiversity indicators. It is applicable to community-based conserved areas and relies on the knowledge of the management team who are most familiar with the site and its management.

The TRA has three basic assumptions such as:

1. All biodiversity destruction is human-induced. Threats brought about by natural processes like typhoons are not considered as threat but if magnitude and frequency increases caused by humans, it can be considered as threat.
2. All threats to biodiversity at a given site can be identified, distinguished from one another, and ranked in terms of their scale, intensity of impact, and urgency by the management team; and
3. Changes in all threats can be measured or at least estimated by the management team

In doing the TRA it is important to keep in mind the three main attributes of biodiversity:

1. Species: the collection of species present
2. Habitat: area of habitat present and its condition
3. Ecosystem: degree to which habitat is able to maintain systems and processes

The modified TRA is a version developed by Dr. Brandon P. Anthony that allows for inclusion of emerging or worsening threats. It is an improvement to the original tool developed by Margoluis and Salafsky and has been used in other researches such as that of Milatovic in South Africa.

In this procedure, I am incorporating two more steps to allow the identification of specific interventions to the identified threats and measure how much grants had been used for threat mitigation; without modifying the original MTRA worksheet but having a separate worksheet. Further, a focus group discussion will be done after the workshop.

II. Procedures

1. Define the study area in space and time

This step will be briefly revisited as it is pre-determined

- Area: Sibuyan Mangyan Tagabukid's Ancestral Domain
- Period of Assessments: 2009-2014 and 2015-2019

2. **Develop a list of all direct threats in the site during the period of assessments** – historically, those that are listed in the management plan and present threats (Use Appendix 2 template)

   Threats can be divided into the following categories:

   a. Internal Direct Threats: caused by people living on the ancestral domain
   b. External Direct Threats: caused by people outside the ancestral domain
   c. Indirect Threats: Social, political, and economic factors that induce changes in the direct threats, such as threats from poverty or inadequate government policy. <u>These will not be included</u>.

3. **Define the threats**. As a team, discuss and translate the threats according to the IUCN lexicon of threat categories

4. **Define 100% reduction for each threat**. 100% reduction is assumed as complete elimination of a threat (Use Appendix 3 template)

5. **Identify interventions done to each of the threat**. As a group identify all interventions done to address the threats, if there is (Use Appendix 4 template)

6. **Rank each threat for the defined start dat**e, based on the following: (Use Appendix 2 template)

   a. Area – how much of the habitat is affected by the threat?
   b. Intensity – how severe is the impact of a threat in the site? Does the threat completely destroy the habitat or just cause minor changes?
   c. Urgency – how urgent should the threat be addressed? Is it likely to increase or decrease?

7. **Add the scores to calculate each threat's total rank** (Use Appendix 2 template)

8. **Decide how much (%) the threat change since the chosen start date** (Use Appendix 2 template)

   a. If a threat was present at the start date and has been reduced, the score will be positive. If it is completely eliminated, the top score is 100%.
   b. If a threat has worsened since the start date, the score will be negative. There is no top line for a negative score so if you think that something has worsened 4 times, that threat can be given a score of -400%.
   c. If a threat was not present at the start date, but has emerged since then, that threat can be given a score of -100%.

9. **Calculate each threat's raw score** by multiplying its total rank with percentage of change (Use Appendix 2)

10. **Calculate the MTRA index** by dividing the total raw score with the total ranking and then multiplying it with 100 to get a percentage

Steps 11-12 will only be done for the MTRA covering the period 2015-2019.

11. **Define how much of the interventions are funded by the grant**. As a group identify how much of the interventions are funded. 100% means the intervention is fully funded by the FPE grants (Use Appendix 4)

12. **Calculate how much funds for addressing the threats are grant fund.** Calculation is made by adding all estimate percentage and dividing to total value and then multiplying by 100.

Steps 13 will be done after computing for the 2 MTRAs

13. **Focus Group Discussion.**
    Key questions for the discussion
    a. What are the key changes in the management strategies between 2010-2014 and 2015-2019?
    b. How do you prioritize the interventions to be implemented and funded?
    c. What are the components of the grants from FPE?
    d. Do grants affect the prioritization of interventions? How?
    e. How are the FPE grants utilized?
    f. To what extent are FPE grants applied to threat mitigation?

Appendix 2. MTRA Index

Site Name:

Site Description:

Assessment Period: Completed on

Completed by:

	THREATS	IUCN THREAT CODE	CRITERIA RANKING			TOTAL RANKING	% THREAT REDUCED	RAW SCORE
			AREA	INTENSITY	URGENCY			
A								
B								
C								
D								
E								
F								
G								
H								
I								
J								

TRA INDEX FORMULA	TOTAL RAW SCORE		TOTAL RANKING		Convert to %		TRA Index (%)
TRA INDEX CALCULATION		÷		=	X 100	=	

Appendix 3. Explanation of Threats

A	Threat:
	100% Reduction =
B	Threat:
	100% Reduction =
C	Threat:
	100% Reduction =
D	Threat:
	100% Reduction =
E	Threat :
	100% Reduction =
F	Threat:
	100% Reduction =
G	Threat:
	100% Reduction =
H	Threat:
	100% Reduction =
I	Threat
	100% Reduction =
J	Threat
	100% Reduction =

Appendix 4.

Threats		Interventions Implemented	% Grant Funded
A			
B			
C			
D			
E			
F			
G			
H			
I			
J			
		TOTAL:	

Total % of Grants Used for Threat Mitigation =	Sum/Total Value X 100%