

INDIGENOUS MARINE TENURE IN A COMMON-POOL
FRAMEWORK: A PHILIPPINE CASE STUDY

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Abstract

Indigenous peoples have lived on and from their lands for many generations in ways that have allowed the natural resources to remain relatively intact. Concurrent with an increase in world-wide designation of protected areas, indigenous people are actively securing traditional rights to their resources. At the same time, conservation practitioners are employing community engagement as the essential conservation strategy to conserve biodiversity and counteract social and environmental injustices of the past.

The Philippines is an archipelago of more than 7,000 islands, with indigenous people comprising 15.62% of its 12 million citizens. During the Philippines' 1991 decentralization, the national government implemented progressive environmental and social laws that encouraged recognition of indigenous people's rights. The Philippine Tagbanua of Coron Island are a traditional, seafaring people who have experienced decentralization's benefits—the Tagbanua were the first indigenous group to legally control their ancestral waters under new legislation. The Tagbanua are thus an ideal case study on the ability of indigenous people to manage their common-pool resources (CPR). According to Elinor Ostrom's theory on CPR management, certain sociocultural and political institutions lend themselves to more sustainable forms of resource management.

Through quantitative data and policy analysis, I will assess the Tagbanua's common-pool resource management regime in the context of Ostrom's framework. I will highlight cultural structures that make the Tagbanua candidates for sustainable resource management and illuminate challenges the Tagbanua face—specifically clear resource boundaries, monitoring, graduated sanctions, conflict resolution, and nested enterprises—in sustaining their marine resources.

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List of Acronyms

ADMP	Ancestral Domain Management Plan
BFAR	Bureau of Fisheries and Aquatic Research
CADC	Certificate of Ancestral Domain Claim
CADT	Certificate of Ancestral Domain Title
CATE	Calamianes Association for Tourism Establishments
CI	Conservation International
CFRP	Cyanide Fishing Reform Program
CLUP	Comprehensive Land Use Plan
CPR	Common-Pool Resources
DENR	Department of the Environment and Natural Resources
ECAN	Environmentally Critical Areas Network
ELAC	Environmental Legal Assistance Center
HCI	Healthy Communities Initiative
IMA	International Marinelifelife Alliance
IP	Indigenous Peoples
IPRA	Indigenous Peoples Rights Act
JBIC	Japanese Bank for International Cooperation
LGC	Local Government Code
LGU	Local Government Unit
LRFT	Live Reef Fish Trade
NCIP	National Commission on Indigenous People
NGO	Non-Governmental Organization
NIPAS	National Integrated Protected Areas System
PAFID	Philippine Association for Intercultural Development
PAMB	Protected Areas Management Board
PCSD	Palawan Council for Sustainable Development
RAP	Rapid Assessment Protocol
SEP	Strategic Environmental Plan
TFCI	Tagbanua Foundation of Coron Island
VMP	Visitor Management Program

1. Introduction

Question: Why should people think about nature in this seemingly unnatural way? Answers: Because any other way of thinking about nature will most certainly misconceive its true nature. Because any other way of thinking about nature will remove it from history and separate it from the cultural processes that created this deeply human way of thinking. Because so many modern ways of thinking about nature too easily accept the false dualism between nature and culture, positing an inescapably fallen humanity that cannot help being unnatural—whereas the pair naturalness and unnaturalness of humanity is the very thing we most need to linger over and understand (Cronon,1986).

Indigenous people can be defined on the basis of characteristics they display. In this case study, these characteristics contribute to understanding the context of common-pool resource management. This Master's Project illustrates the sociocultural and political institutions surrounding a Philippines indigenous group, the Tagbanua, and how these institutions enable or disable resource management. This is a local case study, nested in higher sociocultural and political structures. Elinor Ostrom's eight design principles concerning common-pool resource management were used as indicators in an attempt to formally assess the Tagbanua's natural resource management institutions.

1.1 Indigenous person

Indigenous people represent 90-95% of the world's cultural diversity (Barzetti, 1993). Two distinguishing characteristics of indigenous people include the following: maintenance of both cultural identities and social, economic, cultural, and political institutions separate from mainstream or dominant societies; and descent from population groups present in a given area, most often before modern states were created and present borders defined. Additional features often ascribed to an indigenous person include self-identification and recognition by others as part of a distinct cultural group, and a linguistic identity different from that of the dominant society (United Nations, 1972; ATSIC, 1999). Unlike Western capitalist economies, indigenous economies are often subsistence-oriented with no production aimed at the market or the profit.

1.2 Indigenous Links to Biological and Cultural Survival

In many traditional societies, the Earth is understood to be the source of all that is good (Alcorn, 1997a). As indigenous people have lived on and from their lands for many generations, they often have achieved a balance with the land (Bettinger, 2003).

Indigenous people frequently have unique attachments to traditional habitats and natural resources. This creates a determination to preserve and to transmit to future generations their ancestral territories based on their continued existence as peoples and in accordance with their own cultural patterns, social institutions, and legal systems—especially if they are actively involved in resource management (Agrawal and Gibson, 1999).

As many of the diversity-rich areas of the world are occupied by indigenous people, it would be coherent to protect both biological and cultural diversity. Despite historical sustainability with their resources, indigenous people and their rights have not been recognized or defended by states controlling the areas in which they live, resulting in complete marginalization. At times, traditional or colonial conservation practices have promoted banishing indigenous people from their homelands in order to conserve the same lands that they have managed for centuries (Alcorn, 1997a).

Traditionally, conservation is a concept that is part of the circulation of ideas flowing from the “West” to the “rest,” or from “Northern” geopolitical regions to “Southern” ones (Lowe, 1999). Most colonial and post-colonial attempts at conservation operated on the principle that local people’s rights to natural resources were subsidiary to those of the state. In this, the state and its technical elites managing the resources often assumed local communities were detrimental to conservation and management of natural resources (Borrini-Feyerabend, 1997). As local communities were commonly blamed for resource degradation, their culpability caused many outside agencies—churches, non-governmental organizations, businesses, and governments—to implement conservation activities without local people (Bryant, 2002a).

1.3 Protected Areas

Native peoples, rather than being valued as major intellectual contributors to humanity, are considered by western cultures to be exotic footnotes to the pages of history (Barzetti, 1993).

In the haste to develop the world's remaining pristine and unprotected lands, many centralized governments have alienated indigenous people, disregarded indigenous rights, and demolished both their cultures and their native lands (Barzetti, 1993; Bettinger, 2003).

As the industrial revolution was increasingly impacting the world, Yellowstone National Park was created in 1872 in the United States for visitor use and enjoyment as one of the first government-established protected areas. Protected areas are recognized as a critical conservation strategy, endowing economic, cultural, educational, and spiritual benefits to society (Wells et al., 1992; Barzetti, 1993). According to the World Conservation Union (IUCN) (1994), a protected area is an area of land or sea especially dedicated to the protection and maintenance of biological diversity and its natural and associated cultural resources, and the area is managed through legal or other effective means. Internationally, protected areas have increasingly been employed to meet conservation objectives. The traditional concept underlying protected area designation is the conservation of a "natural" state or wilderness untouched by people (Pretty and Pimbert, 1995). Ruling elites have taken this assumption further to promote conservation of natural resources only through exclusion of local people.

All corners of the world have their own tragic histories of exiling people who historically treat nature as a common resource. By exerting a top-down approach to conservation through protected areas, local people were often times forced to relocate and discontinue resource extraction from inside the newly created borders of the protected area. This approach also threatened the means for local people to reinforce their culture, as resettlement often included restrictions on access to and management of food, medicines, fuel, pasture, water, and sacred areas (Alcorn, 1997a; Michaelidou et al., 2002).

To return to the Yellowstone example, Yellowstone was hailed as a model for future conservation efforts to follow. The model promoted park creators to draw boundaries around special places, so that they could be spared from the "ravages" of ordinary use (Hales, 1989). The dark side of Yellowstone's history is that the United States Army forced Crow and Shoshone Native Americans out of their homelands.

Today, similar exclusions of people who have historically lived on and from the land persist in many strictly protected areas (Pretty, 2002a). Since Yellowstone's inception in 1872, some 12,750 protected areas of greater than 1000 hectares have been established around the world. Of the 7322 protected areas in developing countries where many local groups depend on wild resources for food, fuel, medicine, and feed, 30% covering six million km² are strictly protected, permitting no resource usage (Pretty, 2002b).

At their most prohibitive, protected areas have rigorously defined borders that unauthorized people cannot cross. Absolutely no human interference is allowed in some of these areas. While protected areas have been a popular conservation strategy, they have been challenging to implement in many settings, especially in the developing world (Salafsky and Wollenberg, 2000). A fair number of protected areas have been instigated both on both land and in sea where local people either legally or traditionally had previous ownership. Likewise, in this situation, local people were excluded from the protected area's planning, did not understand its purpose, and derived little or no benefit from its establishment (Borrini-Feyerabend, 1997). As a result, local people quickly grew to detest the protected area and to hinder authorities, even leading to violence in certain instances. Thus, many of these historically oppressed people—nomads, pastoralists, slash-and-burn hill tribes, hunter-gatherers, gypsies, and migrants—have been a thorn in the sides of states (Pretty and Pimbert, 1995).

1.4 Community Engagement in Conservation

But do we yet have the political will to implement the solutions that are required?...Are governments everywhere willing to see that unless local communities are empowered to plan and manage their own resources, inequity, exploitation and a waste of natural resources is inevitable? And are the leaders of the conservation movement willing to put human needs at the forefront of their concerns, and insist that while development must be conservation-based, conservation must also be people-centered (Barzetti, 1993)?

-Sir Shridath Ramphal, President, IUCN

It is widely accepted that the role of indigenous or local people has often been marginalized in issues surrounding natural resource management (Welp et al., 2002).

Yet, poor conservation outcomes ensued when communities were considered to hinder environmental protection and were thus largely ignored by the state (Agrawal and Gibson, 1999). Generally, the historical mode of exploitation and authoritarian control in resource management has proven to be a failure. The idea of linking communities and their needs to conservation emerged after the “fences and fines” conservation approach—establishing protected areas and excluding people—was largely ineffective (Michaelidou et al., 2002; Mogelgaard, 2003).

Increasingly, conservationists are cognizant that it is no longer politically tenable, nor is it successful conservation practice, to displace people from protected areas in the name of absolute protection (Lowe, 1999). Protected areas cannot endure in isolation from the social, cultural, political, and economical context of their location. These areas must be considered in the broader spectrum of development and growth (Barzetti, 1993). As a result, it has become politically and pragmatically essential to regard the welfare and livelihood of people both dependent upon local resources and living in or near biologically diverse areas. Involvement of local people must be considered as a necessary action in resource management since these groups have hundreds of years experience in resource conservation and sustainable use (Welp et al., 2002).

According to Terborgh (1999), rapid social change has caused local communities to lose the very “traditional” qualities that have historically allowed them to live in harmony with nature. While this may be true in certain cases, some hardline conservationists may believe promoting indigenous rights equates to believing indigenous people are “noble savages” and “natural conservationists” (Alcorn, 1997a; Nygren, 1999; Wilshusen et al., 2002). Alternatively, in the name of social justice, conservationists are attempting to recognize indigenous decision-making authority where local people have prior rights over the areas that conservationists want to protect. While indigenous people often make resource management decisions based on a conservation ethic, this should not be the primary condition for recognizing indigenous rights to biodiversity.

While the strict protection discourse continues (Terborgh, 1999), the role of community and local people in conservation has changed radically—communities are now the “locus” of conservation (Agrawal and Gibson, 1999). Bringing people into

resource management acknowledges their self-worth, welcomes their knowledge, and respects their citizenship credentials (O’Riordan and Stoll-Kleemann, 2002)

In response to the evolving discourse, many international conservation approaches have been modified to ensure that efforts to protect biodiversity account for social and economic development of local communities (West and Brechin, 1991). Strategies such as ecotourism and community-based conservation have become widely used by international donor agencies such as the World Bank and conservation organizations such as the Conservation International to combine issues of social and economic progress with natural resource and biodiversity protection.

Berkes and Folke (1998) conceive that incorporating cultural traditions and norms into resource management should be common practice. To manage in a wider sense, O’Riordan and Stoll-Kleemann (2002) believe that this is achieved by engaging local communities and incorporating livelihoods of local people. With this advancement in conservation thought, the global community has slowly come to realize that its future is highly dependent on the responsible use of natural resources and on the effective methods for their protection—methods that move from top-down approaches to those that incorporate indigenous groups who rely on the resources for their physical and cultural survival (Ramachandran, 1999).

As indigenous communities have faced historical marginalization worldwide, cases are arising where local people avoid top-down tactics and instead promote bottom-up conservation. Indigenous groups are taking advantage of evolving or decentralizing government, seeking support from Non-Governmental Organizations, and promoting their traditional rights and cultures with a backdrop of strong social cohesion. Internally initiated, these indigenous groups are pushing policy reforms that recognize communal property, defend indigenous rights, and support cultural values and institutions

2. The Philippines

The Philippines is an archipelago of more than 7,000 islands (Appendix A). While only 1,000 of the islands are inhabited, they vary drastically in size, resource base, language, and culture. The Philippines is the twelfth most populous nation with 84.6 million citizens (National Geographic, 2003). In 1995, indigenous people in the

Philippines comprised 15.62% of the total national population, some twelve million people (NCIP, 1998; DENR, 2003).

2.1 Historical, Political, and Social Context

After 327 years of Spanish rule, the Philippines were ceded by Spain to the United States in 1898 following the Spanish-American War (CIA, 2002). At the beginning of the Spanish colonization, there were no social divisions, such as minority or majority, in the Philippines. None of the cultural groups were united or shared common governments (First Peoples Worldwide, 2003). During the Spanish occupation, the government implemented the Regalian Doctrine where all lands were to be owned and controlled by the state. Once the United States occupied the Philippines, this Doctrine was upheld allowing the state to continue to claim vast amounts of untouched land often belonging to indigenous communities (Pinto, 1996; Dalabajan, 2000). This spawned the disenfranchisement of indigenous communities and their traditional tenure rights.

During the Spanish colonization and later the American occupation, certain cultural groups submitted to foreign domination by accepting foreign cultures, while other cultural groups maintained their own identities. The Americans introduced a policy of reservations for non-Christian tribes in 1901, thus creating a dividing line within the country. Consequently, “uncivilized” and “civilized” concepts of cultural groups emerged (MacDonald, 1995). The Spanish and United States colonization also fostered homegrown corruption in the Philippines, leaving widespread social problems and wealth in the hands of a small ruling class (Vesilind, 2002).

In 1946, the Philippines attained their independence after Japanese occupation from 1942-1945 during World War II (CIA, 2002; Encyclopedia Philippines, 2003). The following period was marked by civil unrest. The Philippine president Ferdinand Marcos declared martial law in 1972. Personal politics were a large part of Marcos’ presidency, and both labor and the peasantry suffered economically and politically during his term (Hawes, 1992).

While Marcos was ruling in a highly centralized and ineffective government, the Philippines was an example where national governments rarely have enough personnel or money to enforce laws adequately. This prompted many officials to consider

decentralizing authority over basic human services and natural resources (Gibson et al., 2000). However, the allocation of power and authority in governments has been viewed as a zero-sum game at times, in which authority allocated to local authorities is considered to have been “taken away” from the national level (Ostrom et al., 1993). Under Marcos, this was the case.

As public “demand” for decentralization has been violent in some instances, the 21-year ruling dictatorship of Ferdinand Marcos ended in 1986 when a widespread popular rebellion forced him into exile (Ostrom et al., 1993). The country has experienced two electoral presidential transitions since Marcos’ removal by “people power.” In January 2001, the Supreme Court declared the ruler Joseph Estrada unable to rule in view of corruption-related criminal cases and mass resignations from his government. The oath of office was administered to Gloria Macapagal-Arroyo, who currently holds the office of the president (Department of Tourism, 2003).

The current constitution of the Philippine government was written in 1987 under the Corazon Aquino administration, and this document reestablished the presidential system of government with a bicameral legislature and an independent judiciary (CIA, 2002). The government of the Philippines is loosely patterned after the American system, as it is organized as a representative republic. The president functions as both the head of state and government, as well as commander-in-chief of the armed forces. The president is elected by popular vote to a term of six years. The bicameral Philippine legislature, or the Congress, consists of the Senate and the House of Representatives, both elected by popular vote. The Judiciary branch of the government is headed by the Supreme Court with Justices appointed by the president.

The Philippines is divided into a hierarchy of Local Government Units (LGUs) with the province as the primary unit (Encyclopedia Philippines, 2003). There are 70 provinces in the country. Provinces are further subdivided into cities and municipalities, which are then comprised of barangays. The barangay is the smallest form of local government, much like a village or small town. Each barangay is headed by a barangay captain, who leads the barangay council composed of barangay councilors. Historically, the barangay refers to a community of around 50 to 100 families (Rood, 1998; Philippine Government, 2003).

2.2 Decentralizing National Government

In practice, decentralization has meant some formal secession of power by the central government to actors and institutions at lower levels in a political-administrative hierarchy, combined with enhanced opportunities for citizen participation (Rondinelli and Nellis, 1986; Ostrom et al., 1993; La Vina, 1997; Agrawal and Ribot, 2000). While devolution describes the transfer of authority, rights, and responsibilities from the state to local communities or user groups, decentralization in this context involves the creation of decision-making in lower levels of authority allowing these levels to exercise autonomy (Birner and Wittmer, 2003). Representation and accountability are critical if devolved powers are to serve local needs efficiently and equitably (Weber, 2003).

In 1991, the Philippine national government passed the Local Government Code (LGC), Republic Act 7160, an aggressive reform effort intended to deconstruct an overburdened and highly centralized national government. The LGC provided for the decentralization of certain functions of the national government, like health services, environmental protection, water and sewage, electricity, and infrastructure of schools and roads, through devolution to the Local Government Units (LGUs) (Encyclopedia Philippines, 2003). The LGC also allowed local governments to assess, plan, regulate, enforce, and monitor their environment and natural resources (White and Salamanca, 2002). The following activities transpired through decentralization: the government was brought closer to the people; accountability and transparency were promoted in basic human services; and participation was reinforced in all sectors (Courtney et al., 2002).

Enacted in 1992 and 1993, the LGC significantly increased the responsibilities and resources of local governments. To defray the cost of devolved government, Section 284 of the LGC provided for 40% of the central government revenues, which were collected three years prior, to be allocated to local governments as internal revenue allotments (IRAs) (La Vina, 1997; Azfar et al., 2000).

2.3 Non-Governmental Organizations in a New Democracy

With the end of Marcos dictatorship in 1986, there was a veritable explosion of Non-Governmental Organizations (NGOs) performing many different functions. As NGOs are making considerable contributions to political change in many parts of the world, NGOs played a crucial role in the “people’s power revolution,” facilitating popular protests and depredations leading to Marcos’ downfall (Bryant, 2002b). With a democracy in place, Philippine NGOs rallied around two specific issues: biodiversity conservation and indigenous people’s empowerment. NGOs have been seeking to campaign for people’s rights, to empower local communities, and to bring fresh perspectives to environmental awareness (Agrawal and Bryant, 1999). According to Bryant (2002a), “If the biodiversity regime was about turning indigenous people into environmentally literate subjects, the empowerment regime sought to turn them into politically literate subjects.”

The burgeoning NGO community actively participated in the Code implementation. The LGC also envisioned that citizen participation would be channeled through NGOs. In the marine realm, the LGC gives municipal governments the authority to manage their marine waters to 7 to 15 kilometers offshore (Courtney et al., 2002; White and Salamanca, 2002). Likewise, municipal governments can establish protected areas through municipal ordinances. Given the archipelagic dispersed nature of the Philippines and the lack of national government resources, decentralizing management to the LGUs is a key factor in the success of marine protected areas—areas generally reserved by law or other effective means to protect the marine environment (IUCN, 1988).

As approximately 48% of Philipinos belong to at least one NGO today, NGOs have also been involved in the process to turn Philipinos into citizens fit for the restored democracy (Rood, 1998). Here, NGOs have pushed for a new position on indigenous people, instead of the historical scheme of systematic oppression. Traditionally, government-led development projects pushed for resource extraction, often physically displacing and impoverishing indigenous groups (Bryant, 2002a). Using the threat of

development, NGOs have brought the health and livelihoods of indigenous people into the national spotlight.

2.4 Philippine Biodiversity Significance

The Philippines' biodiversity is a highly valuable asset, which has been the constant stream of natural wealth for the welfare of all Filipinos (CIA, 2002). Both the NGO and scientific community believe the Philippines to be internationally significant in terms of biodiversity. Conservation International has identified the Philippines as one of the top ten biodiversity hotspots in the world with thousands of endemic species, thus placing the country on the global agenda for conservation efforts (Conservation International Philippines, 2000). The Philippines rich biodiversity lies not only in the vastness of natural forest but also in the diversity of its marine life (Protected Areas Wildlife Bureau, 1998; Roberts et al., 2002).

2.5 Biodiversity Threats

The main ecosystem threats can be classified into two main categories: habitat destruction and overexploitation. Habitat destruction is traced to negative anthropogenic activities such as unsustainable logging, mining, human-induced fires, land conversion to agriculture or settlements, aquaculture, siltation from logging onto coral reefs, and destructive fishing methods. Overexploitation of the natural resources is due to increasing population pressures, highly mobile populations, poverty and paucity of livelihood opportunities, and the open-access nature of the rich biological resources (La Vina, 1997; Protected Areas Wildlife Bureau, 1998; Conservation International Philippines, 1999; United Nations Environment Programme, 2002).

Traditionally, coastal areas are highly populated and developed because they are the places where trade, transport, communication, and civilization are well developed. In the coastal ecosystems, the vast damage ranges from deforestation of mangroves to large-scale illegal fishing operations that directly destroy coral reefs. Of the 27,000 kilometers² of coral reefs in the Philippines, less than 5% are still in excellent condition (White and Salamanca, 2002). Coral reefs face a multitude of external threats (Table 1). With 80% of municipal fishing families estimated to live below the poverty line, coastal resources

have been unsustainably exploited for instant profit, as the products are input directly into the international market and thus influenced by its relentless demand (La Vina, 1997). The situation has weakened or destroyed the local and traditional management systems that have proven their effectiveness for decades, leaving the Philippines fishing communities as the poorest of the poor (United Nations Environment Programme, 2002).

Table 1. Major activities potentially affecting coral reefs in the Philippines (Adapted from Bunce, 1997).

Activity	Specific activities affecting the reefs	Effects to the reef resources
Fishing	Fishing reef stocks beyond sustainable yields; destructive fishing like cyanide and dynamite	Declines in reef fish population; increases in algal densities; habitat loss and degradation; loss of non-target fish species
Diving and snorkeling	Standing on the reef; kicking the reef; collecting reef pieces	Structural damage to the reefs; habitat loss and degradation
Boating	Anchoring on the reef; grounding on the reef; creating ghost traps	Structural damage to the reefs; habitat loss and degradation; declines in reef fish population
Hotel development	Coastal construction; dredging; raw sewage disposal	Sedimentation and eutrophication of the water column
Farming	Land clearing	Sedimentation of the water column

2.6 Live Reef Fish Trade

Referred to as the Coral Triangle, the Western Pacific region is considered to be the world's epicenter of coral reef biodiversity. The Coral Triangle encompasses Indonesia, Philippines, Malaysia, Brunei, Papua New Guinea, northern Australia, and the southernmost islands of Japan (Allen and Werner, 2002; Conservation International, 2003). With a coastline of 22,450 kilometers and an estimated 27,000 kilometers² of coral reefs, the Philippines has 500 coral species out of 700 known coral species worldwide. Philippine waters have greater than 2,000 fish species and 16 species of mangrove plants (Conservation International Philippines, 2000).

The Coral Triangle is significant in that citizens in these Southeast Asian countries receive most of their animal protein from marine resources. With the recent

growth in knowledge and understanding of reef assemblages in these Indo-Pacific island nations has come the stark realization that coral reefs are endangered ecosystems: over 25% of coral reefs have already been lost or severely degraded while another 30% may be lost over the next thirty years (Best, 2002). According to a report by the United Nations Environment Programme, the United States National Aeronautics and Space Administration, and the World Bank (1998), some 58% of coral reefs are threatened by destructive fishing practices, tourism pressures, and pollution.

The greatest threats to coral reefs are posed by overfishing and destructive fishing practices. Many current fishing practices are unsustainable as they overharvest targeted species and destroy habitat. Rising demand, high prices, high unemployment rates, and increasing migrant populations all contribute to widespread destructive fishing (Conservation International Philippines, 2003a).

Beginning in the 1960s in the Philippines, cyanide fishing has been used to stun and to capture fish for the international aquarium trade (Pearce, 2003a). Often times, fishermen use cyanide to target and to overfish particular reef species that fetch a high market price, such as the Napoleon wrasse.

Much quicker than using the traditional hook and line methods of harvesting fish, cyanide is the predominant mode of fishing to live collect fish for the Live Reef Fish Trade (LRFT) (Halim, 2002). As it supplies live fish for aquariums and restaurants, the LRFT is an international and lucrative trade. Of all the coral reef fishes imported into the United States for the aquarium trade in 1997, Philippino fishermen caught 50-60% using cyanide (NMFS, 2003). The live fish are shipped to Asian countries, with Hong Kong demanding the most live fish—20,000 tons annually—for consumption in restaurants (Pearce, 2003a). In Hong Kong, live fish are sold for as much as US \$180 per kilogram (Conservation International Philippines, 2003a). Overall, the live food fish industry has a total annual retail value of US \$1 billion (IMA, 2003a).

Cyanide fishing not only degrades habitats, but it also diminishes resources and causes mortality to non-targeted fish, corals, and invertebrates (Rubec, 1986). A square meter of reef is destroyed for every live fish caught using cyanide (Pearce, 2003b). Destructive fishing for the LRFT imposes significant constraints on sustainability, both

because of the indirect effects on the ecosystem health and the direct effects of overharvesting targeted species.

Another destructive form of fishing, blast fishing became popular in the Philippines in the 1950s because of the availability of unexploded bombs and grenades from World War II. After fishermen expended the surplus ammunition, they began making homemade explosives (CBCRM, 2000). The use of dynamite kills the fish while leaving the reef in heaps of rubble. These dead fish are dried and also sold for consumption.

2.7 Philippine National Laws and Policies

For 21 years of dictatorship, growth in the Philippines was based on development supported by a centralistic and an authoritarian regime that ignored the rights of local people in resource management. This highly exploitative approach shattered not only ecological functions, but also social functions of local people. The overthrow of Marcos in 1986 enabled Philipinos, especially local people, to articulate their interests without restraint. In many areas, there were movements by indigenous communities to reinstate their rights to manage their traditionally used natural resources and to be recognized as equal members in society (Rambaldi et al., 2002). Taking a step forward, the 1987 Philippine constitution mandated the state to “recognize and protect the rights in indigenous cultural communities to their ancestral lands to ensure their economic, social and cultural well-being” (Section 5, Article XII) (First Peoples Worldwide, 2003). The constitution also assured protection of municipal fisherfolk by recognizing their preferential rights to use and to enjoy municipal waters (Saguisag, 2000).

Because of this “people’s power revolution,” the Philippines has some of the most aggressive environmental and social laws in the world (La Vina, 1997). Under these laws, indigenous peoples are entitled to the same rights and privileges as Philippine citizens, should be given appropriate forms of basic services, and should not be discriminated against (First Peoples Worldwide, 2003). However, the literature and the common perspective of Philippine citizens posit that the national government does not have the political will, capacity, or resources to implement and to enforce these laws

(Vesilind, 2002; White and Salamanca, 2002). Several of the pertinent laws are discussed here.

A Comprehensive Land Use Plan (CLUP) for each municipality and province is required by law via the LGC (1991) and is a prerequisite to the formation of local or provincial development plans (CEPF, 2003). CLUP refers to the primary and dominant bases for land use, applying a rational approach for allocating available land resources as equitably as possible among competing user-groups and for different functions, consistent with the development plan of the area. The CLUP is often weak in LGUs. Likewise, the CLUP is not always developed in remote areas because of the lack of a formal process and thorough understanding of the natural and socioeconomic resources in remote areas (Philippine Government, 2003).

The Philippines' government enacted the law establishing the National Integrated Protected Area System (NIPAS), Republic Act 7586 (1992), to be implemented by the Department of Environmental and Natural Resources (DENR) (CEPF, 2003). The NIPAS Act gave legal basis to the conservation of biodiversity (Bryant, 2002a). The NIPAS Act includes national protected areas declared by Congress, as compared to smaller municipal protected areas, like fish sanctuaries. Philippine policy encourages, through NIPAS, co-management between the national government and local communities, with a strong emphasis on decentralization of decision-making and recognition of local territorial use rights in fisheries. The law requires public hearings when areas are being proposed for protected designation (DENR, 1998; White and Salamanca, 2002).

The NIPAS management is three-fold: local government, DENR, and civil society in the form of Protected Area Management Boards (PAMB) (Bryant, 2002a). The PAMB is an overseeing planning and decision-making body for each protected area. The multisectoral PAMB is composed of stakeholders including NGOs, tribal communities, LGUs, and national departments such as the Bureau of Fisheries and Aquatic Resources (BFAR). Local governments have jurisdiction inside of the NIPAS areas if their actions are consistent with the protected area management plan approved by the PAMB (United Nations Environment Programme, 2002). The NIPAS Act contains provisions for the protection of component communities and their ancestral rights in the

protected area declared. However, because of the concentration on deforestation in the Philippines, NIPAS focuses more on forestry rather than marine-related protected area creation. Also, the financial and enforcement mechanisms are not fully intact so implementation has been protracted (Luna, 1997). Because NIPAS can potentially lead to problems when community efforts are halted by bureaucratic processes, municipal designations of protected areas are the trend, providing a realistic option for local governments (ReefBase, 2003).

The Republic Act 8550 (1998), known as the Fisheries Code, reinforces the authorization of the local government to manage coastal resources and municipal waters and also to establish integrated coastal area management as a national strategy (Protected Areas Wildlife Bureau, 1998). The Code is critical because it encourages the establishment of reserves, refuges, and sanctuaries while also requiring all coastal municipalities to set aside at least 15% of their coastal areas, where applicable, as fish sanctuaries (ReefBase, 2003). The Fisheries Code provides a framework for development, management, and conservation of the Philippines' fisheries. The Code specifies the authority of the LGUs to regulate fishing in already overfished areas. The avenue that the LGUs may take to achieve sustainable fisheries is to license all fishers and regulate their numbers (Christie et al., 2002; White and Salamanca, 2002). In addition, the Code promotes local level planning of marine protected areas in the local waters through local Fisheries and Aquatic Resources Management Councils (FARMCs). FARMCs consist of fishfolk organizations, NGOs, LGUs, and other government entities, thus ensuring diverse stakeholder interests (La Vina, 1997).

Under the Fisheries Code, commercial fishing is allowed in municipal waters only when certain requirements are met, such as securing a permit to operate from the LGU. Commercial fishing is not allowed within 10 to 15 kilometers of the municipality's coastline. The Fisheries Code mandates the LGU to enforce all fishery laws, rules, and regulations within its respective jurisdiction. If the Fisheries Code is broken, penalties for illegal activities can include imprisonment from six months up to six years with fines ranging from 500 to 20,000 pesos (Saguisag, 2000).

The 1987 Constitution of the Philippines guarantees resource control and rights of indigenous peoples (IP) to their ancestral lands and (Bryant, 2002a). Specifically, the

DENR recognizes these rights. DENR issued Administrative Order No. 2 in 1993 to provide guidelines for issuing Certificates of Ancestral Domain Claim (CADC). The CADC gives rights to indigenous people to manage and to use the resources found within their domains in accordance with existing laws, to gain access to adequate and basic services, and to be able to plan their own future (DENR, 1996a; Protected Areas Wildlife Bureau, 1998). Domains include all lands and natural resources occupied or possessed by indigenous communities. These areas are also necessary to the economic, social, and cultural welfare of the indigenous group (Pinto, 1996). The CADC gives the indigenous group the preferential rights over the resources, but it does not formally give the indigenous group the exclusive use of the resources (Dalabajan, 2000).

In order to apply for a CADC, indigenous groups must provide supporting evidence of a claim, such as burial sites and established resource use sites (Eder, 1994). In accordance with the CADC, indigenous groups must also submit Ancestral Domain Management Plans (ADMP) that are “reflective of their needs and aspirations” (DENR, 1996b). The DENR’s Administrative Order No. 34 (series of 1996) provided guidelines for formulating ADMPs where resources users of the ancestral domain would be required to abide by the plan’s stipulations (Dalabajan, 2000). The ADMP is necessary to encourage sustainable resource use while promoting cultural integrity, strengthening ancestral claims, enhancing self-reliance and empowerment, and protecting traditional resource rights. An issue that is critically important in many parts of the Philippines, the CADC, through the ADMP, requires migrants entering ancestral lands to respect local management rules and governing bodies (Bryant, 2002a). Although the CADC is not a title to the area, the CADC can serve as a strong basis to protect the community’s tenure (Pinto, 1996). With time, indigenous groups can use their CADC as leverage to obtain a Certificate of Ancestral Domain Title (CADT), meaning full legal sanction of lands. A CADT refers to a title formally recognizing indigenous peoples’ resource management rights and full ownership over their ancestral domains (Claver, 2003).

The NIPAS recognizes customary rights of indigenous peoples to their ancestral domains and supports perpetuation of their cultural practices and traditions. However, until 1997, the Philippines’ constitution did not formally implement indigenous rights. The Indigenous People’s Rights Act (IPRA) was implemented in 1997 embodying a long

struggle for the recognition of the rights of indigenous peoples to their ancestral domain land claim and cultural identity (Republic Act No. 8371, 1997). Under this law, the National Commission on Indigenous Peoples (NCIP) was created as the primary government agency to carry out the objectives of the IPRA. The IPRA requires the State to not only respect, recognize, and protect the rights of IPs (Indigenous Peoples) but also to preserve and protect their culture, traditions and institutions (Section 29) (First Peoples Worldwide, 2003). The rights protected under IPRA encompass the right to claim ancestral domains that contain the physical environment and the cultural and spiritual bonds associated with the land—this includes sacred places and traditional fishing grounds (Rimban, 1998). This protection even extends to the traditional indigenous knowledge associated with the natural resources (e.g., bioprospecting). The indigenous people can exclude others in exploiting the natural resources within their ancestral domain, including migrant settlers and organizations. Particularly, they are responsible for maintaining ecological balance of their resources (Protected Areas Wildlife Bureau, 1998).

In the early 1990's, the Philippine Department of Agriculture's Bureau of Fisheries and Aquatic Research (BFAR) and the NGO International Marinelife Alliance (IMA) jointly developed the national Cyanide Fishing Reform Program (CFRP) (IMA, 2003b). CFRP is a public awareness campaign that encourages policy reforms in source and consumer countries with the aim of creating anti-cyanide fishing and enforcement mechanisms. The program also engages fishing communities to teach non-destructive fishing technology that still can be an efficient and lucrative livelihood.

2.8 Palawan Province

The Palawan province is a melting pot of 81 different cultural groups in the western part of the Philippines (Coron Municipality, 2003) (Appendix B). Comprised of some 1,768 islands, the province has close to 2,000 kilometers of coastline with a tropical, monsoonal climate. A mountain range runs along the island creating steep slopes, which have discouraged large-scale logging until recently. With this topography, numerous micro-ecosystems exist with a corresponding amount of endemic species, creating the formula for fragile ecosystems (Conservation International, 2000).

The Palawan province has been referred to as the “last ecological frontier” of the Philippines because of its comparatively healthy ecosystems (Conservation International Philippines, 1999). It boasts mangrove forests and has intact forest canopy. Because of this, the conservation community has prioritized Palawan. Attributed to its remoteness, Spanish influence was not as strong on Palawan as in other parts of the Philippines. As a result, the *encomienda* system of Spanish colonial period did not prevail, and there are no large plantations present (Vesilind, 2002). Likewise, the push for development and industry began at a later stage. The Calamianes Island group—Palawan’s northernmost island group consisting of Busuanga, Coron, Culion, and Linapican Island—especially felt this lack of development because of stigmas associated with the Leper Colony and the Penitentiary on Culion Island, both established by the Americans in the early 1900s (Conservation International, 2000).

Currently, however, Palawan is attracting poverty-stricken people from other parts of the Philippines, including the Visayas, who possess a perception that the island has abundant natural resources to exploit and that their livelihood will be improved through relocation. Palawan has traditionally been perceived to have low population densities and sufficient room for migrants as well. Thus because of the in-migration, Palawan has the highest provincial growth rate of 5%, two times the Philippine national average (Protected Areas Wildlife Bureau, 1998; CIA, 2002; Coron Municipality, 2003).

2.9 Palawan Provincial Laws and Policies

Palawan is the only province with a Strategic Environmental Plan (SEP), Republic Act 7611, enacted by President Aquino in 1992 (PCSD, 2003a). The SEP is a comprehensive framework for the sustainable development of Palawan and a landmark law that united multisectoral efforts to provide the continued existence of a unique ecological system. The goal of the SEP is to improve the living conditions of the people on Palawan and to increase their economic contribution to the Philippines. The law mandates developing resources in ways that are environmentally sustainable, socially equitable, and economically practicable (United Nations Educational, Scientific and Cultural Organization, 2003). SEP is mandated to serve as a guide for the local

governments of Palawan and the government agencies concerned in the formulation and implementation of plans, progress, and projects affecting Palawan.

The primary strategy of SEP is a graded system of protection and development over the whole of Palawan, called the Environmentally Critical Areas Network (ECAN). ECAN is a graded system of land and water zoning intended to conserve biologically critical areas and rationalize land use. ECAN classifies Palawan into three components—terrestrial, coastal and marine areas, and tribal ancestral lands. The terrestrial zone is subdivided into the core zone, buffer zone, and multiple/manipulative use area. The coastal and marine zone is partitioned into the core zone and multiple use zone (PCSD, 2003a). Critical to indigenous communities, Republic Act 7611 also expanded the definition of ancestral domains in Palawan to include coastal zones and other submerged areas (Zingapan and De Vera, 1999).

The Palawan Council for Sustainable Development (PCSD), a body created and administered by the Office of the President of the Philippines, was mandated to govern, to implement, and to give policy direction to the SEP. PCSD was seen as a model of national-local governments interacting with NGOs and the private sector.

In the Calamianes region of northern Palawan, zoning is near completion on and around the island of Busuanga while it is not near completion in Coron Island. Completing ECAN zoning in the water has posed a challenge for the terrestrially-familiar PCSD. Thus, the progress toward marine zoning is stagnant. ECAN delineation is a tedious process as both areas of protection and areas of utilization are defined. Inadequate financial, technical, and logistical resources in the municipalities and PCSD are a hindrance to full ECAN delineation. Likewise, enforcement of the zoning is a challenge as the signage demarcating zones is expensive and logistically unrealistic (Conservation International Philippines, 1999).

In 1999, PCSD passed Resolution 99-147 that revised the guidelines in identification and delineation of tribal ancestral zones (PCSD, 2003b). The Resolution legally defined the ancestral domains, ancestral lands, customary laws and practices, indigenous communities, and time immemorial. Specifically, the tribal ancestral zone pertains to areas both land and sea that are traditionally occupied by indigenous cultural communities. Once the ancestral domains are specified and formally recognized by the

government, a person who does not belong to the tribal group occupying the area must seek free and prior informed consent in writing from the tribal group before entering the area or utilizing its resources (PCSD, 2003b).

In 1992, the Palawan province passed Resolution 92-10 declaring a Total-War Policy against illegal fishing. As the law recognizes destructive fishing to be a provincial problem, the law prohibits illegal fishing methods including dynamite and cyanide. It instead encourages sustainable, nondestructive fishing and promotes strengthening the existing legal mechanisms to stop destructive fishing (PCSD, 2003c). The Resolution also acknowledges that small Palawan fisherfolk who fish for subsistence have suffered marine resource depletion because of destructive fishing.

Palawan's marine ecosystem plays an important role in the integrity of the coral triangle. Approximately 60% of the Palawan population lives along the coast, thus fishing is a primary activity for livelihood and subsistence (Coron Municipality, 2003). Several threats are encroaching on Palawan's natural resource base that include destructive fishing, illegal logging, and tourism development. Besides the rampage of cyanide and dynamite on coral reefs, the decrease of coastal forest cover causes huge quantities of silt, the product of erosion, to be carried out to sea where it eventually settles and suffocates nearby coral reefs. Also, tourism development in the Calamianes—through the Japanese Bank for International Cooperation (JBIC)—is a threat because of the region's limited capacity to manage the requisite development infrastructure while also maintaining the natural resource base.

3. The Tagbanua

To come to a specific understanding...requires not only time but a kind of local expertise, an intimacy with a place few of us ever develop. There is no way around the former requirement: if you want to know you must take the time. It is not in books (Lopez, 1998).

In the Philippines, the Tagbanua are a cultural group indigenous to the Calamianes region of the Palawan province. The Tagbanua of Coron Island are a traditional and seafaring people obtaining most of their resources from the sea rather than Coron Island's forests. The Tagbanua are not atypical in the Philippines—they are

historically marginalized and continuously battling to have formal recognition, legitimacy, and participation with the state (Eder, 1994). According to a Tagbanua community member, “The Tagbanuas are people put aside.”

Coron Island has two barangays, Cabugao and Banuang Daan; the latter means, “old town” or “original town” (ADMP, 2003). The Tagbanuas have been living on Coron Island since time immemorial. The Department of the Environment and Natural Resources (DENR) Administrative Order 02 (series of 1993) states, “...when as far back as memory goes, the land has been held by individuals under a claim of private ownership, it will be presumed to never have been held in the same way even before the Spanish conquest, and never to have been a public land” (Dalabajan, 2000). Because of this, the Tagbanua consider the land and sea to be their ancestral domain and employ resource management practices affixed in their culture and traditional beliefs.

The presence of community-wide norms can enable resource management both by preventing certain behaviors and encouraging others (Agrawal and Gibson, 1999). The term “indigenous resource management system” includes local strategies, institutions, and technologies of farming, gathering, and fishing often embodied in the local language and learned from relatives and neighbors (Alcorn, 1997b). According to the Tagbanua, these indigenous resource management systems have evolved through the group’s long association with a set of communally held resources. Customs and traditions influence resources use of individuals, families, and clans. According to the Tagbanua’s traditions, they take a long-term view of the resource, even in the face of marginalization by an authoritarian legal system dominated by elites (ADMP, 2003). The Tagbanua’s social systems and natural systems have historically thrived together in a sustainable manner (Euston, 1997).

Through the assistance of the Philippines Association for Intercultural Development (PAFID) in 1985, the Tagbanua formed a people’s organization, the Tagbanua Foundation of Coron Island (TFCI), to assert their ancestral claims. TFCI is a general assembly of the community, and it is led by three entities: Foundation officials, Council of Elders, and barangay officials of Cabugao and Banuang Daan.

After a long and arduous application process beginning in 1996, the Tagbanua obtained their Certificate of Ancestral Domain Claim (CADC) (R04-CADC-134) in the

last days of the DENR Secretary Ramos' Administration in 1998 following an exhaustive application review (Appendix C). The CADC gives the Tagbanua the legal leverage to confront individuals, such as tour operators and migrant fishermen, who disregard the Tagbanua's culture and traditions. The Indigenous People's Rights Act (IPRA) mandates upholding ancestral domain rights while also providing indigenous people with the legal instruments to assert those rights. The CADC process is a direct product of this national legislation.

Covering 22,284 hectares, the Tagbanua's CADC holds the distinction of being the first ancestral waters claim ever granted in the Philippines. The Tagbanua sought inclusion of their tribal waters because, according to the Tagbanua's Chairman, "The land is meaningless without the sea" (Rimban, 2003). The Tagbanua's CADC covers the 8,000-hectare Coron Island, and it also includes Delian Island, the 236-hectare neighbor. Delian Island is home to many Visayan migrants, both transient and permanent, who now have to pay fees to the Tagbanua in order to live there, according to the CADC's specifications (Conservation International Philippines, 2003b).

To obtain the CADC, the Tagbanua had to submit affidavits, maps, historical accounts, genealogical data, anthropological data, write-ups of names and places in the native dialect, and other proofs to prove their presence in the area since time immemorial and to support their CADC application (Zingapan and De Vera, 1999; PCSO, 2003a). For example, as the Tagbanua's customary law is traditionally considered to be part of the elders' memory, the indigenous law had to be formally recorded. Likewise, evidence used for the CADC application included the Tagbanua's burial caves on Coron Island which still contain the remains and personal possessions of their ancestors. With the help of PAFID, the Tagbanua defined the CADC's borders and translated this into a map to submit to the DENR.

For the CADC boundary delineation, the Tagbanua incorporated those sea territories that were passed on to them by their ancestors and that are still used today. As the Tagbanua's CADC interpreted both the IPRA's and the Palawan Strategic Environmental Plan's (SEP) definition of ancestral waters, the ancestral waters that the Tagbanua sought include sacred areas, ancestral fishing grounds, fish sanctuaries, diving areas, tidal flats, sand shoals, atolls, and deep sea areas around Coron and Delian Islands.

The land areas included settlements that contain the home ranges of the Tagbanua's ancestors (Zingapan and De Vera, 1999).

Following the CADC award, the Tagbanua received their Certificate of Ancestral Domain Title (CADT) in 2001, which provides essentially the same rights as those of private-property owners. The CADT is an additional instrument that the Tagbanua can use to assert their traditional rights to their ancestral domain.

The CADC and CADT together construct the Tagbanua's indigenous tenure which is considered to be a bundle of both rights and responsibilities, or the ocean and the resources it can produce and who can and cannot affect the resources (Alcorn, 1997b; Grigsby, 2004). Customary tenure indicates the particular rights that are conveyed through social rather legal mechanisms, and whose legitimacy is rooted in tradition rather than statute. Thus, the Tagbanua placed their customary tenure into a formally recognized tenure with tenure security, or the rights to exclude other potential resource users and reduce probably losses (Bruce, 1998).

3.1 Residual Marginalization

Those who are from here have always looked down on the Tagbanua. It is like, if I would teach you growing up that the Tagbanua are quote un-quote uncivilized. It is only recently that we have recognized them...now getting non-Tagbanua people to look at the Tagbanua as citizens.

–Coron Town Municipal Official

Local governments have been critical of indigenous efforts to seek their CADC and CADT. After a CADC is awarded, local governments not only lose territory, but they also potentially lose revenues because land under a CADC is not subject to property taxes and special levies. The Tagbanua on Coron Island have experienced this opposition from the municipal government of Coron Town. This lingering marginalization has manifested itself when the Tagbanua have attempted to assert their ancestral domain and indigenous rights, for example, when the Tagbanua have made an effort to patrol their ancestral waters or to regulate tourist visits to Coron Island (Naguit, personal communication, 2003).

Because of its unique physical and biological significance, the National Integrated Protected Areas System (NIPAS) law designated Coron Island as a national protected area (Rimban, 2003). At times, conflict arises over ultimate jurisdiction of Coron Island and its surrounding waters because of the multiple layers of relevant mandates that range from national legislation to provincial resolutions to local policies—IPRA, Fisheries Code, NIPAS , SEP, CADC, among others previously highlighted.

3.2 Tagbanua Customary Law in the Ancestral Domain Management Plan

We, the indigenous Tagbanua of Coron Island found in Northern Palawan, imploring the guidance and authority of Father Creator, in order to be empowered with security, liberty and equality, and become an exemplary group of cultural minority who believes and understands the law of nature, and possesses a unique way of nurturing, protecting and managing the inherited ancestral domain for development, peace and continuous enjoyment and protection of all blessings, diverse life forms and natural resources embodied therein, do ordain the writing of this body of laws (ADMP, 2003).

In accordance with DENR’s Administrative Order No. 34, the Tagbanua were required to submit an Ancestral Domain Management Plan (ADMP) with their CADC application. The Tagbanua’s customary law was formally recognized and recorded in their ADMP. Customary law, according to the Tagbanua, includes established ways of doing things in a prescribed form, rite, ritual, social usage, or unwritten law as observed by indigenous peoples (ADMP, 2003). The Tagbanua’s ADMP contained thirteen main sections: ancestral domain territory; natural resource utilization, sacred places, and inheritance; approaches to development projects and mining; activities allowed in ancestral waters; indigenoussness of the Tagbanua; composition of the Tagbanua’s leading Council; membership of TFCI; TFCI meeting agendas; TFCI election process; Tagbanua positions and responsibilities; TFCI committees; traditional punishments for illegal activities; and taxation for non-Tagbanuas (ADMP, 2003).

Within the ADMP, the Tagbanua have created rules specifying prohibited fishing methods and other types of resource extraction within their domain. Some of these rules are also anchored in Philippine national, provincial, and municipal legislation. For example, it is prohibited to illegally fish using cyanide and dynamite in the ancestral

domain. Non-Tagbanuas cannot camp within the ancestral domain without permission nor can they claim or abuse any part of the domain's land and water. Non-Tagbanua catch yields that exceed sustenance or are for commercial purposes are prohibited. Also, portions of land within the ancestral domain cannot be sold. Land cannot be leased to non-Tagbanuas without consultation and approval from TFCI. Government, private corporation, and NGO projects within the ancestral domain must be approved by TFCI.

The ADMP specifies punishment for illegal activities including types of fishing, deforestation, hunting, and seaweed farming. When a Tagbanua breaks an indigenous law and is apprehended by other Tagbanua, the individual is subject to the traditional punishment system *panglao*, a humiliating reprimand in front of the community.

Panglao is an ancient punishment where the offender squats with a bamboo pole at the back of his knees, and the bamboo pole is filled with grated coconut meat to attract ants. The offender may also be subject to the tribal judge's *bordon*, or lashes with a rattan cane. Non-Tagbanua individuals who commit illegal acts according to the ADMP are subject to *panglao* and *bordon*, or they can pay a fine appropriate to the illegal activity (Dalabajan, 2000; Naguit, personal communication, 2003; ADMP, 2003).

In accordance with the ADMP, the TFCI membership has the responsibility to "protect, manage, and control the land and water, all natural resources and biological diversity found within the ancestral domain" (ADMP, 2003). In this, the members are to patrol the forest and the sea to prevent and to stop illegal activities. Also, all plans in the communities must be agreed upon by TFCI's members to ensure appropriateness regarding culture, practices, and customary law.

The Tagbanua believe participation in decision-making lies at the heart of democratic social processes, and this participation must respond to the interests of all those involved in a given activity. Thus, all of the Tagbanua 280 families on Coron Island belong to TFCI (PAFID, 1993). The presence of at least 51% of the TFCI membership is required in decision-making regarding the approval of wide-scale projects or programs involving both Cabugao and Banuang Daan (ADMP, 2003). The TFCI Council has established committees to address the following issues: paralegal officers for land-based activities, patrolling efforts for the forest and sea, health training with the

albularyos or medicine person, sacred places, culture conservation and transmission to future generations, and community projects (ADMP, 2003).

The Tagbanua of Coron Island have an integral Council of Elders who give advice and guidance to the community. The elders are a respected group of individuals who have the life experience and knowledge to help make critical decisions impacting the Tagbanua. The elders also act as links to the Tagbanua's ancestral spirits, as elders visit sacred areas where spirits are believed to reside and consult with the spirits to make influential decisions (Naguit, personal communication, 2003).

3.3 Tagbanua's Livelihood and Traditions

Seascapes are blanketed with history and imbued with names, myths and legends, and elaborate territories that sometimes become exclusive provinces partitioned with traditional rights and owners (Cordell, 1989).

Smaller, thinly soiled islets and their fringing reefs border the shores of Coron and Delian Islands, creating hideaways, boat passages, and resource collecting sites. As the Tagbanua fought to include their traditionally used marine resources in the ancestral domain claim, they do not think it is for their exclusive use. Instead, they allow access by outsiders as long as fishing methods are legal, non-destructive, not in sacred areas, and within the guidelines of the ADMP. The Tagbanua believe coastal management is all about finding a balance between different resource users. These other users, however, must respect the indigenous traditions and management systems to ensure resource sustainability.

The Tagbanuas are primarily hook and line fishermen, harvesting marine resources limited to their own sustenance. Coral reefs form the backbone of the Tagbanua's traditional fishing grounds, and the outer limits of the Tagbanua's fishing grounds are habitat and diving areas for important species. As their participation in the market economy is limited and refrigeration and other electric utilities are generally absent, any excess fish caught is either shared among families or taken to Coron Town to market.

The Tagbanua have unique cultural norms that pertain to fishing and foraging. For example, certain areas are protected as fish sanctuaries through customary law in the

ADMP. Other sacred areas—the *panyaan*—are not harvested or are even avoided because the Tagbanua believe giant octopus—the *pugita*—dwell there (ADMP, 2003; Naguit, personal communication, 2003).

Despite the Tagbanua's ban of destructive fishing in their ancestral claim, the Calamianes have many active cyanide and dynamite fishermen. The waters of the Calamianes provide up to two-thirds of the Philippines' live reef fish exports to the international market (Allen and Werner, 2002; Pearce, 2003b). While hook and line fishing is a commonly used method in the live reef fish trade, cyanide is also used to catch live fish. In the Calamianes, it is estimated that 25% of fishers engaged in the LRFT use cyanide. Visayan migrants, living on neighboring Delian Island, are touted to be the primary destructive fishermen in the area (Conservation International Philippines, 2003a).

Coron Island's rocky cliffs have had an impact on the Tagbanua's livelihood—the jagged terrain discourages potential illegal logging, and the limestone fissures provide habitat for swiftlets, or *balinsasayaw*. The Tagbanua collect edible birds' nests from the swiftlets, and these nests are used to make bird's nest soup. The Tagbanua sell the birds' nests to Chinese middlemen in Coron Town's market, who then export them to other Southeast Asian countries. In fact, historical accounts dating back to 1225 refer to the early people of the Calamianes extensively bartering with Chinese middlemen (Zingapan and De Vera, 1999). As the swiftlets build their nests in caves, the Tagbanua have rules for the caves: the discoverer of the cave has exclusive rights to that cave's nests, and the rights are passed down through families. To sustainably harvest the swiftlet nests, there is an open season and a closed season for nest collecting written into the ADMP (Conservation International Philippines, 2003b).

Coron Island has eleven lakes, several of which connect underground to the sea. The Tagbanua consider the lakes to be vital parts of the island's watershed, shelter for the swiftlets' caves, and *panyaan* or sacred places. The national Department of Tourism identified Kayangaan Lake as the cleanest lake in the Philippines, thus arousing the interest of local tour operators. The tour operators began bringing tourists to Coron Island's lakes without first consulting the Tagbanua. The ADMP specifically states that

non-Tagbanua must seek permission from the elders to visit Coron's lakes and surrounding beaches.

After the elders sought permission from the spirits to allow use of the lakes, the Tagbanua formally opened two of their lakes, Kayangaan and Barracuda, to tourists. The Tagbanua have a guard station at the entrance of Kayangaan Lake with a guard there at all times to enforce the Visitor Management Program (VMP). Implemented in 2001, the VMP places limits on the number of tourists that can visit the lakes each day, and the program also constructed entrance fees to the lakes. The VMP has been met with opposition and conflict from the local government and tour operators because they believe these fees and limits will deter tourists from the Calamianes (Conservation International Philippines, 2003b).

Forest resources are communally owned, so every community member can use the resources as long as their uses are in accordance with the ADMP. Now, the Tagbanua's CADC bans commercial deforestation on Coron Island, including the mangrove forests. It also disallows Tagbanua from cutting trees near streams, wells, and coastline, as deforestation in these areas contributes to soil erosion.

Many community members participate in cashew nut harvesting for trade. Some of the unprocessed nuts are sold to TFCI, which employs community members—specifically targeting youth—from Cabugao to process and market the nuts to buyers in Coron Town and Manila. Conservation International, a US-based NGO, helped the Tagbanua identify a need for an additional livelihood activity and then establish the cashew nut processing project. The project was intended to produce additional income for workers, build a scholarship fund for Tagbanua youth, and construct a fund to be used for patrolling activities. While TFCI has not been able to purchase from all community members who want to sell their cashew nuts, the remaining community members sell their nuts to buyers in Coron Town's market. With funds from Conservation International, TFCI has been able to buy cashew nuts at higher prices than those in Coron Town.

The Tagbanua traditionally practiced swidden—known locally as *kaingin*—or slash and burn farming on a small-scale to grow food crops. As migrants gained control of some of the Tagbanua's lands, the land practice was abused, and land erosion began to

occur. As a result, the ADMP specifically prohibits new *kaingin* agriculture, but allows farmers to return to areas previously cleared in this manner.

Ancestral lands of the Tagbanua are passed on through the women since these women are responsible for farming activities in most families. As root crops and tubers often mark the boundaries, the Tagbanua benefit from this arrangement because the women frequently monitor the land boundaries as they farm and fulfill their responsibilities as TFCI members to monitor Coron Island.

3.4 Tagbanua as a Community

The elders have a saying that wherever the blood comes from, wherever you are born, where you spill blood, that's where you should live.

–Cabugao community member

With a place perspective in natural resource management, it is evident that human connections with natural resources and their landscapes are multifaceted and saturated with meaning (Cheng et al., 2003). Places like Coron Island have unique histories. From partnerships and personalities to disputes and compromises, these individuals make the place what it is (Cheng et al., 2003).

Not simply bounded by space, sea territories are areas “named, known, used, claimed, and even defended” (Nietschmann, 1989). A social group, like the Tagbanua, claim a territory based on familiarity and tradition. A territory is as much a social and cultural space as it is a resource and livelihood. Marine areas become entities as social groups establish and recognize the space, resource patterns, and biodiversity interactions. A sense of place develops by naming and giving meaning to physical and biological aspects of the area, much like the Tagbanua have done on and around Coron Island. According to Nietschmann (1989), “people conceptually produce the environment they use, delimit, and defend.”

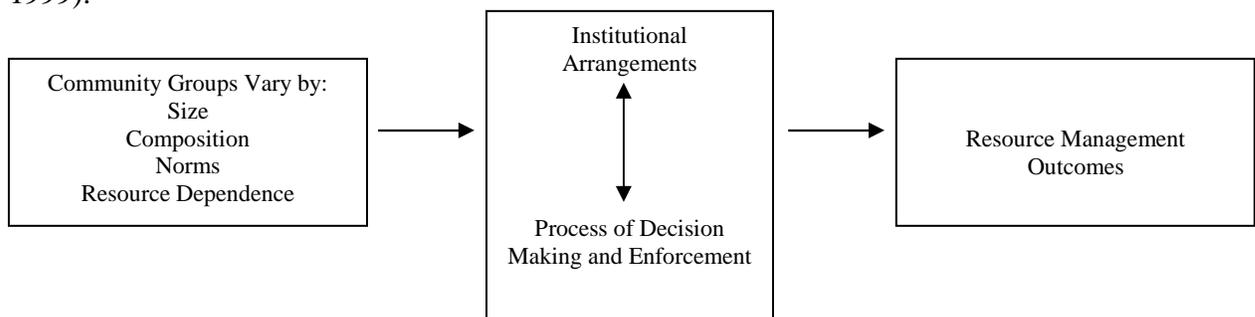
McCay (2002) believes that communities are “measured by the presence, absence, or strength of shared beliefs and preferences; some stability in membership; some expectation of future interactions; and direct and multiple kinds of relationships among members.” A community can range from a typical community of place (a town), to a community of interest (people sharing common interest), and to an occupational

community (people connected by mutual identification within a career) (Jackson et al., 2004).

The Tagbanua display three characteristics of different community typologies, as described by Agrawal and Gibson (1999): small size and territorial affiliation; homogenous social structure; and common interests and shared norms. In recent years, conservationists have attempted to dispel the notion of this mythical community and instead promote a realistic view of communities. In other words, all communities, including indigenous communities, are not small, homogenous, and like-minded in resource management. Yet, conservationists cannot deny that the Tagbanua possess these three components in their communities.

In this, community characteristics impact resource management, as these characteristics affect interactions of constituents in local conservation (Figure 1). Institutions shape these interactions while also being shaped themselves.

Figure 1. A view of communities and conservation (Adapted from Agrawal and Gibson, 1999).



In a recent publication by the World Conservation Union (IUCN, 2002), the typologies of community conserved areas in Southeast Asia were assessed in order to illustrate regional issues and lessons-learned in conservation. The parameters set by IUCN to evaluate community conserved areas are as follows: internally or externally initiated, legal backing, tenure security, government support, NGO support, ecological results, social cohesion, and length of time the initiative has been sustained. As the Tagbanua's Chairman presented at the recent World Park's Congress in South Africa, the Tagbanua were a case study in this analysis. The Tagbanua meet several of the parameters to maintain a typology of community conserved areas that have the following

characteristics: internally initiated in the community, strong NGO support, strong legal support, and secure tenure rights. As this IUCN case study illustrated, the skill, knowledge, and experience of the Tagbanua are a valuable resource for conservation with appropriate legal and tenurial backing.

4. Common-Pool Resources

Natural resources comprising land, water, forests, and fisheries constitute the basic life support systems on earth. Significant proportions of these resources are used in common by people and are known as common-pool resources (CPRs) (Singh, 1994).

CPRs are goods that can be guarded from potential users only with difficulty or large costs, and these goods are subtractable in consumption and can hence disappear. Resource users free-ride when they harvest the resource independently and account only for their own costs and benefits, not those of the collective user group. Likewise, as CPRs are subtractable, they are easy targets for congestion, overharvest, degradation, and even destruction (Dietz et al., 2002). If no mechanisms are in position to address excludability and subtractibility, the resource is essentially an open-access resource available to anyone—complicated to protect and uncomplicated to deplete (Buck, 1998; McKean, 2000).

Most coastal resources meet these two defining criteria of CPRs, including fisheries and coral reefs. Because of the physical nature of the coastal environment, excluding potential resources users is challenging (Bunce, 1997). Without a blockade of patrol boats, it is close to impossible to physically bar users from marine waters. Likewise, human behavior in the fishery—fishers taking fish and leaving less for others—compounds with the migratory and uncertain nature of the resource, creating complex situations for fishers to address (Ostrom et al., 1994). So, an individual fisher's catch is dependent on the actions of other fishers using the same grounds. This is acutely felt in the Philippines—not only are fishers taking fish, but they are also destroying critical marine habitat such as coral reefs through illegal and destructive fishing.

4.1 Garret Hardin's Tragedy of the Commons

Common property is subject to uncommon difficulties (Myers, 2002).

Aristotle long ago discerned that “what is common to the greatest number has the least care bestowed upon it. Everyone thinks chiefly of his own, hardly at all of the common interest” (Aristotle, 1992). Since Garrett Hardin’s seminal paper in 1968, the “tragedy of the commons” that Aristotle put forth long ago has become a central concept in the study of human ecology and the environment, coming to symbolize the expected degradation of the environment when many individuals use a resource in common without restrictions. As Hardin (1968) states, “Ruin is the destination toward which all men rush, each pursuing his own best interests in a society that believes in the freedom of the commons.” These archetypical commons are places with wild fish, animals, and plants that are not under a system of private or exclusionary property. Hardin has also postulated that resource users of the commons cannot communicate and therefore do not develop trust in each other. These resource users are sometimes referred to as actors—actors who have preferences, information-processing capabilities, and selection criteria (Ostrom et al., 1994).

Common-pool resources that do not have institutions governing their use are called open-access regimes. In general, institutions for governing resource use fit into three broad categories: private property, government property, and common property (Dietz et al., 2002). Under the common property institution, resource use may be restricted to members of a local community, extended family, or members of a cooperative.

The research that Hardin’s article initiated has been extensive. A particularly valuable contribution to this work has been investigations of alternative management institutions that avoid Hardin’s alleged “tragedy” (Healy, 1994). Traditionally, privatization and government control have been recommended as solutions to Hardin’s common-pool resource dilemma (Olson, 1965). The consequential policy advice to centralize the jurisdiction and regulation of natural resources has been extensively adhered to, particularly in developing countries (Ostrom, 1990).

Recently, however, there has been a shift in practice toward community-based management, promoted by evidence that common-pool resource users are capable of creating effective governance structures and rules. The literature has amply provided examples that refute Hardin's tenet, illustrating that resource users do communicate, establish accepted rules and policies, and develop trust in order to form resource governing institutions that improve their common outcome (Ostrom, 1990; Stern et al., 2002).

4.2 Elinor Ostrom's Theory on Common-Pool Resources

Much of the world is dependent on resources that are subject to the possibility of a "tragedy of the commons." Yet, instead of promoting centralization of natural resource management, the scope of authority and responsibility over natural resources must be widened—a fresh interpretation of resource use rights can be experienced by expanding our ideas of property ownership and stewardship of the commons (O'Riordan and Stoll-Kleemann, 2002). For a common-pool resource management regime to be successful, it is not simply selected and then imposed (Snidal, 1995). Shared property rights can reinforce collective action among a group, whereas privatization of a resource or government claims of "ownership" can erode local management institutions (Bromley and Cernea, 1989). Research on local CPRs has indicated that under some circumstances, solutions created by the local users are more effective and lasting than resource management regimes inflicted by a central government (Keohane and Ostrom, 1995).

A CPR regime is an arrangement where a group of resource users share rights and responsibilities toward a resource (McKean, 1987). People living and working together in indigenous communities—much like the Tagbanua of Coron Island—often share a sense of identity and belonging, norms and goals, accepted rights and obligations, some level of dependence on the particular resource, and a common vision for interpretation and action. Here, the likelihood of these individuals creating appropriate social institutions to overcome challenges in managing common resources is high (Alcorn, 1997b; McCay, 2002). In order to develop cooperative institutions to manage CPRs, trust

and reciprocity, often arising from a shared ancestry and a shared future, are critical (Ostrom, 1998).

In response to tensions among individuals seeking resource access, institutions have emerged to ensure continued community access to resources and restriction of outsiders. These institutions are rules, norms, and shared strategies-in-use that contain individual choices and shape human behavior (Crawford and Ostrom, 1995). And, common rules, norms, and sanctions are the mutually agreed or handed-down norms of behavior that place group interests above individual interests (Pretty and Ward, 2001).

Elinor Ostrom is putting into place the building blocks of such arrangements that have culturally appropriate and location-specific rights. Ostrom has examined a number of cases where local people have jointly used their commons for centuries based on their own mutually agreed and mutually enforced rules. As long-standing institutions for sustaining common-pool resources become apparent, Ostrom has identified the variables (Table 2) often coupled with the success of the robust institutions and has also provided eight design principles that characterize these thriving structures. Ostrom (1990) predicts that governance regimes consistent with the attributes may lead to outcomes that are socially and ecologically sustainable.

Table 2. Ostrom’s institutional design principles illustrated by long-enduring common-pool resource institutions (Adapted from Ostrom, 1990).

1. *Clearly defined boundaries*
 - a. The boundaries of the common-pool resource must be clearly defined.
 - b. Individuals or households who have rights to withdraw resources from the common-pool resource must be clearly defined.
2. *Congruence between appropriation rules and local conditions*

Appropriation rules restricting time, place, technology and/or quantity of resources are related to local conditions and to appropriation rules requiring labor, material, and/or money.
3. *Collective choice arrangements*

Most individuals affected by operational rules can participate in modifying operational rules.
4. *Monitoring*

Monitors actively auditing common-pool resource conditions and appropriator behavior are accountable to the appropriators or are the appropriators themselves.

5. *Graduated sanctions*

Appropriators who violated operational rules are likely to receive graduated sanctions (depending on both the seriousness and context of the offense) from other appropriators, officials accountable to these appropriators, or both.

6. *Conflict resolution*

Appropriators and their officials have access to inexpensive local venues to resolve conflict among appropriators or between appropriators.

7. *Rights to organize*

The rights of appropriators to develop their own institutions are not challenged by external governmental authorities.

For common-pool resources that are part of larger systems:

8. *Nested enterprises*

Appropriating, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of enterprises.

The first principle that Ostrom (1990) puts forth is clear resource boundaries and group membership for resource access. This ensures that “users can clearly identify anyone who does not have rights and take action against them” (Ostrom, 1999). The rules of use must be clear so that no one need be confused about whether an infraction has occurred. If boundaries of a specific resource are well understood and do not modify over time, then it is easier to determine the users of the resource and the extent of their resource withdrawal (Dolšak and Ostrom, 2003). Some boundaries may be recognized and supported by formal government authority, while other boundaries are accepted only by participants (Ostrom et al., 1994). This principle is necessary to affirm to self-conscious participants that the benefits of their efforts will not be reaped by those non-contributors. In this principle, the criteria for membership in the group of eligible resource users must also be clear (McKean, 2000).

Ostrom’s (1990) second attribute states that use rules must correspond to what the resource system can tolerate. This principle reflects the individuality of the case study institutions, as no blanket set of rules can encompass the management problems of all CPRs. The governing institutions must reflect environmental variability and biological constraints. McKean (2000) also adds that the rules must be conservative concerning the sustainability of resource use. These rules may include equipment restriction on the resource (i.e., cyanide fishing on a coral reef)

Ostrom's (1990) third design principle asserts that users must have the right to modify their site-specific rules over time. Because the individuals involved often gain a major part of their economic return or livelihood from CPRs, they are strongly motivated to solve common problems and enhance their own productivity over time. Rules of use and withdrawal must be accepted by community members as well (Devlin and Grafton, 1998). When rules are devised and implemented by resource users who have the greatest stake in the resource, they will better reflect the resource characteristics. As the rules are based on local knowledge and need, the users will be more familiar with the rules and hence less likely to fail in compliance (Dolšak and Ostrom, 2003). Moreover, if rules are inflexible, they can jeopardize an otherwise functioning CPR regime. In this, the self-governing resource users must have political independence to manage the commons as it deems appropriate (McKean, 2000).

Compliance with these rules cannot be assured, however. The institutions that individuals craft to govern any common-pool resource must therefore deal with the threats of overuse and of free-riding (Dolšak and Ostrom, 2003). Thus, Ostrom's fourth, fifth, and sixth design principles provide confidence to participants that they are not being taken advantage of by free-riders. These principles also ensure that the punishment fits the crime (Mascia, 2000). These three attributes specifically relate to monitoring of resource boundaries, graduated sanctions, and conflict resolution mechanisms (Ostrom, 1990). Accountable monitoring, the fourth principle, provides information to participants about which and how many appropriators are abiding by the established rules. Monitoring is critical in a CPR system where "compliance of each depends on compliance of others" (Levi, 1988). Self-monitoring and self-enforcement by the resource users have contributed to the success in many CPR systems (Keohane and Ostrom, 1995). Additionally, McKean (2000) posits that rule enforcement must be by the CPR users themselves rather than by an "overlord" or "superordinate" authority of government. This way, enforcement will be both thorough and impartial.

Graduated sanctions against transgressors, Ostrom's (1990) fifth principle, provide disincentives to continue illegally harvesting the resource. Conflict resolution mechanisms, the sixth principle, must be inexpensive, accessible, and rapid. Dispute resolution provides a forum to discuss and resolve ambiguities in the rules that have

resulted in transgressions (Bunce, 1997). It is important to note, however, that exclusion mechanisms do not come without a cost, and regimes for CPR governance must address these costs in some manner (Dolšak and Ostrom, 2003).

Ostrom's (1990) seventh principle necessitates user groups to have the unchallenged right to construct their own institutions with rules that cannot be superseded by a higher level of governance. With state-recognized rights, institutions managing CPRs can protect resources and prevent transgressions by appealing to the state, if need be (Ostrom et al., 1999).

Ostrom's eighth and final design principle, nested enterprises, recognizes that large governance frameworks are necessary to resolve challenges of scale and linkage that may be poorly managed or ignored otherwise (Mascia, 2000). These nested enterprises must be layered with considerable devolution of authority to small components to give them flexibility and some control over their fate. Ostrom (1990) states, "Establishing rules at one level without rules at the other levels will produce an incomplete system that may not endure over the long run." National governments can either help or hinder local self-organization. The governing bodies at the top of the hierarchy can thwart local efforts by defending rights that lead to resource degradation or promoting ultimate state control without monitoring and enforcing existing regulations (Ostrom et al., 1999). Likewise, if local authority is not formally recognized by larger regimes, it is difficult for users to institute enforceable rules.

Additionally, Ostrom's (1990) research was limited to governance regimes within a single country, with scarce renewable resources, and affecting between 50 and 15,000 individuals permanently residing near the resource. CPR analysis has found several important conditions associated with emergence of these long-enduring regimes. CPR management is most efficient in a small-town setting where people regularly interact in person and have and will continue to have long-term relationships (Jensen, 2000). With small communities, CPR institutions also have a greater chance of success when they are able to exclude non-members and the resource is critical to the survival of the community (Wade, 1987; Ostrom et al., 1999). Among community members, there should be a common understanding of resource conditions and a shared view of the resource as well (Ostrom et al., 1999). The literature on CPR tends to argue that heterogeneity in resource

users hinders cooperation, thus successful CPR institutions are relatively homogenous in characteristics such as class, ethnicity, and affluence (Libecap, 1995). Lastly, McKean (2000) found that where governments are hostile toward efforts in CPR management, creating effective institutions is almost impossible.

5. Methods

As an evaluation researcher for Conservation International's (CI) Healthy Communities Initiative (HCI), I was responsible for evaluating a project with the Tagbanua of Coron Island in the Philippines. In particular, I was to provide a case study on the following components: project cycle, conservation and development, community engagement, social context, and external actors.

This case study involved a comprehensive review of the sociocultural and political factors and institutions affecting not only the Tagbanua but also Conservation International's project in the region. To investigate these factors, it was first necessary to develop an understanding of the following topics: indigenous people and their links to biodiversity, traditional techniques in conservation, Philippine country context, Philippine environmental and social laws and policies, and common-pool resource management regimes. I collected data on these topics from May to August, 2003, through a comprehensive literature review.

Also during this time, I located, sorted, and organized all documents for CI's project. These documents included policy documents, Rapid Assessment Protocols (RAP) reports, concept papers, management plans, trip reports, emails, pamphlets, partner reports, socio-economic surveys, and budgets. I sorted the documents into several categories: big picture context, CI context, project definition, implementation, monitoring, correspondence, public relations, alliances, raw data, and finances. Based on this documentation, I created a descriptive memo that summarized the proposed objectives and activities of the project.

In order to ascertain the pertinent sociocultural and political context of the project and understand the activities implemented on the ground, I selected relevant interviewee categories (Table 3). The interviewee categories included Tagbanua community members from Cabugao and Banuang Daan, Visayan migrant fishers on Delian Island,

local NGO representatives, government officials, tour operators, Coast Guard, Auxiliary Coast Guard, CI Philippines field staff, CI Washington DC staff, and unlinked municipal citizens. According to HCI's analytical framework, I created the semi-structured and open-ended interview guides that corresponded to each interviewee category (Appendix D).

Table 3. Number of interviewees by affiliation.

<i>Type of Interviewee</i>	<i>Number of Interviewees</i>
Tagbanua Community Member	21
Migrant Fisher	4
Local NGO Representatives	4
Government Officials	5
Tour Operators	2
Coast Guard	1
Auxiliary Coast Guard	1
CI Philippines Field Staff	7
CI Washington DC Staff	5
Unlinked Municipal Citizens	3
<i>Total</i>	53

Working from the project documentation and with the field staff in the Philippines, I identified individuals in each category to interview, developing a cursory interview list. The interviews began in July 2002 and ended in October 2003. I traveled to the Philippines in August 2003, visiting the Luzon and the Palawan provinces. While in Luzon, I visited Manila. While in Palawan, I visited Puerto Princessa, Salvacion and Coron Town in Busuanga, and Cabugao and Banuang Daan in Coron Island. In these locations, I along with two other interviewers who were part of the data-collecting visit conducted the interviews. As part of the interview process, we asked each interviewee for verbal consent to tape record the interview and also take notes during the interview, informing the interviewees of the confidentiality of the interview content.

Once in the Philippines, the interviewee list expanded as interviewees recommended other individuals to interview and individuals also came forward with

interest to be interviewed (the snowball sampling effect). In the end, I conducted 53 interviews implemented in-person (50 interviews), by telephone (2 interviews), and over email (1 interview).

After the interviews were conducted, CI staff in Washington DC transcribed the interviews verbatim, removing names of interviewees and instead using numbers and interviewee categories as a form of identification.

After re-clustering the interviewees into relevant groups, I selected a subset of 20 interviews from the total interviews to formally code, and these interviews were with community members, migrants, and NGO representatives. I informally coded the remaining 33 interviews by highlighting relevant information on the sociocultural and political context in the community, the region, and the Philippines in general. These interviewees included government officials, tour operators, Coast Guard, Auxiliary Coast Guard, CI Philippines field staff, CI Washington D.C. staff, and unlinked municipal citizens (i.e., religious officials).

To begin coding, I extracted 29 research questions from HCI's analytical framework that I believed pertained specifically to the Philippines project (Appendix E). I coded the interviews according to both these research questions and six key words of the project—participation, collaboration, capacity-building, transparency, image of communities, and image of conservation and development.

CI staff in Washington DC inputted the 20 formally coded interviews into a specifically designed qualitative data base. The individuals then performed queries to answer specific research questions in the framework and obtain data regarding key words (Appendix F). With the data from the queries and with the contextual information from the informally coded interviews, I produced this case study.

6. Observations

The empirical material presented here is derived from the interviews. Ostrom's (1990) eight design principles on long-enduring common-pool resources (CPR) are used as a template to describe the Tagbanua's institutions that govern the use of their ancestral land and sea claim. The variables are assigned qualitative values (yes, no, or weak) based on the empirical results. A background justifying the valuation (Table 4) is given in each

subsection. As Ostrom’s institutional performance criteria judges institutions to be robust, fragile, or failures, the Tagbanua’s CPR institution can be classified as fragile, based on this analysis.

Table 4. Representation of Ostrom’s design principles.

<i>Principle</i>	<i>Ostrom’s design principle in the Tagbanua of Coron Island</i>
1a. <i>Clearly defined boundaries</i>	WEAK
1b. <i>Clearly defined membership</i>	YES
2. <i>Congruence between appropriation rules and local conditions</i>	YES
3. <i>Collective choice arrangements</i>	YES
4. <i>Monitoring</i>	WEAK
5. <i>Graduated sanctions</i>	WEAK
6. <i>Conflict resolution</i>	WEAK
7. <i>Rights to organize</i>	YES
8. <i>Nested enterprises</i>	WEAK

6.1 *Clearly defined boundaries and membership*

Interviewees from all categories cited the Tagbanua’s Certificate of Ancestral Domain Claim (CADC) as the document that delineated the Tagbanua’s ancestral land and waters. As stated by a Conservation International (CI) Philippines field staff, “The Tagbanuas are ancestral domain claimants of Coron Island, and because of their steadfast resistance to outside intrusions, the Tagbanuas managed to preserve the natural state of the island.” A CI Washington DC staff member noted, “The communities in the Calamianes had marine tenure rights over certain reefs, which they respected very much within a community, between communities.”

The CADC has well-defined geographic boundaries in terms of resources. The CADC also defines the cultural boundary of the Tagbanua’s traditional resource use. Local NGOs assisted the Tagbanua to demarcate the CADC’s borders in order to submit a map to DENR for the CADC application. However, non-Tagbanua have not seen the map and outline of the CADC. According to an Auxiliary Coast Guard member, “It’s hard for us to even get any information because it’s very hard to know what is legal and what is illegal...What the Tagbanuas very clear have to state is what they allow and what they don’t allow.”

Inherent in the CADC and Ancestral Domain Management Plan (ADMP), all individuals considered to be Tagbanua by ancestry fall under the ADMP regulations and thus have rights to withdraw resources from within the ancestral domain's CPRs. As one community member stated, "The good thing [about Coron Island] is that most of us are pure Tagbanua, so we are homogenous." "We see the CADC as the instrument for us to secure our territory, the Tagbanua territory, such that we can continue as a people to practice our customs and livelihood and to secure the area from disturbance of outsiders," another community member remarked. According to additional community member, "The CADC keeps people from other provinces from coming in." Yet, non-Tagbanuas are allowed to use the resources within the CADC but must do so in accordance with the Tagbanua's rules. As a local NGO representative affirmed, "They operate on trust, you know."

"The ancestral domain plan has been discussed among the elders and the members so that everyone knows," a local NGO representative declared. Likewise, a migrant fisher said, "A long time ago, the Tagbanua Chairman came here to conduct a meeting about the rules here, like what is prohibited in their claim." This knowledge of the CADC and ADMP does not equate to compliance, however, as a CI Washington DC staff member presents an alternative view, "There was complete and blatant disregard by outside people of what the Tagbanua's local rules are, since they [migrants] are transient people—they come, and they take, and then they leave."

6.2 Congruence between appropriation rules and local conditions

The Tagbanua's indigenous CPR management system has been a critical factor in their long-term cultural survival and resource use, as many interviewees from separate affiliations confirmed this statement. "There are customs, traditions on how to use the resources, as part of the ancestral domain management plan," affirmed one local NGO representative. Another local NGO staff member said, "We gathered evidence to support the CADC, things like affidavits and pictures, to provide the Tagbanua's long-term use of the resources since time immemorial." The ADMP specifies accepted rules of withdrawal that are tailored to the resources, such as fish sanctuaries and breeding areas that are off-limits to fishing, as a separate local NGO member described.

A government official claimed, “The Tagbanua people do not use dynamite in fishing. It is against their bylaws.” Many Tagbanua fishermen, when asked how they fish, stated that they fish using spears or hook and line.

When discussing the local conditions, however, a local community member lamented, “Illegal fishers are destroying the coral reefs, therefore my livelihood is affected.” A separate community member remarked:

I used to fish nearby, but now I go to places that I haven’t reached before. We go to them now because of migrants coming here. I wish that the competition would be fair, but with the migrants, they use compressors and cyanide, as for us, we use fishing rods. It’s not a fair fight.

A migrant fisher confirmed, “There’s a change because we catch less fish. But probably because there are a lot of people doing fishing, the fish catch has decreased.”

Some community members viewed the CADC as suitable and efficient regarding the local conditions. A community member, who is also an elder, articulated, “I am hopeful the CADC will be able to solve the problem of the illegal activities.” Another community member optimistically mentioned, “My domain has very rich people. The community has a CADC and that equates to us asserting our rights to stop the illegal activities within. We are able to control activities within our domain.”

6.3 Collective choice arrangements

For a CPR institution to evolve dynamically, a set of collective choice rules is needed within which collective choice decisions can be made. The Tagbanua’s cultural identity and indigenous decision-making systems have been present in their communities for centuries now, as echoed by the Tagbanua community members themselves. As one community member revealed, “The Council of Elders has existed for the history of the Tagbanua.”

A local NGO staff person described a recent development in the Tagbanua’s management, “In 1985, we helped them [Tagbanua] to form a people’s organization on Coron Island, called the Tagbanua Foundation of Coron Island.” Another local NGO representative further explained TFCI, “The structure consists of the General Assembly

which is all the people on Coron Island...Major issues that will affect the whole island go to the General Assembly, the whole town, for decision-making on a consensus basis.”

A community member whose role is an elder confirmed, “For issues which involve the whole of the community, like the water problem, it’s the whole community that discusses, and then they agree on the action to take, for example, taking help from an outside agency. It’s the general assembly of the community.” The Tagbanua’s Chairman commented, “As Chairman, it’s the process of me understanding first, and then I have to transfer that knowledge to the community. And then the community, the whole community discusses and makes the decision. It’s not myself who makes decisions, like which projects to enter.”

When discussing the ADMP, for example, a local NGO representative observed:

The plan has to be discussed among the elders and the members, so that everyone knows that this portion of the land belongs to this family, this is sacred ground, ok, this is a wildlife habitat, this is a sanctuary, and this is where you can gather rattan. Where you can allow migrants to enter? How much you will charge fees? If any of the tribal member violates this law, which sanctions will you impose?

An additional view of the elders’ significance is presented by a local municipal citizen who stated, “The decision is from the elders...they just gather together. They gather the people, and they discuss the agenda. They talk about the problems and the solutions to their problems. Then they decide it. They encourage the whole community to participate in their development though.” As one local NGO representative saw it:

Actually, insofar as the Indigenous Peoples are concerned, especially on Coron Island, the elders play a very, very significant role. So like, Chairman is an elder. He consults with other elders and they make the decision. They consult. So basically that’s the dynamic.

One individual, both a community member and an elder, declared, “What the elders decide on, the younger ones will always follow. The larger community will accept the decision of the elders on smaller issues.” In the end, a community member summarized the sentiments of many other community members when he said, “We help each other. We unite on behalf of things.”

6.4 Monitoring

For Ostrom, monitoring is a critical factor for appropriators to adhere to the rules. Monitoring the Tagbanua's CPR has proven to be an obstacle, as all categories of interviewees stressed the issue in some capacity. In one of the few positive opinions, a community member said, "The CADC gives us more of the rights to restrain people from coming in. Before they would just come in, but now that we have the CADC, people, if they say they can't come in, they would respect it. They won't force themselves. The CADC gives us the right to enforce our law." However, while the Tagbanua have received their CADC, the CADC does not ensure monitoring and patrolling activities are effective or even executed at all.

As a CI Philippines field staff succinctly stated, "The marine area is difficult to patrol." According to one local NGO representative "If they will not be patrolling the resources, you can imagine, like in Coron, it's very accessible." A separate local NGO staff member indicated, "They have a big ancestral territory, for instance. That's the big concern...because the ways that they are able to manage a territory, if they're only a few people on their own." Accordingly, a Coron Town government official said, "This area the Tagbanua cannot seem to protect in terms of protecting it from illegal fishermen." A community member went so far as to say, "The illegal fishing is increasing precisely because the illegal activities aren't apprehended. So they are actually encouraged."

To further understand the difficulties inherent in patrolling, one community member pointed out, "We have problems basically with boats that are used in patrolling the marine environment because it is so large, and we don't have fast boats to apprehend illegal activities, generally those illegal methods which take a lot of fishes." Furthermore, a community member acknowledged, "The Tagbanuas are afraid to go after the destructive illegal fishermen because the illegal fishers are armed." The same sentiments were expressed by other community members:

We don't have those capabilities to go against the cyanide fishing because cyanide fishers have dynamite while we have only the boat.

I'm afraid because they have guns, and we don't have the capacity to deal with guns.

I have done many patrolling before. I have had many encounters with the illegal fishers. And on one of them, I was alone on my boat, and I apprehended seven illegal fishers that were dynamite fishers. Because I was alone, instead of me running after the seven boats, it turned the other way around and they were running after me with dynamite, very dangerous.

A community member summarized his understanding of the situation when he said, "We almost got in a fight when I tried to apprehend, the migrants usually put up a fight. If the fish are gone, both of us will suffer."

However, one community member posited, "We actually could manage the patrolling if we have the proper speedboats and guns, because most of the illegal fishers have firepower." Another community member stated, "We should be patrolling. But then the problem now is the fuel, the budget for the fuel. We would have volunteers, so manpower isn't a problem for the patrolling." As indicated by another Tagbanua community member and elder, "I see enforcement as a role by each and every member of the community, because enforcement would contribute back to the community because it will avoid the destruction of resources." According to a CI Philippines field staff member, "The Tagbanua do not have the training, the equipment to prevent those things. Enforcement is something they can relate with, and they have no facilities. So they wanted to get boats, they wanted to raise money so they could buy boats."

Several categories of interviewees—Auxiliary Coast Guard, community members, Coast Guard, and local NGO representatives—indicated that outside assistance was necessary for the Tagbanua to monitor and to enforce their ancestral domain claim. According to a Tagbanua community member, "One problem that we still continue to experience with the municipality is with regards to patrolling the marine area because the Tagbanua have their limitations, and we need the municipal government to give us assistance." A local NGO representative declared, "When the governor asked the Chairman about dynamite fishing in Delian Island, he was actually concerned that, you know, if the fishers are armed, the Tagbanua are not armed. So they need the help of the police in law enforcement."

These remarks evoke the issue of jurisdiction over the Tagbanua's resources, management, and monitoring. Even though Ostrom's (1990) fourth principle underscores the importance of the resource appropriators completing the monitoring activities themselves, it is important to indicate that other actors in the area actively monitor waters within the Tagbanua's CADC. To focus on monitoring, a community member indicated, "I have spoken to some of the Coast Guard, and some say they are ready to support the Tagbanua with the patrolling activity. While others say that the Tagbanuas have made their claim on their domain. Therefore, we should be the ones that do the patrolling." When discussing this issue, a Coast Guard member mentioned, "The Tagbanua are responsible for conserving their local resources, but the Tagbanua can come to the Coast Guard to get help because they have problems."

Yet, an Auxiliary Coast Guard found inherent troubles in the government Coast Guard when he stated, "The Coast Guard is off and on, and then they have very few patrols that can go." Yet, the Auxiliary Coast Guard does not seem to be the solution either, as an Auxiliary Coast Guard member claimed, "The main reason for the Auxiliary Coast Guard is that the Philippines has so big water area and so few full-time Coast Guard men. They don't have enough boats to cover the area. We are not deputized as Auxiliary Coast Guard. It means we are not really in enforcement. We are more in monitoring, so we cannot actually arrest." A government official confirmed this by stating, "The problems in Coron do not come from the residents here but from the migrants that use dynamite. We lack enforcement resources." Even a tour operator acknowledged, "Any member of the Calamian Association for Tourism Establishments (CATE) who comes across people using dynamite and cyanide is tasked with apprehending them. But most often, they can't do it because those people are armed. You cannot get near their boats."

A community member—also an elder—concluded, "Only the Tagbanuas would apprehend the cyanide fishers...The military is doing some patrolling but they are letting these illegal fishers go. And sometimes they receive payments from the illegal fishers. And then the Tagbanua are not coordinating with the military—they are not joining the patrol, not talking about joint patrols." Another community member alluded to

government corruption when he stated, “The municipal government lets go of people that they apprehend doing the illegal activities.”

6.5 *Graduated sanctions*

The Tagbanua’s sanctioning mechanisms are used in cases of ADMP violation. After Tagbanua apprehend illegal activities, they commonly use two traditional penalties to punish transgressions, *panglao* and *bordon*. Many interviewees described the ADMP as specifically assigning punishments—including both traditional forms and fines—corresponding to the associated offense. For example, if non-Tagbanua people are caught disturbing sacred places, they are subject to a fine of 5,000.00 pesos or *panglao* and *bordon*. However, these punishments do not increase with increasing violations per individual.

A CI Philippines field staff outlined the sanctions process, “The Tagbanua would have an assembly, they would leave it to the Chairman and to the Council of Elders. They have an investigation or a trial for the person caught.” As one community member confirmed, “The ones that we did apprehend were subjected to *panglao*. So the process is to bring those that were apprehended to the Council of Elders for trial. And they are seated until their punishment is decided, for illegal activities like using dynamite.” A Tagbanua community member reiterated, “[If we catch someone illegally fishing] we bring them here to the community and bring them to the elders who do the investigation and come up with the penalty. When the violators are illegally fishing, they go through the Council of Elders. And if those caught will not heed to the indigenous system, then we bring it to the Philippine judicial systems. But we haven’t brought any there yet.”

Another CI Philippines field staff member mentioned, “If it is a Tagbanua, they are subject to customary law. The Tagbanua have this punishment called the *panglao*, if you are found guilty of a certain crime the elders can subject you to the *panglao* where the person is tied up to a wooden plank and then set under the sun and could be confined there for a number of days. Or maybe you’d be flogged, which is *bordon*.” As indicated by a separate CI Philippines field staff individual, “The transcription of the IP law—*panglao* is for punishment in the public area...The person is put in this area for an amount of time, determined by the elders.”

Transgressors caught in the Tagbanua's ancestral domain who are non-Tagbanua are given a choice as to their punishment. A CI Philippines field staff explained:

They have previous cases involving migrants, well, if the migrants are willing to be subjected to customary law. So they are given a choice of either to be prosecuted in court using the traditional Philippine government system, or to be subjected to the customary law, which is very swift, very painful, but then you don't have to pay. It's not like the other one that takes a long time, and then you have fines. But this is more effective because it is more like putting shame to the person.

Even though Ostrom's theory stresses sanctions to be delivered by the resource appropriators themselves, it is important to note other actors in the area who can deliver sanctions against transgressors in the Tagbanua's CADC. If the Coast Guard apprehends illegal activities within the Tagbanua's ancestral domain, the violator is under the jurisdiction of the government. As maintained by one Coron Town Coast Guard associate, "The illegal fishers have to go through the court process once they are apprehended. It takes eight months before they are convicted. It's a long time. Each time, the punishment for the wrong-doer is up to the courts. It changes each time. It can be a fine or jail time. DENR and the Environmental Legal Assistance Center (ELAC) are involved. There is so much paperwork in the process of apprehension and prosecution. But we put it in the good faith of the government."

Several NGOs in the region recently conducted a study about the disincentives for illegal and destructive fishing. A local NGO staff person commented on the study:

We analyzed the whole gamut of enforcement, from detection to apprehension to filing to prosecution, etc., etc., until conviction. And when you compute it, ultimately you see that a violator of cyanide and dynamite fishing will continue to commit violations, because the disincentive is so small. Out of 414,070 pieces of detected cases, less than 1% were reported. And if you compute for 414,000 cases plus, there're only five convictions. And out of the five convicted cases, there's no prison time, because they applied for probations.

A staff member of CI Washington DC further drew attention to the study and its implications for the Tagbanua's sanctions:

It looked at two enforcement regimes. One was the traditional judicial system and one was the traditional Tagbanua system for enforcing laws within the Ancestral Domain area. The preliminary conclusion was that by far the most effective, the greatest incentives were created for compliance, created the largest disincentives for violating the laws were if you were likely to be subject to the penalty by the Tagbanua because it was swift and sure, even though it was not financial necessarily. And the disincentive created by the Philippine traditional justice system was almost zero. Even if you were caught, there was almost no chance you would be prosecuted and penalized. And so the likelihood if you were caught of being penalized was much higher with the Tagbanua system.

Thus, while the sanctions are present in the Tagbanua's CPR institution and may even provide disincentives for illegal activities as stated here, they do not increase in severity with an increase in illegal activity.

6.6 Conflict resolution

“Conflict resolutions are very common in the Calamianes,” stated a CI Philippines field staff member. This theme was emphasized by most interviewee categories. The Tagbanua's conflict resolution mechanisms are strong and inexpensive within their community by using the existing Council of Elders, the barangay captains, and the TFCI membership. But, these mechanisms are not always effective with external actors like the Local Government Unit (LGU), tour operators, and migrant fishers. With external actors, the conflict resolutions are often facilitated by local and international NGOs. In some cases, the Tagbanua's Chairman acts as a representative of the larger Tagbanua community when resolving conflict with external institutions.

“There's been improvement, even in the way local officials view the Tagbanua. They recognize them, they consult them with conflicts. This is a challenge for the Tagbanuas to be able to sustain...or really at first to build a foundation for engagement with the LGU on their own, without the NGOs,” claimed one local NGO representative. Despite this encouraging outlook, many interviewees asserted that the Tagbanua's relationship with the LGU is tenuous, at best. A source of tension has been with the Tagbanua's CADC and its inherent regulations and restrictions. As declared by a government official in Coron Town, “TFCI is not coordinating with the municipal government...TFCI creates their own bylaws without approval from the governing

authority of the municipality. It's not a good relationship." As one local NGO staff commented:

So, the members of the Coron Town's barangays have a conflict with the ancestral domain of the Tagbanuas because most of the officials in Coron Town have passed declarations to use resources within the ancestral domain of the Tagbanuas. They're opposing because it conflicts with their interests because they have different interests in the ancestral domain. For example, they are promoting commercial tourism in the ancestral domain and also they have already passed a declaration in the ancestral domain for that. And, most of the municipal officials are involved in illegal fishing activity. It's the financials, and also business interests.

A CI Philippines field staff member presented a similar view:

We had to manage the visit with the LGU. The LGU looks at it as a problem for implications in their taxation systems. The municipalities get their allocation, budget allocation from the national government on the basis of areas of territory and population, the population density. So, they felt that the Tagbanua's ancestral domain claim is a limitation in terms of their land areas, so that it will decrease their income base. So, they were very opposed to this idea of domain title. In fact, the municipality of Coron issued a resolution opposing the ancestral domain title of Coron Island.

When local NGOs would typically intervene to resolve conflict with external actors like the LGU, certain NGOs in the region avoided helping the Tagbanua to resolve conflicts by discounting local government collaboration. A local NGO representative commented specifically:

So PAFID has been helping the Tagbanuas in Coron for a long time, but for them, the priority is the IPs rather than linking up with the local officials. Some have actually expressed qualms about the way PAFID works in Coron, because for PAFID the most important thing is, 'we don't have to deal with you.' In reality, we all have to work with government to make a difference.

A different NGO representative confirmed, "PAFID has taken the Tagbanua away from the municipal government, instead of leading them closer to the municipal government and working hand in hand with the government." Another local NGO staff member said, "For me, it's a confidence building problem with the local government and the

Tagbanuas. That lack of confidence we believe, has something to do also with PAFID's influence in the Tagbanuas.”

Along similar lines, the tour operators and the Tagbanua have had previous conflicts that have not been resolved formally, and some of these conflicts have been related to the LGU as well. For example, a local NGO representative remarked, “The Tagbanua opened Kayangaan Lake because it's promoted by the local government. They had no choice. The tour operators are always taking visitors to the areas and putting trash in, so that's why it's good for the Tagbanua to try to protect and to manage that area...with their own traditional practices.” On this particular issue, a CI Philippines staff member noted, “There is a miscommunication between the local government and the business sector, or the tourism sector, and the local Tagbanua communities.”

The Tagbanua of Coron Island have not engaged in any conflict resolution activities with the migrant community living both on Delian Island and within the Tagbanua's ancestral domain. As one migrant fisher noted, “The Chairman came here to conduct a meeting a long time ago...the Chairman said something about they [Tagbanua] preferred for them [migrants] not to live here on Delian.” Another migrant fisher tersely stated, “We [migrants] might revolt, revolt against the Tagbanua if forced out by the Tagbanua.”

6.7 Rights to organize

After historical discrimination by the government, the Tagbanua's right to organize was incorporated into national legislation through the Indigenous People's Rights Act (IPRA) (1997). This legislation, among others recently passed nationally and provincially, merged previously unrecorded indigenous management institutions and formalized government structures. The legislation promoted a favorable legal environment that, as stated by many interviewees, provided significant leverage to the Tagbanua to obtain their ancestral domain.

While the Tagbanua were recognized and given the power to claim their ancestral land and sea in a national context, they were met with resistance in a local context. A local NGO representative said:

For a long time, indigenous peoples have always been considered just minorities, objects of charity, or objects of cultural presentation, or tourism. So, the full recognition of indigenous peoples as people is more in theory. In paper, there are local rights for that, but it's very difficult for local officials to accept that.

A municipal government official confirmed, "When the Tagbanua got the ancestral domain, the locals here in town were truly against it." As a reason for the current opposition, a municipal citizen noticed, "The Tagbanua are people put aside." According to a local NGO representative, "Some will forever have a stigma on the people's organizations. It has always been used by arch enemies, by those who do not want the IPs to be in control."

Another government official articulated, "It is also the problem of the municipal council. We are representing the municipal council. We are not against the IPs, but we should have been consulted before [the ancestral domain claim]. As the ECAN board, we are always saying that the NGO's who are assisting the IPs should have consulted us first so that their will be no problem. We will help the IP's and recognize them."

Despite these observations, most interviewees were optimistic about the reality of the Tagbanua's right to organize. "So the laws give them power," said one local NGO staff. A community member affirmed, "The CADC gives us the right of control. The Tagbanua community well-being and the pride is because of the CADC." An additional community member stated:

Before, we were encountering many who were against the Tagbanua claiming over the territory, but then when the IP law was passed, somehow some of the officials were enlightened with regards to the rights of the Tagbanua. So now some of those who were against them are now with them. It's not saying that it's not difficult anymore, but the difficulty has lessened.

Another community member was in agreement when he said, "Before, the government wasn't paying attention to us, we were belittled. And then because of the CADC, now the government is recognizing us, giving us a signature on the management plan, so now we can assert our own law and win." A Tagbanua community member who serves as an elder noted, "We are starting to pursue our obligations towards other areas, and therefore

outsiders or non-Tagbanuas are starting to recognize our life and somehow they are already afraid of doing illegal things because the Tagbanua are taking control.”

Several separate local NGO representatives commented, “So that’s the challenge now...the Tagbanua desire to have access and control over their territory. Tenure is very basic. Tenure and access to resources. And for the Tagbanua, the title does not only give them tenure, it’s really ownership. Ownership and control.” An additional individual observed, “Since the resources are their own, the Tagbanua have the right to sustain their initiatives to their own resources.” And yet another NGO staff said, “The growing assertiveness of the Tagbanua in Coron Island—they want to have their own plan for Coron Island, they want to manage tourists, no matter how difficult, actually is a strong indication to the local officials that they’re serious.”

Regarding the Tagbanua’s rights to organize, a separate local NGO representative succinctly declared, “The indigenous communities in Palawan have control, they are a political force to reckon with. Because if they are a political force to reckon with, the politicians will always have to deal with it.”

6.8 *Nested enterprises*

Ostrom’s (1990) nested enterprise requirements include those of appropriation, provision, monitoring, enforcement, conflict resolution, and governance. While certain structures and institutions in the Philippines aid the Tagbanua’s CPR institution, others more strongly hinder it, as attested by most interviewees.

As far as appropriation, provision, and governance activities, the nested enterprises that have bolstered the Tagbanua’s institutions include IPRA and Palawan’s Strategic Environmental Plan (SEP). A local NGO representative described the situation, “Before 1997 and the declaration of the passage of the Indigenous People’s Rights Act, there were no bills recognizing the rights of the indigenous people except the Philippine constitution. But now there are those that help.” A community member whose role is an elder remarked, “The instrument is the community ourselves asserting to the government agencies, it’s us who sought help with the DENR. Now, it’s the National Commission on Indigenous People that we deal with.” A separate NGO representative reiterated:

The indigenous people's right to access that, in the guidelines of the National Commission of Indigenous Peoples, also provides that they have to get an ancestral domain sustainable development management plan. That should be their Bible, their basis for resource extraction, so that they just cannot be at liberty to destroy their sacred ground. They're subject to that management plan.

In terms of nested enterprises in the Palawan province, a local NGO staff remarked:

ECAN, it's a zonation scheme where the whole of Palawan is divided into terrestrial, coastal, and ancestral lands. So, the good thing for the indigenous communities, their ancestral territories are recognized as part of the ECAN, and that's great. So it strengthens their ancestral domain claim, and it's a very good legal argument to assert their rights to an ancestral domain, because the law itself recognizes that ancestral domain as part of the ECAN, covers both land and sea in the SEP law...that's the first law of its kind that recognizes ancestral territory covering land and sea.

A local NGO representative further supported this when he stated:

Coron Island technically would be an ECAN zone. It is ECAN because it is an ancestral land, ancestral territory. So the government would recognize them and will not do anything that will harm the ancestral territory. And to enable, to achieve that, the ECAN should be the basis for the comprehensive plan and water use of the local government units.

Regarding formal relationships in nested enterprises, a local NGO staff recognized, "We were delivering the information on behalf of the government...so we, the NGOs, can directly extend the services for the government." A government official provided background to this issue, "Those who are from here have always looked down on the Tagbanua. It is like if I would teach you growing up that the Tagbanua are quote unquote uncivilized. It is only recently that we have recognized them. And it is because of these NGOs who are now getting non-Tagbanua people to look at the Tagbanua as citizens." As a Tagbanua community member and elder also noted, "The Tagbanua and the people in Coron Town aren't separated because they have the barangay government who coordinates with the military government for assistance, so at least they have relationships."

Despite these notions of nested enterprises around the Tagbanua's CPR institutions, most interviewees described the lack or the weakness of nested enterprises. A local NGO representative professed, "The DENR is not a trusted local agency right in Coron." As said by a government official, "The municipal government had so many resolutions, this was before 1998, which were not supporting the Tagbanua. Then when DENR came out with the approval of the CADC, it was difficult, the reason being that the municipal government was not truly informed about what was going on. They were taken by surprise one day. They just woke up to find that hey, we have a CADC." A local NGO representative described:

It's a conflicting paradigm because ancestral domain claims, as embodied by law, is a social justice perspective. Whether you, in whatever way you look at it, it's not just conservation. It's beyond conservation. It's giving justice to the indigenous communities. It's recognition of their human rights. And, unless government recognizes that perspective, there will always be a power play.

While yet another local NGO representative staff reiterated:

While the indigenous communities have control, at the same time, the politicians believe that these people are uncivilized, unlearned, uneducated, and can be manipulated. So they still exploit them, you know, they manipulate them...that's traditional politics. And that's the dominant paradigm. The politicians want investors. They want money from big business—mining companies, quarry operators, tourism business—so that they have revenue for their municipalities...That's the context for operating here.

A community member who serves as an elder commented, "In general, while we have asserted our rights over our domain, we still need help dealing with the emerging problems because the outside community in general looks down upon us. We have experienced discrimination." In light of these statements, a separate local NGO representative expressed:

The Palawan Council for Sustainable Development (PCSD) acts to facilitate discussions on the ECAN zoning law and the zone delineation. So, with the indigenous component of ECAN, it should ideally be the same as the ADMP and CADC. But in reality, the community is marginalized in the decision-making

process. NGOs like CI and ELAC try to help in these ways to bring the communities into the decision-making, but it doesn't always work.

A tourism operator put forth a somewhat alternative view, "The municipal government and the Tagbanua should communicate, but they don't see eye to eye. The Tagbanua, actually, they don't recognize the local government."

A Tagbanua community member summarized the lack of nested enterprises for their CPR institutions, "I'm not relying much on the local government in terms of having coordination for resource protection or resource management in general because it is common knowledge that the government doesn't have the capacity to support that. It is limited, for example, to basic facilities in the barangay like bridges, schools."

6.9 Additional requirements

Ostrom (1990) discussed perception of resource scarcity and dependence on the resource as critical factors in long-enduring CPR institutions. For the Tagbanua, the perception of their marine resources is one of endangerment, as most community members believed their well-being and livelihood to be threatened. A local NGO representative said, "Most of the leaders of Coron Island started asking for assistance because of rampant illegal fishing activities." A CI Philippines field staff remarked, "Anyway, between those two islands, every day dynamite blasting is happening. And right now, that place is completely bombed out. In between Coron Island and Delian, dynamite fishing was very rampant." Even a local tour operator commented, "Number one, fishing is about finished here. The migrants have cyanided all of the reefs." Another CI Philippines field staff noted, concerning the Tagbanua, "If there's no fish, they don't eat."

7. Discussion

Ostrom's (1990) common-pool resource (CPR) design principles (Table 2) provide the framework for flexible, responsive governance regimes that are generally perceived to be legitimate by the appropriators. As traditional societies have regulated marine resource use for centuries, comparing Ostrom's design principles to these

indigenous governance systems is an effective way to judge the robustness of the CPR institution in question. Here, the CPR institution of the Tagbanua of Coron Island in the Philippines was assessed. The discussion that follows further justifies why the Tagbanua's CPR institution is considered to be fragile.

7.1 Clearly defined boundaries and membership

According to Singh (1994), almost all CPR institutional problems can be traced to a deficiency in clearly defined membership of resource users. The Tagbanua's CPR institution, however, does not face this insufficiency. The Tagbanua have a strong sense of social cohesion, as the Tagbanua Foundation of Coron Island (TFCI) has clear membership guidelines and the community is small enough to distinguish all Tagbanua individuals. As is seen in the Tagbanua's case, local tenurial institutions can use social pressures to influence individual decisions and to encourage compliance with indigenous management systems (Alcorn, 1997b). More importantly, the underlying sense of community and kinship among fisherfolk like the Tagbanua often creates strong social bonds (Cordell, 1989). The Tagbanua's marine tenure partitions the marine resources with an agreement based on social cohesion. Social cohesion is an essential part of marine systems: boundaries are very vague at sea thus the social or community unit substitutes cooperation and agreements for boundaries (Connolly, 2001).

The sea does not have clear boundaries like those on land, thus marine resource boundaries are often difficult to discern. Yet, institutions with well-delineated and stable CPR boundaries are found to be more conducive to sustaining themselves than those that do not have such boundaries (Dolšak and Ostrom, 2003). The Tagbanua's CPR does not have such clearly demarcated boundaries. Thus, a need is present to visually mark or define the Tagbanua's Certificate of Ancestral Domain Claim's (CADC) boundaries to notify external actors.

Physical markers can imply clear and impartial resource boundaries. Those who are extracting resources from another's territory know they are doing it, and those who are invaded can prove readily that they have been invaded (McKean, 2000). As natural resource features may sometimes indicate resource boundaries, anthropogenic markers are commonly required to fortify or to complement these natural markers for governance

purposes (Mascia, 2000). Likewise, something as simple as communication can bolster external actors adhering to the CADC's boundary regulations. Ostrom et al. (1994) posits that communication is a mechanism for coordinating behavior among resource users. In this communication, the Tagbanua must educate other non-Tagbanua resource users about the boundaries of their CADC and the particular institutional rules found within.

7.2 Congruence between appropriation rules and local conditions

Corresponding to the characteristics of the local resources and the physical needs of the Tagbanua, the Tagbanua's CPR institution has been essential in sustaining the resources and the culture. Most recently, the CADC and its requisite Ancestral Domain Management Plan (ADMP) provided an opportunity for the Tagbanua to ensure congruence between rules and conditions within their ancestral domain claim. As a group, they submitted evidence both of their historical resource withdrawal and of their current selective and sustainable resource use.

At the same time, CPR institutional policies must not only consider the ecological state of the resource, but they must also characterize social, cultural, and political congruence. Ecologically speaking, if the CPR is significantly altered, the rules must be adaptable to correspond with local conditions. For instance, if the coral reefs within the CADC continue to be destroyed without reprieve until they are no longer productive, the current system of rules will no longer be effective. Socially speaking, for example, if the Tagbanua experience significant population growth in the future, the resource extraction rules must change accordingly to allow to additional resources to be withdrawn while still ensuring resource sustainability. Pressures on marine resources because of technological change (i.e., new resource extraction equipment) or economic change (i.e., new market opportunities) may also contribute to the fragility of CPR institutions, if these entities do not have adaptable mechanisms that assure congruence (Feeny et al., 1990).

7.3 Collective choice arrangements

Trust and reciprocity within and among resource users are critical for users to develop working relationships that enable them to participate in and to contribute to CPR management efforts (Bunce, 1997). Agrawal and Gibson (1999) have proposed that successful community-based natural resource management strategies—like CPR institutions—develop and implement reasonable processes of decision-making that account for different actors’ interests and that are legitimate, accountable, and inclusive.

As the Tagbanua are a small, territorially connected, and relatively homogenous community, they have found it more straightforward to collectively make decisions. The community may still find it complicated, however, to withstand external threats from other groups competing for resource access. Despite having strong collective choice arrangements, local communities like the Tagbanua do not often hold the political clout to ward off invasive actions by outsiders (Agrawal and Gibson, 1999).

For a CPR institution to be prepared for changing external threats, collective choice rules must be present, and these rules must allow for adaptation. According to McKean (2000), “Inflexible rules are brittle and thus fragile and can jeopardize an otherwise well-organized common-property regime.” The regulations that govern TFCI mandate collective decision-making mechanisms, especially when the decision affects the whole Tagbanua community. Here, fixed rules are likely to fail whereas adaptive management is likely to succeed (Dietz et al., 2003).

As discussed next, Ostrom’s (1990) fourth, fifth, and sixth principles are largely present to prevent free-riding and to ensure legal resource actors fair access and allocation to resources. In the Tagbanua’s CPR institution, all of these principles were considered to be weak. As the rules all deal with compliance in some way, Kuperan and Sutinen (1998) believe the following factors are critical in determining compliance levels: potential economic gains from illegal activity, risk of illegal activity detection, likelihood and severity of sanction, speed of prosecution, compatibility between regulations, compatibility between regulations and social practices, legitimacy of

regulations and the institution enforcing them, perception of morality and equity of regulations, and stakeholder involvement in the design and management process. The following points further explore these issues.

7.4 Monitoring

Ultimately, fishermen control to what extent a management system will work or not, almost no matter how much government spends on policing. It is their behavior that is regulated, and they are the ones who can cheat and break the rules. Hence, if fishermen cannot live with the regulatory decisions, it hardly matters whether other interests such as scientists or environmentalists find them satisfactory (Jentoft and McCay, 1995).

In a questionnaire presented to coastal managers in the Philippines, the most commonly cited socioeconomic problem was the inadequacy of law enforcement (Uychiaoco et al., 2000). The Philippines is a developing country plagued with government corruption that remains from colonialism and previous administrations. So, monitoring and enforcement of regulations are central challenges in the Philippines. The Tagbanua's CPR institution is not exempt from this widespread problem.

Obviously, rules only work when they are enforced. Ineffective enforcement of resource management regulations and institutions is a critical problem facing local and indigenous communities, like the Tagbanua. Economists studying enforcement have found that the frequency and intensity of illegal activities are proportional to the net profits to be earned from those illegal activities. When an enforcement regime does not effectively identify and punish transgressions, it does not create a strong enforcement disincentive for the illegal actors. In other words, when individuals believe that the likelihood of them getting caught or prosecuted for illegal fishing is low, they will continue to engage in those activities, ignoring boundaries and rules to make a profit (Conservation International, 2001). On the other hand, if the expected value of the enforcement disincentive is high enough to minimize net profits of illegal activity, the crime will not be committed

Whether enforcement mechanisms are either informal or formal, the enforcers must be seen as effective and legitimate by resource users. Otherwise, as illustrated by

the Calamianes enforcement economics study that several interviewees mentioned, opposition and evasion will overwhelm the CPR institution (Dietz et al., 2003).

In the Tagbanua's situation, the Tagbanua community does not have the capacity to monitor and to apprehend illegal activities, even though the interest is present within the community. Enforcement is and will always be a challenge pertaining to CPR sustainability. When higher authorities actively support the right of resource users to apply sanctions against violators, the challenge of enforcement is lessened (Ostrom, 1990). Snidal (1995) posits that even small-scale CPRs require more than strictly decentralized enforcement. Thus, there is a need for a multi-sectoral approach in marine-related law enforcement around Coron Island. The current monitoring and enforcement bodies in the waters around Coron Island include the Coast Guard, Auxiliary Coast Guard, Local Government Unit (LGU), Bureau of Fish and Aquatic Resources (BFAR), and the Tagbanua (Saguisag, 2000). However, these efforts are not currently coordinated and streamlined.

Even with this multi-sectoral tactic to monitoring and enforcement, the Tagbanua must still be in control of their CADC and its vast marine waters. To achieve this, they must remain involved and work to strengthen and to augment the multiple enforcement activities. The Tagbanua must seek opportunities to gain technical expertise in monitoring and apprehending transgressors that are potentially dangerous. Inherent in this, the Tagbanua must continue to pursue more advanced equipment, such as boats, gasoline, cameras, and radios, in order to complete effective monitoring activities.

7.5 *Graduated sanctions*

In accordance with their ADMP, the Tagbanua have traditional punishments—*panglao* and *bordon*—that correspond to specific ADMP violations. As several interviewees noted, the Tagbanua's traditional forms of punishment have the ability to provide disincentives for illegal activities, because their punishments are swift, certain, painful, and publicly humiliating. Whereas if individuals choose to be punished in the Philippine government system, they do not know what type of punishment they will receive (i.e., jail or fines) or the length of time they will wait to receive it (i.e., one month to five years).

With the Tagbanua's customary law, repeat offenders do not receive more severe sanctions than first time offenders, nor do perpetrators of major violations receive more severe sanctions than perpetrators of minor violations. Thus, while the sanctions are present in the Tagbanua's CPR institution and may even provide disincentives for illegal activities, they do not increase in severity with an increase in illegal activity.

Dietz et al. (2003) have found it to generally be most effective to impose modest sanctions on first offenders and then to gradually increase the severity of penalties for those who do not learn from their first or second offense. There is evidence that penalties need not be draconian in nature. Instead, graduated penalties are adequate (Ostrom, 1990; McKean, 2000). As the Tagbanua have adaptable and collective rule-making authorities, they can collectively change the penalty process for transgressions within the CADC so that graduated sanctions are instead in place.

Above all, reaction to an offense must be quick but cost-effective. It must discourage future violations. The response must not only stop, but also correct the underlying cause of the violation (Dermer, 2001).

7.6 Conflict resolution

The Tagbanua's CPR institution, while it was constructed several centuries ago, is now facing extensive user conflict. How the conflict over resources is managed and resolved by the constituents is a critical factor in the long-term success of the Tagbanua and their resources.

Sharp differences in power and values across constituents make conflict inherent in environmental choices (Dietz et al., 2003). This conflict depends on the perceptions of the protagonists (Adams et al., 2003). According to Cordell (1989), most marine tenure institutions were established in response to user conflicts, rather than to concern about resource sustainability. Almost all CPR institutional problems can be pinpointed to a lack of any institutional mechanisms for securing cooperation among CPR users and for coordinating their activities (Singh, 1994). Additionally, McKean (2000) states that "successful common-property regimes assume that there will often be small disagreements among users and provide regular opportunities for these disagreements to

be aired and rules clarified or adjusted if necessary.” According to Ostrom (1990), conflict resolution mechanisms must be inexpensive, rapid, and available.

In CPR institutions, the interests of resource users at multiple levels are often in conflict (Dolšak et al., 2003). Competition among resource users is a significant issue around Coron Island. The Local Government Unit (LGU) has a residual mindset of discrimination remaining from the colonial approach to indigenous people and conservation. The LGU wants to utilize Coron Island’s natural resources without incorporating the Tagbanua’s knowledge and participation. In addition, the LGU seems to believe the Tagbanua lack the capacity to manage their legally-held resources, and the LGU assumes it can instead fulfill that responsibility. Tourism development, requiring access to infrastructure like roads and sewers, competes with conservation. Tourism activities like snorkeling and diving have the potential to adversely affect livelihoods of local communities through habitat destruction. Migrant fishermen are living on the Tagbanua’s CADC and destructively fishing within the Tagbanua’s ancestral waters. Thus, conflict over the authority and responsibility of the marine resources between constituents is a disabling factor around Coron Island.

The Tagbanua’s conflict resolution mechanisms are rapid, inexpensive, and accessible within their community by using the existing Council of Elders, the barangay captains, and the TFCI membership. In conflict among Tagbanua community members, the authority of respected elders is taken into account in all conflicts. These internal mechanisms do not translate well with external actors such as the LGU, tour operators, and migrant fishers, where most of the conflict arises. The external conflict resolution is not often rapid, inexpensive, or easily accessible.

While it is noted that NGOs can and often do play a role in the anti-politics machine, the local and international NGOs on Coron Island should have a role in conflict resolution (Bryant, 2002a). NGOs can serve as mediators between the Tagbanua and external actors to ensure that the basic social and environmental policies are being followed and all actors’ interests are being incorporated. Despite the Tagbanua’s strong relationship with the local NGO, the Philippine Association for Intercultural Development (PAFID), tour operators and government officials claim that PAFID does not consult with them about important matters. While PAFID has been critical to the

Tagbanua's success in obtaining formal recognition and cultural rights, the current perception is that PAFID is a barrier to external collaboration with the Tagbanua. Thus, conflict resolution must be mindful of historical conflicts between certain NGOs and the LGU. External actors, like the LGU, must see the mediator as valid and trustworthy, thus certain local NGOs, such as PAFID, may not have a constructive role in mediating conflict resolution.

Individuals from both internal and external entities bring diverse perspectives, interests, and fundamental philosophies to problems of environmental governance. Their conflicts, if they do not escalate to the point of dysfunction, can inspire learning and change (Dietz et al., 2003). Thus, the Tagbanua must work to resolve internal and external conflicts while also using the experiences as vehicles to improve their CPR institution.

7.7 Rights to organize

Provided external government officials give at least some minimal recognition to the legitimacy of local CPR institutions, the institutions and their actors may be able to enforce the rules themselves (Ostrom, 1990). Through national, provincial, and local legislation, the Tagbanua have been granted the formal right to organize and to construct culturally appropriate rules. Yet, this right seems subject to the political climate. Policies toward indigenous people have often times suffered because of bureaucratic inefficiency and resentment by local people, like municipal citizens (Bettinger, 2003). It is not enough to only look at the official government statutes or at the Tagbanua's customary law in isolation. Changes in government laws alone do not necessarily change the situation at the local level (Schlager and Ostrom, 1992).

The struggle for indigenous people, such as the Tagbanua, to gain resource management recognition is often a struggle primarily for territorial and cultural identity affirmation (McCay, 2002). Most often, indigenous groups seek control over their resources to protect them from outsiders and to secure political power. However, the initial step of recognition and the emerging institutions may lead to management beyond exclusion of outsiders.

In the Tagbanua's case through the Indigenous People's Rights Act (IPRA), their CADC—the instrument that epitomizes the Tagbanua's right to organize—is to either supercede or to coincide with other provincial and national laws. Because of this room for interpretation, conflict arises with what entity has the final authority to govern the marine resources. To ensure conflict resolution and rights recognition, more respect should be accorded to systems like the Tagbanua's that manage to support conservation efforts as well and to develop some degree of self-regulation, in the context of shared rights and competition (McCay, 2002).

7.8 Nested Enterprises

To be robust, institutional arrangements must be complex, redundant, and nested in many layers (Ostrom, 1990). Institutions for managing very large systems, like marine resources, must be layered with considerable devolution of authority to small components to afford flexibility and control (McKean, 2000). In the end, simple strategies for governing CPRs that rely exclusively on single-level, centralized entities have been tried and have failed (Dietz et al., 2003). The presence of nested enterprises fosters social and environmental congruence, accountability, low transaction costs—all other factors consistent with long-enduring CPR institutions (Mascia, 2000).

As catastrophic failures have often resulted when central governments or entities have exerted sole authority over resources, the Tagbanua must work to establish sector partnerships. Currently around Coron Island, the existing institutional set-up is complex and confusing. More importantly, it is in obscure fragments consequently causing a major systemic hindrance to more effective management of the marine resources. Hence, there is a strong and urgent need for sectoral integration and coordination (La Vina, 1997).

Hierarchical social, economic, and political processes that originate far from local communities like the Tagbanua may also threaten the local culture and local environment. Underestimating these external forces may negatively affect the resource's viability (Michaelidou et al., 2002). Instituting nested enterprises can account for these external threats at multiple levels.

CPR institutions have been traditionally associated with the land, not the sea. As a result, the status of ownership of coastal resources is shifting, increasingly confusing, and politically volatile (Cordell, 1989). Thus, partnerships among different sectors are imperative for sustainability of the Tagbanua's CPR institution. The LGU, through decentralization, is closest to local people and local problems (Courtney et al., 2002). Thus, the LGU must support the Tagbanua's community initiatives.

Large scale governance may authorize local control, help it, hinder it, or override it (Dietz et al., 2003). Therefore, the national government must ensure that community efforts are championed through high quality national policies and actions (La Vina, 1997). Since local communities like the Tagbanua often have the greatest interest in the conservation and sustainable use of coastal resource, they should have incentives, resources, and capacity for marine conservation.

Governance involves interactions among structures, processes, and traditions that determine how authority and responsibility are exercised, how decisions are made, and how citizens have input (IUCN, 2003b). Constituents around Coron Island must recognize governance as part of a larger system and a continuing process through which conflicting or diverse interests may be accommodated and cooperative action may be taken (Karlsson, 1998). To illustrate a gap in governance, as recently as April 2003, the Philippine Department of the Environment and Natural Resources (DENR) suspended issuance of licenses, permits, and other development clearances within ancestral domains in order to intensify its commitments to protect indigenous rights (DENR, 2003). However, the Tagbanua individuals were not aware of such suspension because of a lack of sectoral integration and governance interactions.

McKean (2000) proposes that administrative support in the form of local and national governments may contribute to successful common-pool regimes, only if a large portion of government officials are approving of the attempt. This administrative support includes the legal recognition to strengthen the security and enforceability of CPR institutions. As the Tagbanua have the pertinent laws and regulatory entities in position—IPRA, National Commission on Indigenous People (NCIP), DENR, Fisheries Code, Strategic Environmental Plan (SEP) for Palawan, Environmentally Critical Areas Network (ECAN) zoning, Palawan Council for Sustainable Development (PCSD), and

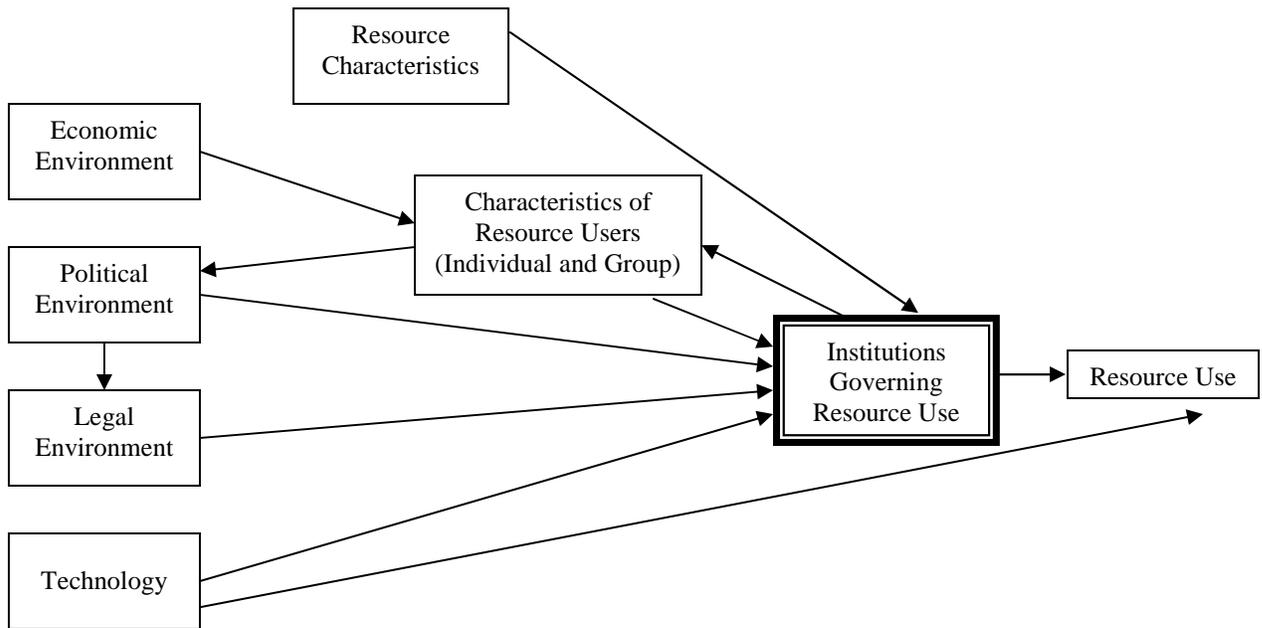
CADC, among others—coordination among and between these institutional levels is necessary.

7. Understanding Common-Pool Resource Use

The local situation—socioeconomic, use rights, livelihoods, and culture—must be understood and considered in CPR institution analysis (Uychiaoco et al., 2000). Resource use depends on multiple groups of factors (Figure 2). The external economic environment affects resource users' preferences. For example, if a certain species of fish is fetching a higher market price, cyanide fishers will target this particular fish. Political and legal environments affect the CPR governing institutions. Political individuals can hinder or enhance CPR institutions by politically disregarding or supporting these institutions, respectively. An illustration of this would be the Local Government Unit (LGU) governing Coron Island's barangays to not defend the Tagbanua's efforts to seek their CADC. Individuals working in the legal environment can assign legitimacy to CPR users thus authorizing them to devise and implement their own CPR institutions, much like the IPRA legally enabled the Tagbanua. Lastly, technology affects CPR institutions indirectly by providing means to monitor the resource (i.e., boats, gasoline, cameras, and radios) and directly by supplying methods to extract the resource (i.e., hook and line, cyanide, and dynamite) (Dolšak and Ostrom, 2003).

Additionally, resource characteristics, as Ostrom and Dolšak (2003) have indicated, affect governing institutions. Uniform and small-scale resources are easier to monitor and to prevent overuse. Coral reefs and many of their organism assemblages around Coron Island are stationary, thus making them easier to survey in theory. Characteristics of both group (i.e., cohesion, trust, homogeneity, and size) and individual (i.e., preferences) resource users affect the CPR institution's ability to govern. For instance, the Tagbanua are connected by multiple issues over a long period of time and can thus use the linkages to induce cooperation within their group.

Figure 2. Factors affecting common-pool resource use (Adapted from Dolšak and Ostrom, 2003).



7. Indigenous Management

New insights into conservation, human rights, and indigenous people’s role in maintaining both cultural and biological diversity call for more recognition of indigenous CPR institutions. Conservation efforts would be wise to embrace, rather than reject, people and communities dependent upon local natural resources for their present and future survival.

The participation of indigenous people and local communities is now established as a key element for conservation and management of natural resources. New models of governance—how decisions are made, who holds power, and how that power is shared—that embrace local decision-making not only present conservation benefits but also ensure social benefits inherent in community participation. These systems ideally occur within decentralized governance institutions, like those of the Philippines, where local communities are given the rights to identify and to solve their own problems. According to the IUCN (2003a), these governance models should incorporate respect for collective and human rights, traditional cultural practices, indigenous languages, traditional knowledge systems, and customary laws.

Indigenous management is the ultimate degree of local participation in conservation and represents full sovereignty, self-determination, and decision-making authority (Nietschmann, 1997). This type of management reflects indigenous people who consider their homelands to be protected areas and actually implement the protected area policy-making, planning, and management. In this management, tenure security emerges as a critical aspect of rights to resources—the particular rights people hold, the time horizon of those rights, and the confidence that those rights will be respected (Place et al., 1994).

7. Tagbanua Management

Many indigenous societies, including the Tagbanua, recognize sacred places and engage in traditional practices for the protection of geographical areas, nature, and ecosystems (IUCN, 2003b). In this, the Tagbanua have expressed a cultural choice and worldview of nature's sacredness and its inextricable link with culture. Sacred places are revered by the indigenous Tagbanua and are a fundamental part of their territories, bringing significant benefits to local, national, and global communities. However, the social, cultural, and political norms in which the Tagbanua developed their indigenous traditions and management systems have recently been changing. According to Singh (1994), if a community of users is unable to control its CPRs under changing circumstances, destructive competition or conflict among the users is bound to follow, which eventually results in depletion or degradation of the resources. Specifically, the Tagbanua's way of life is under pressure with residual discrimination by the local government and its citizens, competition over fishing grounds with the migrants who use destructive fishing methods like cyanide and dynamite, and disrespect by the local tourism industry.

The Tagbanua's CPR management institution is fragile but contains the necessary foundation to become a robust institution. Several important design principles are present in the Tagbanua's CPR institution: clearly defined membership, congruence, collective choice arrangements, and rights to organize. The principles that were found to be weak—clearly defined boundaries, monitoring, graduated sanctions, conflict resolution, and nested enterprises—are not insurmountable to realize.

Ostrom et al. (1994) identified two pertinent settings that often produced failure in managing CPRs. The first scenario is where resource users have no anticipation of mutual trust and no process of developing trust through interaction or communication. The second situation is depicted as individuals wildly mistrust one another, and interaction and communication do not improve this mistrust. The Tagbanua's institution is unlike both of these situations. While the Tagbanua may distrust some of the constituents in the Calamianes— migrant fishermen, government officials, tourism operators, Coast Guard, Auxiliary Coast Guard—they have not thoroughly pursued the processes of open communication and interaction as solutions to the tension.

Ostrom's (1990) CPR model is predominately based on cases of single isolated resources and few relatively homogenous user groups. While the Tagbanua are a homogenous indigenous group with a parallel CPR institution, in reality, the coastal zone around Coron Island encompasses a multitude of user groups. The coastal environment often has a complex and large set of user groups, ranging from visiting recreationalists to resident fishermen, who impact resources such as mangroves and coral reefs in various degrees. These users have widely dissimilar characteristics and presumably different perceptions of the costs and benefits associated with resource use (Bunce, 1997). As a result, coastal environments by their nature do not always comply with two of the conditions associated with Ostrom's (1990) CPR institutions: small number of appropriators and high degree of homogeneity. Because of these dynamics, the Tagbanua's CPR institution is considered to be at risk.

8. Final Remarks

Places have a way of claiming people. When they claim very diverse kinds of people, then those people must eventually learn to live with each other; they must learn to inhabit the place together, which they can only do through the development of certain practices of inhabitation which both rely upon and nurture the old-fashion civic virtues of trust, honesty, justice, toleration, cooperation, hope, and remembrance (Kemmis, 1990).

Common-pool resource (CPR) institutions affect the resilience of the environment and places like Coron Island. As about 40% of the world's 6,000 to 8,000 indigenous peoples have homelands, territories, and nations that encompass coastal ocean and island

regions, the emergence of long-enduring CPR institutions around these resources must be further explored (Nietschmann, 1997). Collective action through CPR institutions often plays a large role in improving environmental conditions and abating externalities by bringing stakeholders together and thereby enabling them to appreciate the impacts felt by others, to negotiate solutions, and to foster a stronger sense of community responsibility (Meinzen-Dick et al., 2002). The ideas of community-based management and governance of the commons, combined with the recent successes of local groups, offer routes for constructive and sustainable outcomes for natural resources around the world (Pretty, 2003b).

In order to have people-centered conservation, we must work to build new institutions for conservation that are not only flexible and adaptable but are also accommodating to distinct stakeholder interests. These institutions, in their broadest sense, are both the formal and the informal rules governing human behavior (Brown, 2003). Institutional activities to promote conservation include formalizing and incorporating indigenous property rights, resource management regulations, and traditions of different constituents.

Based on this analysis, for the Tagbanua's CPR institution to become robust, improvements in their boundary clarity, monitoring and enforcement activities, sanction severity, conflict resolution, and nested partnerships and collaboration must transpire. According to one Coron tour operator, "The Tagbanua must walk before they run." With Ostrom's empirically founded conclusions in mind, it appears to be clear that sustainable institutional change is something that cannot be rapidly induced. Learning from their own experience, local resource users like the Tagbanua must revise the rules and processes initially accepted until the CPR institution is effective and efficient. Individuals involved, at any level, in the development of local CPR institutions should recognize the time it will take institutions to be calibrated and to fit seamlessly into the local situations. The paths to indigenous governance can be opened, but not without a struggle.

Appendix A. Philippines Country Map



projection: orthographic
scale: 200-miles

HCI Communities
Palawan Island Game Refuge
Philippines Hotspot, Philippines



projection: sinusoidal
Central Meridian: 122° East

data:
Conservation International
HC data library
Diner3E
ESRI ArcWorld
Digital Chart of the World

© 2002 Conservation International
Healthy Communities Initiative
cartography: Ernie Diller



- Philippines Hotspot Core Zone
- Philippines Hotspot Outer Boundary
- Palawan Island Game Refuge
- international boundary
- HCI community
- national capital
- other major city

Appendix B. Palawan Province Map



HCI Communities
 Palawan Island Game Refuge
 Philippines Hotspot, Philippines



projection: sinusoidal
 Central Meridian 122° East

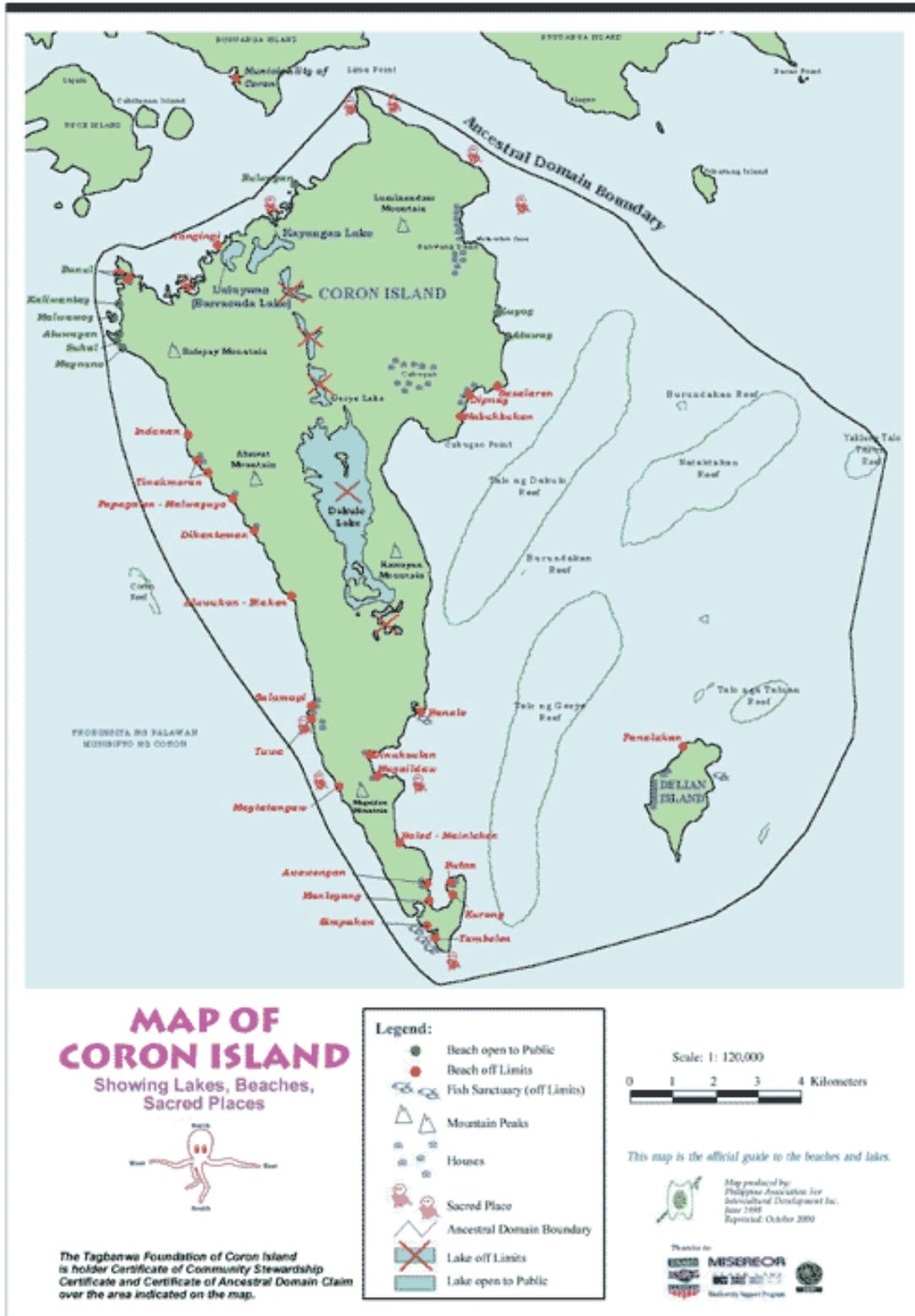
data:
 Conservation International
 HCI base library
 Grpac25
 ESRI ArcWorld
 Digital Chart of the World



© 2003 Conservation International
 Healthy Communities Initiative
 cartography: Evan Oaler

- Philippines Hotspot Outer Boundary
- Palawan Island Game Refuge
- other protected area
- HCI community
- major city

Appendix C. Coron Island Certificate of Ancestral Domain Map



Appendix D. Interview Guides

Community Member Interview Guide

Resource Management

1. What are some of the important resources that Tagbanua rely on (i.e., extractive resources)?
2. Have you seen changes in the amount of these resources? If so, what do you think the reasons for these changes are?
3. How would the Tagbanua protect the resources that they rely on? What kinds of things do you think would help in protecting these resources?
4. What is Tagbanua's capacity to manage the resources? What kinds of things (skills, equipment, etc.) do you think would help in protecting these resources?
5. In what ways is CADC important in resource management? Other laws?
6. What would be some illegal activities in the CADC?
7. If transgressors are caught, how are they punished?

Decision Making

1. How does the community make decisions? How are individuals involved in decision-making?
2. What is TFCI's role in terms of natural resource management? The elders? The barangay officials?

General Process

1. What kinds of interactions does the Tagbanua have with PAFID, ELAC, CI, CATE, PCSD, ECAN Boards, LGU, municipal citizens, migrant fishers? Others?

General Community

1. What do you do in a typical day?
2. What are the main sources of livelihood in the Tagbanua community?
3. What's the best thing about living in the community?
4. What do you hope for the future?

Migrant Fisher Interview Guide

General Community

1. Where are you from originally? How long have you been here? Why did you come?
2. What do you do in a typical day?
3. What are the main sources of livelihood in this community?
4. What's the best thing about living in the community?
5. What do you hope for the future?

Resource Management

1. What are some of the important resources that you rely on (i.e., extractive resources)?
2. Have you seen changes in the amount of these resources? If so, what do you think the reasons for these changes are?
3. Have you heard about the Tagbanua's CADC? Other laws? How?
4. If so, what would be some illegal activities in the CADC?
5. If transgressors are caught, how are they punished?

Decision Making

1. How does the community on Delian make decisions? How are individuals involved in decision-making?
2. Have you heard of TFCI's? How?
3. If so, what is TFCI's role in terms of natural resource management? The Tagbanua's elders? The barangay officials?

General Process

1. What kinds of interactions do you have, if any, with the Tagbanua? PAFID, ELAC, CI, CATE, PCSD, ECAN Boards, LGU, municipal citizens? Others?

Local and International NGO Representative Interview Guide

General

1. Can you provide some background on NGO's activities in the region in working with the Tagbanua?
2. Have the activities changed over time? How?
3. What types of challenges have you encountered?
4. Have you created alliances in the region (other NGOs, LGUs, tour operators, communities)? Who? How?

Resource Management

1. Who has the right to manage resources in the community?
2. What are some laws that regulate resource extraction and management?
3. Who has the authority and responsibility to do enforcement?
4. What are your impressions of the Coast Guard? The municipality's capacity to manage resources?

Perceptions of Tagbanua

1. What are your general impressions of the Tagbanua?
2. What kinds of interactions do people in Coron town have with the Tagbanua?
3. What is the nature of your relationship with the Tagbanua (contentious? neutral? beneficial)?
4. What is the main livelihood of the community?
5. Are migrants affecting the community? How?
6. Is tourism a factor in the community? How? Tourism operators?
7. How do you see decisions being made in the Tagbanua community?
8. Can you talk about securing the Tagbanua's CADC and its implications?
9. What are your perceptions of the Tagbanua's capacity to manage resources?

Government Official Interview Guide

General

1. Could you give me a sense of your role in the community?
2. How are people organized (locally, provincially)?
3. What are the governing institutions in the community?
4. How are decisions made?
5. How involved is the government with local and international NGOs?

Resource Management

1. Who has the right to manage resources in the community?
2. What are some laws that regulate resource extraction and management?
3. Who has the authority and responsibility to do enforcement?
4. What are people's impressions of the municipality's capacity to manage resources?

Perceptions of Tagbanua

1. What are your general impressions of the Tagbanua? The community's?
2. What kinds of interactions do people have with the Tagbanua?
3. What is the nature of the relationship (contentious? neutral? beneficial)?
4. Are you familiar with the Tagbanua's community projects? If so, which?
5. How do you see decisions being made in the Tagbanua community?
6. What are your views of ancestral domain claims?
7. How does the CADC affect you and the town?
8. What does the CADC mean for land and water use mgt?
9. What are your perceptions of the Tagbanua's capacity to manage resources?

Tour Operator Interview Guide

General

1. How are the tour operators organized (CATE)?
2. How are decisions made for the group?
3. How are you involved with local and international NGOs?
4. Are you involved with Kayangaan Lake? Other tourism activities? How?
5. How do you interact with the Philippine Department of Tourism?
6. Have you heard about the Northern Palawan Tourism Master Plan? How?
7. Are you at all linked with JBIC?

Perceptions of Tagbanua

1. What are the tour operator's general impressions of the Tagbanua?
2. What kinds of interactions do the tour operators have with the Tagbanua?
3. What is the nature of your relationship (contentious, neutral, beneficial)?
4. Have you heard about the Tagbanua's CADC?
5. How do you see the Tagbanua making decisions in their community?
6. What do you see as the Tagbanua's capacity to manage resources?

Perceptions Resource Management

1. Who has the right to manage resources in the area?
2. Who are the appropriate resource owners?
3. Who has the authority and responsibility to do enforcement?
4. What are your impressions of the Coast Guard? The municipality's capacity to manage resources?

Coast Guard and Auxiliary Coast Guard Interview Guide

Coast Guard/Auxiliary Coast Guard Specifics

1. What are your responsibilities as Coast Guard/Auxiliary Coast Guard?
2. Who gave you these responsibilities?
3. What are the laws regarding fishing practices?
4. How do you monitor/enforce laws?
5. What are the involved punishments when you apprehend violators?

Natural Resources

1. How would you describe the state of your natural resources (corals, mangroves, sea grasses)?
2. Do you perceive any threats to the natural resources? If so, what are they?

Operational Context

1. What are the fishing practices like in Coron Town? The Tagbanua community? The migrant community on Delian?
2. Has in-migration influenced you? How? The community? How? The natural resources? How?
3. How do you interact with the Tagbanua?
4. How does the Tagbanua's marine tenure affect the Coast Guard?

Appendix E. Research Questions from the Healthy Communities Initiative Analytical Framework

<i>Research Question</i>	<i>Question Code</i>
Site selection	
Were biological criteria considered in site selection? If so, how were they assessed?	1B1
Were natural resource or conservation policies considered? If so, how were they assessed?	1B2
Was national/regional context considered in order to guide site selection? If so, how was this assessed?	1D1
Were communities engaged during initial site selection	1P1
Were explicit alliances created and/or used for site selection? Yes, No, Which?	1R3
Initial Engagement	
Did the process consider community culture, traditions, and/or beliefs?	2P1
Did conservation and/or development policies influence initial engagement? Yes, No, Which? How?	2R2
Were explicit alliances create and/or used for initial engagement? Yes, No, Which?	2R3
Information Gathering	
Was the state of conservation, including community behavior, assessed using primary and/or secondary information? Yes, No, Which?	3B1
Was the community's conception of their natural surroundings assessed, using primary and/or secondary data? Yes, No, What? Was community knowledge and attitudes regarding conservation assessed, using primary and/or secondary data? Yes, No, What?	3B2
Were explicit alliances created and/or used for information gathering? Yes, No, Which?	3R2

Project Design

Were community members involved in project design? Yes, No? How? Who?	4P1
Were explicit alliances created and/or used for project design? Yes, No? Which?	4R5

Project Implementation

Were there challenges or new opportunities encountered during implementation?	5B2
Were community members involved in the project implementation?	5P1
Did project implementation consider community culture, traditions, and/or beliefs? Yes, No, Which?	5P2
Did conservation and/or development policies influence project implementation?	5R2
Were explicit alliances created and/or used for project implementation? Yes, No, Which? How? Why?	5R3

Exit/Scaling up

Did the project exit the communities? Yes, No? How? When? Which?	6P1
Were communities involved in exit/scale-up? Yes, No? Who? How? Which?	6P2
Were explicit alliances created and/or used for project exit/scaling-up? Yes, No? Which? How?	6R2

Impacts

Were stated development objectives or related benchmarks achieved? Yes, No, What?	8D1
Were communities' development needs addressed? Yes, No, What?	8D2
Can you demonstrate that the development objectives were met? Did site visits corroborate achievement of development objectives or related benchmarks? Yes, No, What?	8D3
Were stated conservation objectives or related benchmarks achieved? Yes, No, What?	8B1
Were communities' conservation needs addressed? Yes, No, What?	8B2

Can you demonstrate that the conservation objectives were met? Did site visits corroborate achievement of conservation objectives or related benchmarks? Yes, No, What?	8B3
As a result of the project, was there any advancement in the knowledge, attitudes, or behaviors related to the <i>links</i> between conservation and development? Yes, No, What? Do any behavior changes reflect an advancement in thinking about the <i>links</i> between conservation and development? Yes, No, Which?	8R1
Were there unintended impacts (positive or negative)? Yes, No, What?	8R2

Key Words

Participation
Capacity Building
Collaboration
Transparency
Image of Community
Image of Conservation/Development

Appendix F. Query Output Example

Query Number: PHI 8B1

Query String: SiteName:("Philippines") AND PhraseQuestionCodes:("8B1")

Question Codes Were stated conservation objectives or related benchmarks achieved? Yes, No? What?

Interview

Interviewee Category: Community

Phrase

Text: SN: WITH THE INLAND RESOURCES HE DOES NOT HAVE ANY PROBLEMS, BUT WITH THE MARINE ENVIRONMENT THEY DO HAVE BIG PROBLEMS BECAUSE MANY FISHERS ARE SHARING THE RESOURCES. <LB: Can you talk a little be more about the fishing issues with many fishers what kind of pressures that incurs? > SN: SO THEY HAVE PROBLEMS BASICALLY WITH BOATS THAT THEY WILL USE IN PATROLLING THE MARINE ENVIRONMENT BECAUSE IT IS SO LARGE AND THEY DON'T HAVE FAST BOATS TO APPREHEND ILLEGAL ACTIVITIES. AND THEY SEE THE RELIGIOUS NEEDS TO PUT A STOP TO THESE ILLEGAL ACTIVITIES. CG: I was wondering which illegal activities, if you are talking about dynamite, cyanide, commercial fishing that's not permitted, or if it's all of those. SN: SO IT'S GENERALLY THE METHODS WHICH TAKE A LOT OF FISHES.

Question Codes: 8B3 8B1 8B2 5B2

Keywords: IMAGE OF CONSERVATION & DEVELOPMENT

Interview

Interviewee Category: Migrant fisher

Phrase

Text: <MC: Another question, are there rules in the community concerning natural resources?> PC: HE SAYS THERE ARE, BUT SOME PEOPLE DON'T FOLLOW THEM, but it's not too widespread. PC: HE SAYS, THE CYANIDE LAWS. PC: HE SAID THEY CANNOT USE THE CYANIDE OR DYNAMITE. <PC: He said something about not cutting down trees in the forest>

Question Codes: 8B3 8B1

Keywords:

Interview

Interviewee Category: Community

Phrase

Text: <MC: OK. Has the cashew nut project, that you know of, been linked to enforcement activities for the Tagbanua? > PA: SHE THINKS THAT, SHE THINKS THAT NO INCOME HAS BEEN RE-CHANNELED INTO PROTECTION. PA: FOR PROTECTION ACTIVITIES.

Question Codes: 8B3 8D1 8D3 8B1

Keywords:

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