The Anomalous is Ubiquitous:
Organizations and Individuals
in Papua New Guinea's Conservation Efforts

by

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DEDICATION

This dissertation is dedicated to Jennifer Dinaburg, who had interesting and insightful ideas on many of the themes of this dissertation. She pushed me to think more critically, to tackle larger questions, and to have fun along the way. Cancer interrupted Jenn's plans but did not stop her from continuing to pursue her PhD.

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LIST OF ABBREVIATIONS

AWF	African Wildlife Foundation
CTI	Coral Triangle Initiative
FAD	Fish Aggregating Device
ICO	International Conservation Organization
LLG	Local Level Government
LMMA	Locally Managed Marine Areas
MPA	Marine Protected Area
M&E	Monitoring and Evaluation
NGO	Non Government Organization
PNG	Papua New Guinea
PRA	Participatory Rural Appraisal
WCO	World Conservation Organization
WMA	Wildlife Management Area

PREFACE

This dissertation examines the inner workings of large conservation organizations implementing marine conservation projects in Papua New Guinea (PNG). My motivation for examining conservation interactions at multiple scales was to better understand how environmental professionals and local communities shape marine conservation processes. My dissertation is the result of sustained engagement with conservation staff in a range of locations and venues, including in the field and at project implementation sites. My aim was to examine how conservation operates at multiple scales, from the international and national level, where policy and project design most frequently takes place, to the provincial and field level, where project implementation occurs. My approach draws on multi-sited ethnography in ways that are institutionally and regionally rooted; it privileges articulations of managerial contexts, subjectivities, and practices within marine conservation efforts in PNG.

My interest in pursuing this study stems from my own experiences within the conservation world. My professional background with both an international and a national conservation NGO taught me different ways in which organizational structures and individual managers influence project decision-making. I observed the ways in which managers felt pressure to align their specific projects with broader organizational objectives and how this process produced both benefits and challenges, improving some project outcomes while extracting other costs. Similarly, I saw the ways in which our dependence on external funding influenced us to report project outcomes in a way that would emphasize success and ensure continued financial support for our projects. At the same time, this donor relationship positively shaped our program strategy; donor officials engaged our program staff in thought provoking discussions about program findings that eventually led us to develop a new program objective. In summary, my professional experiences convinced me that complex micro-level pressures and regulatory structures influence conservation processes.

Scholarship on conservation describes many of these challenges that I experienced in my professional life. However, critics often highlight NGO's failures to achieve objectives or reverse

biodiversity loss without careful attention to the reasons behind such difficulties. Popular critiques of large conservation organizations (Dowie 2005; Dowie 2008; MacDonald 2008) fail to show the individuals who make up these organizations and oversimplify the organizations as monolithic entities. While MacDonald (2008) does examine individuals in her account of the growing closeness between environmental organizations and corporations, her journalistic style criticizes individuals' private lives and unrelated personal details without objectively analyzing the role of these individuals in the governance and management of the organizations. In my conversations with environmental managers, their commitment to conservation, to the communities in the areas in which they worked, and to a job that often stretched long past a typical 9 to 5 workday was immediately apparent. It is easy to call attention to conservation failure, but much more difficult to identify factors that explain such failure within a broader context. My dissertation more objectively considers the individual characteristics and interests of conservation professionals, alongside conservation successes and failures.

Similarly, growing attention has been paid to the role of donor institutions in shaping conservation organizations. This attention to donor-NGO relationships emphasizes the reliance of NGOs on donor funding without moving beyond this critique to analyze the effects of such relationships (Wapner 1995; Wapner 2002a; Wapner 2002b; Dorsey 2005; but see Kilby 2006). I take it as a fact that NGOs are dependent on external financial support and that this dependence influences NGO accountability to donors (Benson 2012). To move beyond that primary understanding of NGO-donor relationships is to analyze what actually happens as a result of NGO-donor relationships and show the ways in which donors may shape internal NGO structures and program strategies. My conversations with environmental managers and donors highlighted not only the typical influence of donors on conservation priorities but also the ways in which donors may seek to facilitate innovative change and encourage reflection in their interactions with NGO managers. Still, despite donors stated interest in encouraging critical reflection, I found that managers at national NGO offices rarely encourage such reflection by their staff. Instead, they were more likely to internalize donor pressure and pressure their staff to produce project reports that emphasize success.

Further, while excellent critiques of conservation and development exist, these criticisms rarely provide practical recommendations for individuals with the motivation and power to

address such critiques in their own organizations.[1] In fact, many scholars explicitly state that their work "does not make a judgment about success, does not aim to explain outcomes in terms of design, to prescribe solutions to problems or to conclude with recommendations" (Mosse 2005: x). While I appreciate the value of such critical scholarship, as an academic with practitioner experience, I also recognize the importance of closing gaps between conservation advocates and critics by presenting a more nuanced analysis and making recommendations aimed at improving the practices of environmental institutions and the relationships among conservation actors. Li (2007) believes that "the positions of critic and programmer are properly distinct" (2007: 2) and that such a marriage is not possible. In contrast, my purpose in this dissertation is to retain critical reflection while still allowing for what Mosse (2005) terms "managerial optimism." At times, this work entails chronicling managerial efforts to reformulate programmatic priorities, in relation to needs and practices of partner communities in target conservation areas. Further, within those partner or target communities, I showcase voices of skepticism, alongside expressions of commitment to conservation; in the case of the latter, I explore the tensions between discourse and practice in rural communities, as these in turn shape the attitudes and aims of conservation professionals.

Finally, I wish to emphasize the desire of environmental managers to improve both the work of their organizations and their own work. Reviewers who read my project proposals were skeptical that I would have access to individuals within conservation organizations. In contrast, my experience was overwhelmingly positive. Only a few individuals questioned my intentions or were unwilling to participate in an interview. On the whole, I was well received by individuals within conservation organizations and government departments, with many participants sharing their experiences long past our allotted time and asking for follow up appointments to continue our discussions. I found environmental managers eager to see the results of my work and truly interested in better understanding how communities viewed conservation organizations or to hear how their colleagues and peers perceived their projects and activities. I believe this interest stems, at least in part, from the limited time environmental managers have for critical reflection in their daily work, despite an expressed desire for such thinking. Managers described themselves as frequently caught up in the never-ending work of managing projects and staff, with little planned time for evaluation or reflection beyond the confines of donor or institutional

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[1] But see Ferguson's (1990) epilogue "What is to be done?"

reporting requirements. Many said that our discussions were an opportunity to think about some of their actions, activities, and strategies in a way in which they were usually unable to do. One jokingly referred to our discussions as conservation therapy and asked if he could have regular sessions. These conversations convinced me of the need to bridge critical reflection with practical recommendations, as a necessary step in moving towards more effective conservation.

Balancing the academic rigors of a PhD with my desire to make this research meaningful to those with the ability to facilitate change has not been an easy task. I strove to illustrate the tension between senior managers and junior staff and between headquarter and field offices while trying not to overstate the differences among these levels or exaggerate the power of individuals or offices. I worried about offending well-meaning individuals who were kind enough to share their concerns or failures. I agonized over whether individual anecdotes would be recognizable to colleagues and how to ensure anonymity in my writing, ultimately deciding never to identify any of the conservation organizations or foundations. My intention is not to name or embarrass individuals but rather to use examples to illustrate some of the challenges faced by these organizations as individuals seek to minimize gaps between conservation intentions and achievements. While my effort will likely still concern some readers and fail to satisfy others, my intentions are to examine how conservation can work better and to illustrate newer, more nuanced methods for collecting information about and conceptualizing conservation organizations. I portray them as they are incessantly shaped, through internally varied and contradictory processes, by the donor communities and target or partner communities whose priorities must be ceaselessly reconciled with the biological and ecological outcomes that would, in a simpler world, be straightforward indicators of success or failure.

CHAPTER ONE: INTRODUCTION

Conservation organizations have become larger, better funded, and more organized over time. However, at the same time that these organizations have increased their capacities and their resources, global biodiversity continues to decline. This mismatch between larger, more professional organizations and declining biodiversity suggests a gap between increased capacity and conservation outcomes. Some scholars place emphasis on variations between intentions and outcomes, illustrating how such gaps emerge in conservation policies, programs and projects (Carrier and West 2009). Despite scholarship that explores such gaps and mismatches, scholars have not fully addressed how and why such tensions continuously emerge and persist in conservation, a lacuna I seek to address by examining organizations implementing marine conservation projects in PNG. This dissertation explores the inner workings of conservation at multiple scales to examine how organizations, conservation professionals and local community actors shape conservation processes and outcomes.

The conservation organizations that implement marine conservation projects in PNG are broadly representative of conservation organizations in general. The large, international conservation NGOs examined in this dissertation have annual budgets of hundreds of millions of dollars, employ thousands of people globally, and implement conservation projects around the world. Their organization structure is also representative of large, international NGOs: each organization analyzed in this dissertation has an international headquarter office that interacts with national and field offices, including the PNG national and field offices described in this dissertation. Further, these NGOs receive funding from foundations, governments, businesses, and private individuals.

My dissertation argues that conservation effects vary from the intentions of managers and project staff, resulting in conservation projects and outcomes that continuously differ from imagined and intended effects. I consider this variation from multiple levels, from decision-making and project design at international, national, and field offices to projects implemented in local communities. Investigating how marine conservation projects unfold across multiple

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locations allows me to elucidate tensions between face-to-face and more remote interactions in conservation processes.

Explaining the role of organizations and individuals in marine conservation is important for three primary reasons. First, it is important to investigate the relatively recent creation and expansion of marine protected areas (MPAs) and the fact that MPAs remain the primary global mechanism for conserving marine biodiversity despite concerns about their negative social impacts (West et al 2006; Christie et al 2003) and mixed ecological outcomes (Kareiva 2006). There is an urgent need for work that recognizes such limitations or contradictions in MPA management but that can document and understand successful governance arrangements, using them to design effective policy and extend such models into other regions. Second, as non-state actors increasingly implement conservation agendas in developing countries (Sanderson 2002; Agrawal & Lemos 2007), attention to relationships among environmental actors can shed light on the strategies and outcomes of environmental governance. Sutherland et al (2009) suggest understanding how organizational characteristics (for instance, the structures of governments vs. those of NGOs) shape the effectiveness of conservation interventions is one of the most urgent questions in biodiversity conservation.

Third, a body of literature on Foucauldian governmentality presents a picture of powerful institutions that control power/knowledge to achieve their own aims. However, as noted above, conservation organizations have become increasingly professional, yet biodiversity continues to decline, suggesting a gap between organizational capacities and resources and conservation outcomes. This gap contrasts with Foucauldian visions of organizations as maintaining control and suggests the limitations of totalizing narratives or polarizing views of organizations and individuals. This dissertation takes an intermediary view, positioning the analysis between scholarship that characterizes these organizations as powerful entities that control outcomes and scholarship that critiques the effectiveness and work of such conservation organizations. It recognizes that the differences between visions of what such organizations claim to do and their actual practices are not unique tales of a particularly difficult project or an exceptional situation of a project with unintended effects. Rather, such gaps and inconsistencies have become "the normal state of affairs" and merit attention (Carrier and West 2009: ix). Therefore, this dissertation more closely examines conservation organizations, and the individuals within them, to explore the emergence of gaps between plans and outcomes (Ferguson 1994), between policy

and practice (Mosse 2005; Lewis and Mosse 2006), and between intentions and achievements (Carrier and West 2009).

One pioneering study in this regard is Sivaramakrishnan's descriptions of "zones of anomaly" in the forests of Bengal. Sivaramakrishnan (1996) shows how the forests of Bengal and its tribal population challenged central principles of British state-making and represent an exception to the colonial project of rule. He defines zones of anomaly as "geographic spaces in the terrain targeted by the Permanent Settlement where its application was thwarted" (1996: 245); zones of anomaly represent places where the intentions of the British government did not work as expected and the population did not conform as anticipated.

More importantly, Sivaramakrishnan (1996) shows how considering variations and limitations of colonial state power and relationships among colonial powers, regional elites, and the jungle mahals illuminates a broader picture in which these zones of anomaly not only existed but persisted. Sivaramakrishnan's insights highlight an important but understudied issue in the study of conservation and development: what are the conditions that allow for the emergence of locations that do not operate in expected ways and the potential for such anomalies to persist? Accordingly, my analysis considers the emergence and persistence of anomalies in marine conservation efforts throughout Papua New Guinea, illuminating locations in which the intentions of a large conservation organization did not play out as expected during project implementation and showing how conservation professionals and local communities did not always behave as expected. By showing the disjunctures between intentions and achievements at multiple levels and locations, my dissertation illustrates how the anomalous is ubiquitous.

This dissertation engages social science literature concerned with environment and institutions. More specifically, my research lies at the interstices of post-structural political ecology and Foucauldian writings on government and subject. My dissertation considers how Foucault's notions of power (1991; 1988; 1979; 1977) produce environmental subjects (see Chapter Five in particular). A body of scholarship on governmentality—the "conduct of conduct" (Gordon 1991: 2; Foucault 1991)— examines how states maintain coherence and order (Scott 1998) and investigates the ways governments attempt to produce subjects best suited to the aims of government (see Rose 1990; Ferguson 1990; Dean 2009; Bryant 2002). Examinations of the effects of power explain why interventions persist despite continued failure (Ferguson 1990), show how communities may resist and subvert such power (Scott 1987; Scott

1992), and illustrate how communities position themselves to "practice politics" (Li 2007). Others illustrate how practices and technologies of management enable actors to create and implement particular institutional strategies (Mackinnon 2000).

More recently, scholars have begun paying attention to governmentality in relation to nature and the creation of environmental subjects. Scholars explore how environmental organizations produce particular truths about nature (Bryant 2009; Hajer & Fischer 1999; Luke 1999). Darier (1996) describes how Canada's Green Plan was designed to change attitudes and produce a population of environmental citizens. Agrawal (2005) uses "environmentality" to investigate how power/knowledge, institutions, and subjectivities are constituted and shaped by each other within the context of Indian forest management. I consider power/knowledge, institutions, and subjectivities at multiple scales—from field offices to international headquarters, and from individuals to institutions, to illustrate how Foucauldian notions of power shape environmental professionals and communities as particular types of subjects, constraining or enabling actions. While power relations are uneven, I assume power operates both positively and negatively, recognizing that both the ruler and the ruled exercise power and have power exercised upon them.

I draw on common property's emphasis on institutions to position my research on environmental institutions. Common property studies are particularly relevant in PNG, where 97% of land is communally owned and customary tenure frequently extends to the sea. Empirical common property analysis documents biophysical, institutional, and socio-cultural factors that influence ecological outcomes (McCay and Acheson 1987; Berkes 1989; Ostrom 1990; Agrawal 2001). Melanesia's long-standing customary sea tenure arrangements (Johannes 1978; Johannes 2002) make PNG an appropriate location to investigate institutional factors that contribute to environmental outcomes. Anthropologists and others in Melanesia and the Pacific have long explored land (e.g., Brookfield and Brown 1963; Rappaport 1967; Crocombe 1971; Hirsch and Strathern 2004) and marine tenure (e.g., Carrier 1987; Aswani 1999; McClanahan et al 2006).

Oceania "has the world's largest surviving and thriving concentration of sea tenure regimes" (Aswani 2005: 287), making it an important location in studying the factors that lead to successful common property outcomes. In the Pacific and Melanesia, land rights correspond and extend to lagoons, mangrove swamps, reefs, shorelines, and oceans (Couper 1973; Schug 1995; Aswani 1999; Aswani 2002; Dalzell and Schug 2002; Lieber and Rynkiewich 2007). Marine

boundaries were often extensions of landholdings but could be influenced by physical features such as reef passages and holes or path reefs (Schug 1995; Dalzell and Schug 2002). The majority of Pacific Island societies had some form of traditional marine tenure, although the specifics of ownership varied among different societies and islands (Adams 1998). Studies from Oceania have "overwhelming shown that these [marine] institutions are diverse and dynamic and that they have emerged from the coalescenece of traditional and foreign practices" (Aswani 2005: 289).

Indigenous marine tenure is legally recognized in PNG, Fiji, Palau, Samoa, the Solomon Islands, and Vanuatu (Aswani 2005). In PNG, the Constitution and Fisheries Acts recognizes customary marine tenure rights (Cinner 2005; MacIntyre and Foale 2007). The PNG Fisheries Management Act states, "the rights of the customary owners of fisheries resources and fishing rights shall be fully recognized and respected in all transactions affecting the resource or the area in which the right operates" (cited in MacIntyre and Foale 2007:55).

Despite PNG's long-standing customary tenure, empirical evidence on the cultural, environmental, historical, and institutional factors that led to the durability of these customary sea tenure regimes in PNG is limited and Pacific scholars have long debated the existence of a conservation ethic among the populations that they studied (e.g., Carrier 1987; Eley 1988; Foale & Manele 2004; Wagner and Talakai 2004; MacIntyre & Foale 2007). Other scholars (e.g., Malinowski 1922; Hviding 1983; Polunin 1984) describe the use of customary marine tenure in preventing outsiders from exploiting resources. Eaton (1997), Cinner et al (2005a; 2005b), McClanahan et al (2006) suggest systems not designed for conservation can result in conservation outcomes. Other Pacific scholars provide case studies of marine conservation based on either customary sea tenure (Fa'asili & Kelekolio 1999; Malm 2001; Thomas 2001; Aswani 2005) or a revitalization of historical sea tenure (Johannes 2002).

Johannes attributes government or legal recognition of marine tenure, strengthening of traditional, local level authorities, growing perceptions of resource scarcity, increased conservation awareness, and increased support from governments and outside organizations as factors that contributed to the revitalization of customary sea tenure. Johannes concludes that community-based marine resource management "may be more widespread in Oceania today than in any other tropical region in the world" and documents increases in marine tenure for the Cook Islands, Fiji, Hawaii, Kiribati, Palau, Samoa, the Solomon Islands, Tonga, Tuvalu, and Vanuatu

(2002: 318). While it is impossible to characterize marine tenure among all diverse societies within the Pacific, some common characteristics identified include local ownership of marine resources and locally regulated restrictions on fish seasons, reef areas, specific species or sizes of species, and types of fishing gear (Cinner et al 2005). Aswani (2002; 2005) identifies the following factors that have lead to the diverse and resilient nature of common property marine tenure in Oceania: exclusivity or excludability, subtractablity, transferability, durability, property rights, and security of title. Chapter Five provides empirical analysis that contributes to the common property literature while also advancing theory on institutional factors which contribute to environmental outcomes.

Second, my dissertation builds upon insights from post-structural political ecology that explore the complex social relationships of conservation and development. I draw on Melanesian political ecology's fine-grained analysis of human-environment relationships to situate the ways in which Papua New Guinean understandings of nature and culture influence local community interests in engaging with NGO actors. Melanesian scholarship demonstrates that social relationships are the core component of human-environment relationships and suggests mis-interpretations can occur when extra-community actors ignore the economic, historical, political, and social contexts of their interventions. For instance, Jacka (2001) illustrates how differences in conceptions of land, commodity, and exchange can result in misunderstandings. Jacka explains how mine owners viewed land transfer as a completed, commodity transaction for which they had paid. In contrast, the Ipili viewed the transaction as a gift exchange; they "were not just selling their land, but buying an expected future of development and modernity that the township development company was to bring" (Jacka 2001: 4). Jorgensen (1997) also documents the complexity of land ownership in PNG, documenting how a long history of displacement, expansion, and warfare resulted in multiple and competing land claims among the Teleomofin, creating a situation in which it is impossible to give a single, clear answer as to who is a landowner.

Similarly, West (2008) shows how failure to integrate local social histories into conservation management can hinder the implementation of otherwise well-intentioned conservation interventions. She emphasizes how conservation organizations simplify property and social relations, failing to recognize important economic, historical, political, and social dimensions in which the relationships between people and place are tied to "questions of

identity, group affiliation, changes in the landscape, changes in external sites of power, commodification of resources, and "development" in general" (West 217). In the past, West argues, social relations over land and other things maintained the social fabric of family and kin groups as well as the social relations among clans (2008: 211). Now, however, conservation organizations seek to identify one valid claim. West writes that "conservation purports to rely on some historic social relations, yet its policies and practices disregard other historical social relations," contributing to a paradox between individual and clan ownership (2008: 218). Following this Melanesian scholarship, my dissertation recognizes the central importance of social relationships in human-environment relationships and uses these insights to explore how local community actors engage with conservation NGOs. Further, while this scholarship advances critical thinking on conservation and development and on institutions, it primarily focuses on extractive industries or terrestrial conservation. By illustrating the role of individual conservation professionals in marine conservation efforts in Melanesia, my dissertation represents the first multi-scaled analysis in the Pacific on marine conservation organizations, conservation professionals, and local communities.

I also draw on post-structural political ecology scholarship that presents a view of powerful international institutions that create and maintain particular knowledge forms in order to justify particular interventions and create idealized, governable subjects. Such scholars also view development as desirable. For example, both Ferguson (1990) and Mitchell (2002) show how large institutions, such as the World Bank and the United States Agency for International Development, justified interventions in Lesotho and Egypt by depoliticizing issues and representing solutions as technical. Similarly, Li (2007) uses the term "rendering technical" to show how experts are trained to frame problems as explicitly non-political in a way that confirms the expertise and position of "trustees" who can then implement technical solutions. These studies significantly contribute to showing the ways in which institutions and elites produce knowledge.

At the same time, a few scholars have begun to question the true discursive power of such institutions (Mosse 2005) and to critique this literature's failure to explore agency within and between institutions at multiple scales. Rhee (2006) found that the Center for International Forestry Research (CIFOR), an international forest institution that is assumed by post-structuralists to be representative of powerful institutions, "has less local influence" and a "more

fragile, negotiated, and constrained" position than the literature would suggest (Rhee 2006: 46-47). My research builds upon this emerging scholarship by examining "agencies and ideologies of differently positioned actors" (West 2006: 26) within and between environmental institutions.

While many social scientists discuss the NGO sector, systematic examinations of how "local and international organizations interact...and what ideas are implemented within this network" are limited at best (Brockington and Schofield 2010) and few studies empirically examine "the internal debates and politics of the organizations behind international conservation" (King 2009). Sundberg suggests that research that analyzes the "subject identities, discourses, and practices of NGOs" is also necessary (Sundberg 2006: 241). Corson highlights how the rise of "big conservation" is accompanied by a "move within conservation away from engaging local actors" (2010: 510). Sachedina (2010) supports this finding, concluding that the scaling up of the African Wildlife Foundation resulted in organizational practices that contributed to disempowerment and poverty. This body of work represents a much needed step in examining NGO practices: my research broadens and deepens this narrative by examining the internal practices, politics, and knowledges of NGOs that constitute everyday rule and shape how individuals think and act.

Further, Heyman (2009) highlights these organizations as a social phenomenon that deserve attention and writes that while powerful managers and organizations "often, maybe always…fail in their overt mission" they still produce important effects (2009: 177). Heyman proposes studying environmental NGOs and the multiple layers of actors, micromanagement, power/knowledge frameworks, and social relationships. He suggests that such a study will require understanding "the effort by central offices to micromanage field employees and target populations," an attempt that requires understanding how action and power operate at a distance through "a chain of organized actors and activities, from head offices through central field offices to specific field sites" (2009: 178). My dissertation addresses this lacuna by examining how "governance at a distance" management strategies produce project outcomes that differ from the types of marine conservation projects envisioned by managers and staff at headquarter and national offices (see Chapter Three in particular).

Methodology

This dissertation draws upon data personally conducted in PNG and at international headquarter offices of NGOs. I conducted semi-structured interviews with NGO and government

officials, donor organizations, the dive, surf and tourism industry, academics and other stakeholders (n=120). I interviewed people from all bureaucratic levels, from organization directors to program staff, an approach that documents the multiple levels through which projects are shaped and influenced. I observed many NGO activities, from internal NGO staff meetings to NGO activities in communities, which allowed me to observe NGO decision-making processes and interactions among staff and between NGO staff and the communities in which they work. I also reviewed public NGO documents, such as press releases and website material, and internal documents, including strategic plans and workplans, and external project evaluations. I conducted interviews with conservation professionals in English, all of whom are fluent in English.

I conducted household surveys in Riwo village, Madang province; Pere village, Manus province; and Nonovaul village, New Ireland (n=436). My survey included 164 questions grouped among 24 categories, including: household demographic data; attitudes towards the environment and marine conservation; fishing; the marine management area, including its creation, rules and enforcement; decision-making and community participation; interactions with government and NGO officials; and sources of information. In each village, I hired and trained local research assistants to help carry out the surveys. The household surveys were written in Tok Pisin, with the English translation written below. The surveys were primarily conducted in Tok Pisin or a preferred local language. For instance, in Pere village, my research assistants often conducted interviews using Titan to ensure a high level of understanding, although Tok Pisin and English were also used occasionally.

Analytical framework

Despite extensive scholarship documenting gaps between plans and outcomes, policy and practice, and intentions and achievements, understanding how and why such tensions continuously emerge eludes both scholars and practitioners. I argue that none of these explanations fully accounts for the multiple assumptions and conceptual lenses necessary to address how and why conservation intentions and achievements differ.

My analytical framework draws inspiration from Graham Allison's pioneering work on the origins and explanations of the Cuban missile crisis. Allison (1969) argues that scholars explain the Cuban missile crisis using their own lens, resulting in accounts that fail to address the major questions explaining the crisis. He points to "the influence of unrecognized assumptions

upon our thinking about events…[how events] must be affected by basic assumptions we make, categories we use, our angle of vision." (1969: v). In contrast to singular explanations, Allison utilizes, compares, and contrasts three conceptual lenses, illustrating "what each magnifies, highlights, and reveals as well as what each blurs or neglects" (1969: v). This approach illustrates how alternative frames of references can emphasize different aspects of events and how comparing and contrasting perspectives allows a deeper analysis that uncovers greater insight.

Following Allison (1969), I use multiple levels of explanation to structure my dissertation argument, recognizing that a focus on one level or one explanation facilitates an analysis of conservation that allows assumptions to drive conclusions. For instance, an organizational level explanation for why conservation managers envision a particular project that results in unintended effects during project implementation fails to appropriately account for the role of individual conservation professionals and local communities. Similarly, an individual-focused explanation may not adequately account for organizational, political, or structural constraints. Therefore, my dissertation proposes a set of linked explanations to show what each level of explanation reveals and blurs while also comparing and contrasting these explanations to illustrate how understanding multiple levels can lead to more complete understandings.

The dissertation contains five chapters, each of which explores gaps between intentions and achievements in marine conservation efforts. Following this introduction, Chapter Two broadly explores how organizations shape individuals within conservation. It analyzes how organizational processes shape the actions and behaviors of conservation professionals through an examination of monitoring and evaluation (M&E) processes across multiple levels of an international conservation organization. This chapter illustrates how international managers' intentions to implement M&E throughout the organization are not achieved because national managers and staff place different values on the importance of M&E. Chapter Three considers the emergence of gaps between intentions and outcomes by examining the effects of a "governance-at-a-distance" management style. Chapter Four tracks the decision-making processes of staff at international, national, and field offices who define and implement marine conservation projects to explore how their actions shape discursive practices, thereby shaping knowledge forms. Chapter Four illustrates contrasting staff preferences, suggests ontological differences in how individual conservation actors conceptualize objectives versus tools and

conservation versus development, and proposes three reasons why managers may produce ignorance and control knowledge. It highlights how disjunctures continuously emerge through marine conservation efforts and suggests that such disjunctures represent both failures and possibilities. Chapter Five focuses on individual community actors within conservation. It explores how individuals come to care about conservation and how their attitudes and beliefs translate into particular actions and behavior that support environmental protection. It shows the emergence of positive environmental attitudes among Pere villagers in Manus Province while also highlighting villagers' ongoing challenges in enforcing management area rules. Despite the community's stated intentions to effectively manage their marine area, this chapter shows how gaps may still emerge between what individuals hope to and intend to achieve and what they actually achieve. Finally, Chapter Six offers some overall conclusions that integrate the findings of each chapter and proposes additional theoretical approaches for future research analyzing marine conservation efforts in PNG and elsewhere.

CHAPTER TWO: Constructing conservation impact: Understanding monitoring and evaluation in conservation NGOs

INTRODUCTION

> It concerns me at a personal level that here we are trying to save species that are dying out and are critically endangered, places that are being destroyed gradually...We have to be as well organized as some of the best armies out there…we have to be really, really coordinated...We have a lot of key, star soldiers…who can storm the fortress walls, get behind the fence lines and send fire…and create these wins…And all the soldiers…they do not know where the general is telling them to go or what battalion to support or when their supplies will be replenished…We have to be even more organized, I think, than the governments and private companies, given what we are trying to do, and, at the same time, balance it with a representative or democratic structure…[but] there was just this complete lack of coordination…the kind you really need between the different contributing offices and projects and programs when it came to the program strategy. So it is just sort of a whole lot of people throwing in their pennies over a wall and thinking it will all add up, and what was really achieved as a whole is completely unknown.
>
> --Conservation manager, World Conservation Organization

It is surprising to hear that employees of a large conservation organization hope that small, individual project activities, "throwing many pennies over a wall," will contribute to the conservation interventions that are necessary to solve increasingly complex environmental concerns (e.g., saving critically endangered species and conserving threatened habitats). This manager's statement illustrates complex challenges faced by the World Conservation Organization[2] (WCO) while also noting organizational failure to strategically address such challenges. When describing the "star soldiers," she recognizes the ability and expertise of WCO staff. At the same time, she notes poor coordination among different offices, projects, and programs and emphasizes the lack of high-level, strategic leadership to provide organizational direction. Finally, this manager underscores WCO's failure to clearly define how individual staff efforts and program activities will contribute to addressing conservation challenges. This chapter explores how WCO's failure to clearly define, measure, and reflect upon outcomes, through

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[2] The name of this organization and of all individuals are pseudonyms. To further protect individual identities, some genders were changed.

institutionalized monitoring and evaluation (M&E), led to the situation, described above, in which WCO could not illustrate how, or even if, its activities contributed to its broader mission.

M&E represents a unique opportunity to examine how individual actors within an organization work together to achieve common objectives and produce larger impacts because it theoretically involves coordination, cooperation, and management across multiple levels of an organization. This chapter examines how WCO, a large, international conservation organization, coordinates M&E activities across its international, national, and local offices. I consider the perspectives of staff based at WCO's international headquarter office and at their Papua New Guinea (PNG) offices to show how organizational processes and common routines work through individuals, shaping their attitudes and behavior and instituting norms and practices. This empirical analysis illustrates how individual attitudes and behavior towards implementing M&E vary among different WCO offices and shows difficulties in translating broad organizational goals into specific project activities, underscoring tensions in implementation. This analysis also illuminates how WCO and its staff construct effectiveness and impact, contributing to critical reflection on practices of evaluation and measurement within the field of conservation.

This chapter is organized into five sections, including the introduction. The theoretical framework synthesizes insights from scholarship on political ecology, organizational theory, and audit cultures and M&E. Section three describes the research methodology. The results section analyses organizational culture at international and national levels. Section five presents the discussion and conclusion.

THEORETICAL FRAMEWORK

My theoretical framework combines three fields of scholarship to examine how individuals coordinate and implement M&E across WCO's international, national, and local offices. I use insights from post-structural political ecology and critical studies of conservation to shed light on the governmentality of organizations and projects. I use organizational scholarship to investigate how organizational processes shape individual action and behavior, particularly on institutional logics. Finally, my theoretical framework incorporates scholarship on accountancy, indicators, and trends in conservation evaluation to situate my analysis of M&E within scholarship that recognizes the potential consequences of such evaluation on governance and power.

Post-structural political ecology is useful for understanding how certain forms of power and knowledge produce particular discourses, and, in turn, how these discourses shape possible attitudes and behavior. In many cases, post-structural political ecology portrays institutions as producing forms of knowledge that position individuals as experts. This expertise depends on simplifications and abstractions that depoliticize knowledge, allow concepts to be represented as universal, and simplify the world (Mitchell 2002). Such a construction of knowledge, Mitchell argues, is necessary to position individuals as possessing expertise about a particular concept that these experts then use to propose managerial and technical solutions to justify interventions and to incorporate individuals into relations of dominance (Foucault 1979). While many scholars describe organizations as framing a particular worldview as desirable or as shaping knowledge about biodiversity (e.g., Escobar 1998; Goldman 2005), attention to the organizations themselves appears merely incidental, a side component used to illustrate how conservation and development function. As a result, this scholarship elides an understanding of how organizations shape power, knowledge and individuals, a lacuna I address by illustrating how WCO staff produce project knowledge.

As Cooper and Packard note "we tend to treat [NGOs] in generic terms, not exploring their varied ideologies, [or] organizational forms" (2007: 27). These types of assumptions blur the role of individual agency within organizations, overlooking how individuals influence organizational culture and decision-making. Moreover, some studies over-emphasize local agency (e.g., Scott 1992; Li 2007) or fail to consider "agency within the institution and between the institutions and other social actors" (Rhee 2006: 46). Consequently, there is a need to empirically examine organizational intentions, practices, and outcomes (Sundberg 2006; Heyman 2009; King 2009).

Recent contributions to what Mosse (2004) terms the "new ethnography of development" represent a promising avenue in considering the role of individual actors within institutions (see Mosse 2005; Rhee 2006). As West explains, "this new ethnography takes seriously the governmentality of projects—the fact that social lives, environments, and subjects come to make and be made by the productive power of structures created by projects...and the social interactions and transactions during all sorts of projects…which create new communities" (West 2006: xviii). van Ufford (1988: 79) exemplifies such ethnographic scholarship: he analyzes "the

boards and NGOs as a whole, but also…the power balances between the directors, evaluators, and operating staff within the NGOs."

A rapidly expanding literature examines large conservation NGOs (e.g., Walley 2004; West 2006). Popular articles have also investigated conservation NGOs (e.g., Chapin 2004; Dowie 2005; 2008; Macdonald 2008). Studies focus on how individuals and organizations produce particular knowledge forms that influence conservation policy (e.g., Brockington and Scholfield 2010) and show the role of transnational networks of well-connected elites (Holmes 2012) and conservation celebrities (Brockington and Scholfield 2009) in producing dominant attitudes and practices. Other studies highlight the negative consequences of "big conservation" on local actors and NGO missions (e.g., Neumann 2002; Corson 2010). Sachedina (2010), for instance, concludes the scaling up of the African Wildlife Foundation, and its focus on government and donor relationships, resulted in organizational practices that contributed to local disempowerment and poverty. These studies and others (e.g., Brosius and Campbell 2010) show how ethnographic methods can uncover the organizational practices through which conservation occurs.

To examine how WCO coordinates M&E across its multiple offices, I draw upon organizational scholarship to explain dimensions of organizational behavior. Organizations represent central structures in society (Mills 1959) with the power to guide, enable, and constrain action (DiMaggio and Powell 1983; Meyer and Rowan 1997); therefore, understanding their influences, operations, and structures can shed light on individual behavior. Organizations embody "social structures created by individuals to support the collaborative pursuit of specified goals" though definitions vary depending on disciplinary orientation and research motivation (Scott and Davis 2006: 11). Still, organizations generally have a common goal, established structures, and common routines for achieving their objectives. Organizations also create potential for accomplishing missions or tasks that would be impossible by individuals alone. For instance, conservation organizations facilitate the monitoring of fish spawning aggregation sites throughout PNG rather than the smaller number of sites that one individual could monitor.

Organizations tend to follow rules or logics of "appropriateness" where organizational action and decision-making follows previous experience with similar situations (March and Olsen 1984; Alison and Zelikow 1999). Organizations typically have standard operating procedures that require individuals to act in particular ways in specific situations. Standard

procedures allow for quick, efficient decision-making so that any individual can perform individual tasks on any given day without consulting a chain of hierarchy; a marine scientist tagging whales according to an approved scientific protocol or a social scientist carrying out a participatory rural assessment, using an organizational handbook, exemplify such standard procedures. Further, organizations tend to reward staff who follow routinized and standardized practices, creating disincentives for other practices and limiting creativity and innovation, which can lead to broader organizational failure to adapt and change (Alison and Zelikow 1999).

A large body of scholarship, particularly in organizational theory and sociology, investigates the influence of organizational culture [3] —the shared patterns of beliefs, expectations, and values—on individuals. Schein (1990) defines organizational culture "as (a) a pattern of basic assumptions, (b) invented, discovered, or developed by a given group, (c) as it learns to cope with its problems of external adaptation and internal integration, (d) that has worked well enough to be considered valid and, therefore (e) is to be taught to new members as the (f) correct way to perceive, think, and feel in relation to those problems" (1990: 111). Schein (2011) emphasizes culture results in consensus and similar outlooks among individual employees. For instance, individuals may dress in a particular way, communicate concerns in a specific way, or raise new ideas following accepted patterns for sharing opinions. Similarly, O'Reilly and Chatman (1996) describe culture as a "social control system based on shared norms and values" that can influence focus, shape interventions, and guide attitudes and behavior (1996: 164). To these scholars, culture depends not only on rules and procedures but also on personal relationships and organizational hierarchies, representing a form of control based on scrutiny. In short, organizational culture constrains and shapes the action, behavior, and thought of individuals within an organization, defines the norms of acceptable behavior, influences organizational priorities, and shapes organizational interpretations of internal and external events.

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[3] Initial scholarship on organizational culture stemmed from an interest in explaining the relationship between culture and efficiency, using culture to explain why some corporations, such as Japanese firms, outperformed their competitors. This perspective emphasizes "culture [as] instrumentally developed so that employees internalize and accomplish specific company objectives" (Godwyn and Gittell 2011: 304). Similarly, Kreps (1990) stresses corporate culture must be consistently and simply communicated for employees to learn and follow it. Organizational theorists now recognize culture as one factor influencing organizational efficiency and performance. In contrast, neo-institutional theory (DiMaggio and Powell 1983) identifies legitimacy as important for organizational success (Thornton and Ocasio 2008).

Sociologists refer to such norms as institutional "logics," a set of organizing principles that provide actors in an organization with a sense of identity and vocabulary while still allowing for individual agency for individuals and organizations to elaborate upon, interpret, and manipulate these logics (e.g., Alford and Friedland 1985; Friedland and Alford 1991). Through logics, institutions shape behavior (Thornton and Ocasio 2008) and constrain individual and organizational action (Meyer and Rowan 1977; DiMaggio and Powell 1983; Friedland and Alford 1991). Thornton and Ocasio (2008) explain "institutional logics provide a link between individual agency and cognition and socially constructed institutional practices and rule structures" and stress institutional context "regularizes behavior and provides opportunities for agency and change" (2008: 101-2). Actors internal and external to an organization may shape organizational action, particularly in terms of status and legitimacy (see Suchman 1995). I use the concept of institutional logics to examine the potential for individuals to shape organizational norms and practices and for organizations to influence individual attitudes and behavior.

Despite recognized benefits of M&E, including accountability and improvement, some scholars have problematized the idea of an "audit culture" (Strathern 2000), suggesting that these seemingly "good practices" of evaluation and measurement are not neutral. Instead, Strathern (2000) and others argue these practices have social consequences for governance and power. Power (1994) explains such audits facilitate Foucauldian 'conduct of conduct,' writing that "governments…have discovered that if they make explicit the practices whereby people check themselves, they can ostensibly withdraw to the position of simply checking the resultant indicators of performance" (cited in Strathern 2000: 4). This perspective suggests how audits shift responsibility to the performer, who complies with coercive pressure to "self-check." Correspondingly, Shore and Wright assert that an "audit is essentially a relationship of power between the scrutinizer and the observed" (1999: 558). Further, the ways in which organizations themselves are accountable, such as to donors or boards of directors, can also influence individual behavior.

Scholarship examining the role of donor funding in shaping NGOs attributes the construction and maintenance of project success to donor pressure. For example, many scholars recognize the accountability of NGOs to their donors (Tendler 1982; Derman 1995; Wapner 1995; Wapner 2002a; Wapner 2002b; Ebrahim 2003; Dorsey 2005; Kilby 2006). This scholarship has raised concerns about NGO accountability to local populations and unease about

the potential influence of donors in shaping NGO agendas and activities (see Benson 2012). Scholars identify mismatched timeframes between short-term donor projects and the comparably longer time necessary to achieve conservation objectives as additional challenges.

More recently, scholars have drawn attention to quantitative indicators, rather than qualitative narratives, in evaluating performance. They question the type of knowledge such indicators, and the program that rely upon and evaluate them, produce (Merry 2011; Høyland et al 2011). Such indicators, as "technologies of global governance," shape actions and decision-making and have the potential to influence the distribution and exercise of power, producing knowledge and governance effects. Merry (2011) argues such effects transform civil society organizations by demanding quantification of their accomplishments. Though such accountability is valuable, its social processes and effects are still uncertain. In examining M&E processes, I consider M&E as potentially valuable for improving conservation practice while simultaneously investigating its potential for producing particular subjectivities and representations of reality and recognizing M&E has social consequences for governance and power.

Such a study is particularly relevant in the field of conservation, which adopted project evaluation methods in the 1990s, relatively late in comparison to sectors such as education, poverty reduction or public health (Ferraro and Pattanayak 2006; Stem et al 2005). As one review article notes, "most conservation practitioners rely largely on anecdotal evidence, fashion, and gut feelings to select which strategies and tools to use" (Salafsky et al 2002: 1477). There are a few reasons why the field of conservation lags behind in evaluation. First, conservation evaluation involves natural and social aspects, requiring more complex forms of evaluation than single disciplinary evaluations. In addition, conservation evaluation is tricky because "the units acted on are often not the units conservation projects want to ultimately influence…conservation projects are often designed to influence individuals, governments, or societies but their impact is measured in terms of species and ecosystem health" (Margoluis et al 2009: 92). Conservation organizations also struggle to define indicators; they tend to focus on biodiversity condition as the conservation target and to measure success as the change in species numbers in a particular area. Such indicators may fail to account for external threats, such as consumer demand for fish or changing government policies. Further, such biodiversity-focused indicators may not be appropriate, cost-effective, or even feasible (Salafsky et al 2002). In addition, conservation

evaluation often fails to consider counterfactual outcomes to evaluate what types of interventions work and when (Ferraro and Pattanayak 2006). Finally, the size of conservation organizations represents a challenge. The capacity of organizations to systematically learn about the consequences of their actions generally decreases as the organization increases in size (van Ufford 1988) because of the number of individuals involved in such processes. Correspondingly, large conservation organizations with multiple offices may face greater challenges in implementing M&E.

Despite these challenges, conservation organizations have begun to recognize the importance of M&E for two key reasons: accountability and improvement (Margoluis et al 2009). Accountability-focused evaluation serves to ensure that organizations account financially for their activities and implement promised activities and usually stems from a formal process required by donors. Improvement-focused evaluation aims to improve implementation and organizational, management, or project effectiveness. This improvement-focused evaluation is the focus of this chapter. I define M&E as the process through which organizations evaluate their practices and outcomes according to their mission and objectives.

METHODS

This chapter relies on data from interviews personally conducted at WCO's international headquarter office—"WCO Global"—in January 2010 and in PNG between January and December 2010 (n=13). I conducted semi-structured interviews at large, international NGOs (n=18) and smaller, national or local NGOs based in PNG (n=10). I also conducted interviews with donor organizations funding marine conservation projects in PNG (n=5). This chapter draws primarily on 36 interviews with staff from large, international NGOs and donor organizations.

I interviewed people from all bureaucratic levels, from organization directors to program staff, an approach that documents the multiple levels through which projects are shaped and influenced. Similar to the ways in which Corson (2010) and Sachedina (2010) conducted ethnographic research at both central organization offices and village levels to examine the inner workings of conservation, I conducted research at international, national and local offices to analyze if and how the attitudes and behavior of WCO employees to M&E varied. I observed many WCO activities, from internal WCO staff meetings to WCO activities in communities, which allowed me to observe WCO decision-making processes and interactions among staff and

between WCO staff and the communities in which they work. I also reviewed public WCO documents, such as press releases and website material, and internal documents, including strategic plans and workplans, and external project evaluations.

WCO is a large, international conservation NGO. It has an annual budget of hundreds of millions of dollars, employs thousands of people globally, and implements conservation projects around the world. Similarly, WCO's organization structure is representative of large, international NGOs: it has an international headquarter office that interacts with national and field offices, including the WCO PNG national office and field offices described in this chapter. Like many international conservation NGOs, WCO Global receives funding from foundations, governments, businesses, and private donations. WCO PNG receives financial support from WCO Global for country specific activities and for regional initiatives and also raises its own project funding. To maintain anonymity, I use pseudonyms for the organization and its staff.

Figure One shows the multiple scales of WCO. WCO Global interacts with regional and national offices around the world, including the Asia-Pacific office and the Papua New Guinea national office and the Madang and Manus field offices shown on the left. WCO Global also has strategic program areas, such as its M&E unit, a marketing unit, and a conservation unit, that interact with regional, national and field offices around the world. Some of these strategic program areas have their own focus areas as well; for instance, the conservation unit includes work on forests, freshwaters, and other programs, as shown below.

Figure One. WCO Organogram.
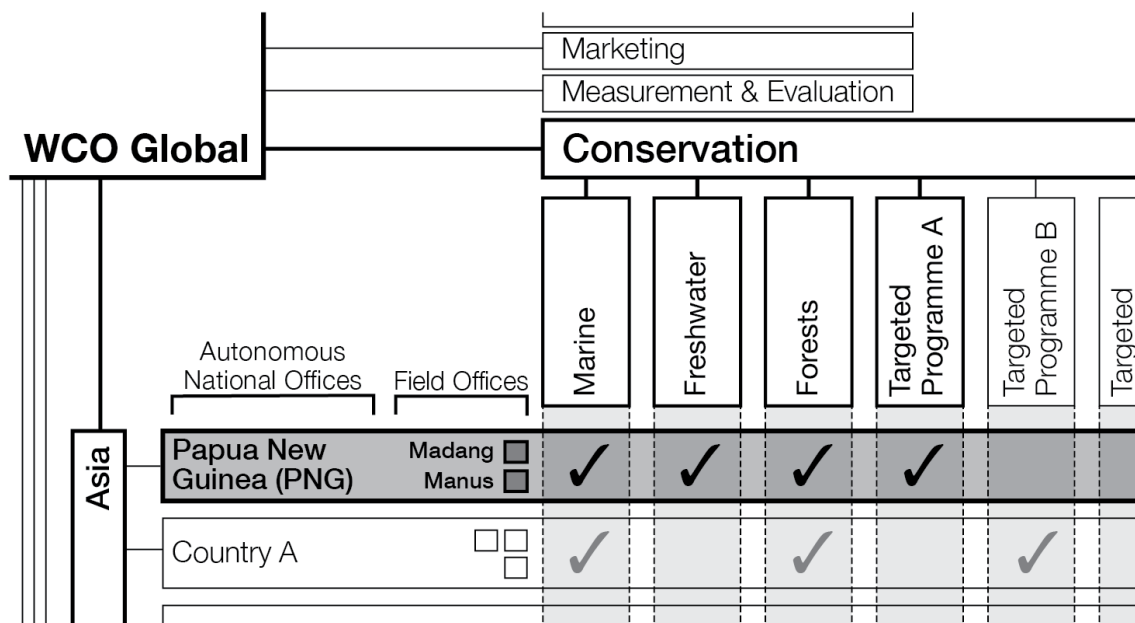
RESULTS

I present the results by first describing how individuals at multiple offices contribute to M&E processes. I next elucidate the assumptions that individuals at international and national offices make about M&E strategies and project design. I then describe efforts by staff at the international office to develop an M&E framework. Next, I identify two factors at the national level that resulted in failure to integrate M&E as an organizational process. Finally, I describe how these factors created an environment that discouraged critical reflection and emphasized maintaining an image of organizational and project success.

At WCO Global, individuals define the ways in which organizational M&E processes should operate, sometimes in cooperation with regional offices. National offices have staff responsible for coordinating M&E among national projects and reporting to regional and international staff. Project and field staff are responsible for integrating M&E into their workplans, implementing activities that advance WCO goals, and reporting upon achievements. In theory, each individual within this M&E process helps to ensure that field level activities contribute to WCO's mission and objectives.

WCO's approach to M&E shares a basic assumption of organizational scholarship, that collections of individuals will follow regular, defined procedures and routines to achieve a

common objective. WCO Global senior employees assume that individual staff incorporate M&E into project design and generally advance WCO's overall goals by aligning their activities with organizational aims. During interviews, WCO Global staff described these assumptions.

Tanya Russo, WCO's Conservation Monitoring Manager, explained that WCO's system allows offices "to say what enabled them to perform well and what hindered them from performing well…to show the relationship between good program design and achievement at the other end; so if [we aren't] following best practices in how we design, does that translate into poor performance…" Liam Sullivan, WCO's Monitoring and Evaluation Manager, agreed, stating that WCO's guidelines "ask people to consider [intended goals and impacts] right up front."

Some WCO Global managers incorporated M&E at the beginning of projects. Sian Weeks, a WCO Global project manager, described how her project defined evaluation indicators from the start. The project developed a monitoring framework through a process where offices involved in the project worked with the WCO Global team to identify goals and priorities. Another WCO Global project manager described a project that began by "developing a strategy, looking at the key outcomes we want," therefore defining its potential impact before carrying out project activities. Both projects exemplify the types of participatory, *ex ante* processes for incorporating M&E into project design that WCO Global managers assume occurs at its offices throughout the world.

In contrast to WCO Global, WCO PNG managers viewed M&E as an activity to measure project outcomes after project completion. WCO PNG's Conservation Director, Sally van Vliet, explained "at the end of each project you assess what has been achieved and what is the way forward and how does it fit in the broader framework of the program of the organization." While she recognizes the importance of assessing project impacts within an organizational framework, she emphasizes *ex post* evaluation rather than *ex ante* evaluation. This national level assumption is typical of most evaluation, which means that organizations lack baseline data to evaluate change over time (Margoluis et al 2009). Conservation organizations often use this lack of baseline data to justify the need for conservation in the locations where they work. Such justification can become problematic when individuals experience pressure to produce evaluations that may not accurately reflect projects, a point I return to in the discussion.

WCO Global managers assumed WCO had a well-defined framework for ensuring that national offices contributed to WCO's broader mission. WCO Global senior managers created the Conservation Strategy and Evaluation Office in 2008 to track national office performance and ensure an objective basis for evaluation. The unit's six staff develop organizational standards on conservation achievements and financial performance and seek to ensure national offices follow M&E standards. Tanya Russo develops monitoring systems for WCO's key global initiatives and helps national offices develop M&E strategies. Liam Sullivan assists national offices in designing strategies and planning their work. For example, he worked with WCO PNG staff to develop their 2008-2012 strategic plan. Liam's role is to ensure national offices and individual staff reflect upon how activities and projects contribute to broader organizational goals.

When Tanya Russo began investigating how WCO monitored its progress, she discovered "we have no reporting framework to design our programs, to tell us what we are really achieving." WCO lacked a systematic planning framework that connected individual actions, project achievements, or national level outcomes to WCO's performance. WCO's national offices created their own strategic plans and workplans and national managers did not necessarily connect project activities to WCO's mission and objectives. This structure resulted in a monitoring approach that Tanya described as everyone "doing their own thing" without coming together as a cohesive whole. Contrary to assumptions by WCO Global staff, WCO lacked an organizational planning and reporting framework and failed to ensure an overall, organizational strategy.

Tanya explained the broader implications of this situation:

it goes into this much bigger design or planning issues that needs to be addressed in the network, because we do not go about things in a systematic way when we plan our programs, so we do not connect a lot of the pieces together in a coherent framework: project to goals to program and goals. So at the end of the day we just have a lot of small and medium sized wins, and it is getting worrisome that we can't say that this program in its entirety is going to achieve x and then we find out up to three years later we couldn't do that, we couldn't achieve x…Right now we have tiny little project achievements and outputs: stakeholder workshops, we have a commercial on tv. And you add it up and you think, 'What did this program do?!'

This last comment underscores an important finding: WCO fails to achieve broader objectives because it has "small and medium sized wins," such as a television commercial that raises

awareness on endangered species, that may not contribute to larger wins, such as reversing the endangered status of a species. Tanya further explained that WCO has well-trained, well-educated staff but that coordinated communication among offices, programs, and projects was missing. She concluded WCO's M&E processes did not ensure an overall strategy, nor did these processes contribute to understanding WCO achievements as a whole. Further, in the absence of a M&E framework to measure outcomes, managers and staff had no basis on which to identify and then address problematic results.

When Tanya reported on this lack of coordination to WCO Global senior staff, she said they were shocked by the results. Their surprise confirms that senior staff assumed WCO had standard M&E operating procedures for measuring and evaluating its outcomes and guiding staff attitudes and behavior. One staff member admitted, after Tanya's documentation of WCO's lack of standard M&E procedures, he discovered WCO has "ended up falling about twenty years beyond the curve of M&E" without realizing it.

The international perspective highlights how WCO Global staff believed well-defined frameworks were an important component in achieving WCO's goals. As the findings of the Conservation Strategy and Performance Office underscore, however, these assumptions were not systematically matched by individual behavior of measuring and evaluating outcomes nor were these assumptions communicated to employees or presented as standard operational procedures or organizational norms throughout WCO. Communication of organizational assumptions is critical for a shared institutional logic on the importance of M&E to develop, as organizational scholars have demonstrated.

To illustrate how the absence of shared logics on M&E processes produced particular attitudes and behavior towards implementation, I draw on interviews and observations from WCO national and local offices. Two factors at the national level illustrate why individuals did not integrate M&E processes into their daily routines. First, an organizational environment at the national level emphasized time in the office. Second, WCO PNG managers created an organizational environment that discouraged critical reflection and resulted in an environment where staff internalized organizational norms on producing images of success.

The National Office Environment: Busy being busy
The organizational environment in the WCO PNG office was one of busy, dedicated conservation officers working at their individual desks. Senior managers arrived at the office

before 7 or 8am many mornings, stayed late to connect with WCO Global staff or staff in other regions, or came in over the weekends to catch up on emails and paperwork. These managers set an expectation of long hours at the office, an expectation reinforced by occasional comments to staff when they left the office after 8 or 9 hours a day. On a typical weekend day, two to five managers or senior staff might be in the office. Junior staff described periodically being called on Saturday mornings and asked to come in for informal meetings with their supervisors who had not had time to meet with them during the week.

Thomas McDermott, the former country director, described such expectations in terms of job commitment: "you make yourself available and you do not count your time." He clarified, "You do not say sorry, it is half past 4, I am going now. And if someone calls you at 10 at night or to meet on a Sunday, you deal with that because that is part of the job." This environment emphasized the total amount of time spent at work rather than recognizing efficiency or rewarding productivity, in part because managers can more easily observe and measure employee inputs, such as time, than subjective outputs such as productivity. Additionally, as several junior staff stressed, the country director was highly unorganized and unable to prioritize tasks. His long hours did not necessarily equate with productivity or outputs but rather with a failure to efficiently organize and prioritize work. In summary, the organizational environment encouraged long hours at the office, including coming in on evenings or weekends, and lacked an emphasis on efficiency or prioritizing activities, including M&E, which contributed to a façade of success that I address in the discussion. This emphasis on input (time spent in the office), rather than on output (efficiency or prioritization), is common at NGO offices in PNG.

Further, in the absence of a focus on prioritizing tasks, many busy staff did not make time for M&E or prioritize it as part of their everyday work. Fredah Donigi, WCO's Community Forestry Officer, who is also WCO PNG's M&E coordinator, explained "everyone is so caught up in 'I have to do this and this' and not enough [reflecting] is done and sit down and look at what we have done and should we continue doing this or should we change our approach or why are we not doing this…and why are we not achieving this..." Similarly, Indira said the office was "constantly producing lessons learned reports" and other internal and donor reports without focusing on learning or examining their "conservation paradigms and ways of working" to evaluate if they were effective. These comments illustrate how staff fail to reflect upon how their tasks contribute to larger WCO aims.

Tanya Russo's concerns about tiny project achievements underscore how project staff may be busy without necessarily contributing to broader goals. For instance, a project may organize a village soccer tournament as part of its community engagement activities. Project staff might spend one month or more busily coordinating the tournament: double-checking the list of players, visiting community facilitators, ensuring sufficient refreshments, or reporting to their supervisors about progress. If the managers and staff viewed M&E as a priority, one of the first steps would be to consider how a soccer tournament contributes to conservation goals. A soccer tournament may be an effective way to improve trust between communities and WCO and to raise awareness about conservation, but such activities could just as easily fall into Tanya's classification of "what did this project do?!"

Such an organizational environment exemplifies a working style one WCO Global manager described as employees who are "busy being busy." Liam Sullivan explained "people are busy being busy and one of the key priorities for me is to shut down their busyness because I do not know that they are busy on the right things." His statement aptly characterizes the WCO PNG office: individual employees stay at their desks for long hours, meeting their supervisors expectations, without necessarily focusing their efforts or contributing to larger conservation impacts.

Further, many staff felt their responsibilities consisted of two or three full time jobs. For instance, one staff member managed a site-based forest project and the climate change, payments for ecosystem services, and REDD initiatives, which involved policy engagement at the national level. There are a few reasons why staff may have, or feel they have, multiple responsibilities. In the first case, WCO combined two job responsibilities, a decision reflecting multiple institutional desires and insufficient funding for two employees. In other cases, staff responsibilities may develop into larger workloads. Finally, as in many types of organizations, staff with a commitment to the organization and its mission often took on responsibilities they felt were necessary and not being done by others. For example, one employee rewrote WCO PNG's HR policy because he discovered it lacked necessary safeguards and the HR staff had not taken the initiative to revise it. Such efforts can place strain on individual workloads and force staff to make choices about activities on which they spend time. Because WCO PNG managers did not communicate M&E as a critical responsibility, busy staff members did not choose to devote significant effort to it.

Paul Smith, a former Terrestrial Manager, exemplifies such an employee. He explained he appreciated WCO Global's M&E and strategic planning staff, who encouraged staff to integrate M&E practices into their everyday work, but "I was doing three jobs and I was so sick of reporting and of [WCO Global] changing the reporting formats every five minutes so you have to redraft." For him and other national staff with competing responsibilities, M&E reporting was often seen as burdensome, particularly in the absence of explicit incentives for critical reflection.

Incentives and Motivations

While WCO PNG's organizational environment encourages time spent at the office and does not emphasize M&E as a standard operating procedure, the gap between WCO Global's desire for a cohesive M&E framework and WCO PNG's limited attention to M&E is also related to WCO's structure and the social interactions between WCO PNG managers and staff. Many employees said WCO does not reward employees for critical reflection. For example, Annamaria Barrera, a WCO Global marine manager, said

> There are no incentives to take time to reflect, forget planning, look at M&E and there is no incentive to reflect and learn from mistakes in an explicit organizational way. If someone does it, it is because they are conscientious and they want to learn and they want to adapt and improve…the incentives are to wrap up the project and package it for your donors and get some more money.

WCO PNG staff agreed there was little encouragement to reflect on activities or evaluate achievements and said that WCO PNG managers did not communicate M&E as a priority. Paul Smith said the PNG office "didn't have enough M&E for our projects and programs." Similarly, Indira Bhatnagar, a WCO PNG project manager, believed WCO PNG did not prioritize M&E. She said "we do not spend enough time [evaluating whether projects achieve their goals]…it is not built in at the beginning of the workplans…no one has ever said that [M&E indicators] should be in the workplan, or here is the M&E structure that you should look at."

At the same time, senior managers also expressed concern that WCO was failing to orient its activities towards larger goals. Sally van Vliet said one challenge was "getting the local [staff] to think not just about their small, specific area but to think more broadly about the program, so the difference between the more regional planning versus local, site specific." These comments illustrate that WCO PNG staff and managers recognized the absence of M&E approaches: staff describe managers who do not encourage them to prioritize M&E in their daily work while managers feel staff do not think broadly enough. Together, these perspectives suggest an

organizational environment where M&E was not a regular routine and motivation for critical reflection was absent, which resulted in differences between WCO Global M&E intentions and WCO PNG practices.

Failure or Modest Gains? Pressure against critical reflection

While staff agree critical reflection is absent at the national level, busyness and limited incentives only partially explain organizational failure to evaluate how national activities contribute to broader WCO goals. In contrast with the findings of scholarship on NGO-donor accountability, my interviews with NGO and donor staff show pressure to emphasize success also comes from within conservation organizations. Indira described the emphasis senior managers placed in appearing successful to donors:

> I feel a lot of pressure to put positive spins on things. Definitely. And that is institutionalized as well. When you sit with your boss who has 25 years of experience and he changes the wording in your workplans to make it sound more positive when you should say this is total disaster…you need to say it did not work because of this and this, rather than say we achieved some modest gains in this part of the workplan, which is complete bullshit, sometimes…the kind of annual or quarterly reports we have to do on progress, they have to be channeled through the conservation director and sitting down with him to go through some of the reports, a lot of the wording was changed, the way progress was stated or not stated in the process. So, rather than words like failure, which sometimes is a perfectly acceptable word to use, it is changed into, you know, only modest gains were made…I think it is, well, it is not true actually and it is a pretense that everyone carries on…it is sort of institutionalized lying.

Indira said she believed managers promoted a "total lack of reflexivity" in WCO because "people are desperately trying not to tell the donors we are doing a bad job." Further, when her managers removed language that described implementation challenges, they actively discouraged critical reflection. Such actions result in minimal motivation for junior staff to reflect upon challenges or to describe activities that did not go as expected. This situation illustrates how more powerful, senior employees shaped the type of knowledge produced by WCO PNG, promoting particular project interpretations and eliminating others in both internal WCO and donor reports. Further, by describing "modest" gains in the project, managers articulated just enough progress to argue for further action and continued funding. This type of behavior hinders M&E processes because information provided to WCO Global, donors, or others may not accurately reflect projects.

One donor official stressed her organization tried to encourage "honest, reflective conversation" with its grantees. Mathieu Rousseau, another grant officer in PNG, agreed, saying "there is this transparency, we know that things change and sometimes you have to be flexible, flexible in terms of activities you have foreseen to do." Jane Hopkins, another donor official, said pressure to present a successful organizational image "comes down to this element of donor pressure to get things done but also internal pressure to get things done."[4] Jane further elaborated how internal organizational politics shape potential organizational success:

> The biggest challenge we are having with how effective our grants have been is that the organizations themselves have to get their own internal problems and challenges sorted out. Until they get the right staff in place, that stay for more than a year, that are happy, they are working in a place where they are supported, until they have a leader that they respect, all of that, until that gets put in place, we will not be able to be successful because they are going through all of these problems…at the end of the day, if the organization cannot deliver in the management activities and with the community, then we are not going to achieve the conservation we want.

While organizations still experience donor pressure to achieve successful outcomes, my findings show conservation organizations have internalized pressure to demonstrate success and that managers place pressure on their employees to report success. This organizational culture of constructing and maintaining success can shape individual behavior to report success, as Indira described. Further, these organizational politics also shape potential conservation success, as Jane's statement underscores.

It is important to note, however, that attitudes towards reporting success vary within different WCO offices. At WCO PNG, Indira described how her supervisors changed her reports to describe "modest gains" rather than challenges or failure. In contrast, WCO Global staff expressed interest in learning about mistakes. Liam Sullivan said, "when I am working with teams, training or designing, we learn a lot more from mistakes than successes. So I say, how about we hear about everything, I want to know all about it…" Liam's belief in the importance of sharing challenges and failures contrasts with the approach of WCO PNG's Country Director and the Conservation Director. These differing attitudes at international and national offices suggest the emergence of competing institutional logics within WCO, a point I return to in the following discussion.

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[4] These statements represent the perspectives of individuals in the donor communities of themselves and their actions; grantees may not share this perspective of donors as welcoming honest, reflective conversations.

DISCUSSION AND CONCLUSION

This chapter identifies and analyzes the lack of coordination and shared institutional logics among international, national and local WCO offices on M&E practices. WCO Global managers valued M&E processes as a method of performance evaluation, tried to integrate M&E into WCO's overall structure, and welcomed critical reflection on project challenges. In contrast, WCO PNG managers possessed different institutional logics: they valued the time their employees spent in the office and their job commitment and explicitly discouraged discussion of challenges in project and donor reports. In addition, when WCO PNG managers described program evaluation, they described it as *ex post* evaluation that happened after the project occurred, rather than the type of *ex ante* evaluation that WCO Global preferred. These different institutional logics, rather than a single, common belief on M&E practices, illustrate the heterogeneity of beliefs within WCO and underscore WCO's failure to communicate an organizational culture of valuing M&E. As organizational scholarship suggests, organizational culture must be taught to staff for shared values and norms to develop; in the absence of WCO Global leadership on and communication about such norms, WCO Global failed to ensure that employees valued M&E as an important organizational process.

These different institutional logics have two implications for WCO's conservation practice more generally. First, they illustrate the challenges of translating WCO Global's priorities into WCO PNG projects and activities. The involvement and decisions of WCO managers and staff at so many levels allowed competing logics to develop, resulting in implementation challenges. Second, these different institutional logics have consequences for the power and influence of WCO Global. WCO PNG staff said they pay more attention to the expectations and priorities of their immediate supervisors than to those of WCO Global, which means that WCO Global managers' beliefs on the value of M&E have less influence with WCO PNG staff, particularly because WCO PNG managers do not emphasize the value of M&E to their staff.

WCO's M&E processes have additional social consequences for governance and power. First, when WCO PNG managers changed descriptions of project challenges in internal WCO or donor reports, these managers simplified project knowledge to emphasize success and justify WCO's particular approaches and positioned themselves, rather than project staff, as experts. This action shaped staff attitudes and behavior on the types of knowledge they were expected to

produce and placed staff in a relation of dominance, limiting their autonomy. Second, when managers pressure staff to produce reports that emphasize success, describing "modest gains" rather than challenges or failure, these reports produce incomplete pictures of project achievement, or "institutionalized lying," and facilitate partial understandings of conservation practice and impact. By failing to effectively measure, much less address, how its project activities contribute to larger impacts, WCO misses an opportunity to use M&E to learn from its activities and improve organizational, management, or project effectiveness.

Foucault (1977) demonstrates that oversight produces individuals who regulate their own behavior and eventually conform to the norms of conduct desired by institutions or supervisors. From this perspective, when conservation managers place pressure on staff to produce positive reports, staff are likely to begin constructing such reports, even in the absence of external coercion, becoming the self-checking evaluation performers that Power (2005) describes. Indeed, over time, WCO staff described how they limited descriptions of project challenges in their reports and instead produced reports that they knew would meet their supervisors' expectations, even if these reports were not actually true. This finding suggests that organizational and managerial pressure to report success is greater than donor pressure, a finding that expands understandings of NGO-donor dynamics.

The social production of success is also shown through the focus on time, rather than impact, in WCO's PNG office. When WCO PNG senior managers encouraged long office hours without emphasizing efficiency or productivity, they created an organizational environment that valued busy, dedicated staff without simultaneously communicating the importance of M&E, prioritizing conservation outcomes, or encouraging staff to define or measure desired outcomes or to reflect on whether or not their conservation approaches worked. As one staff member described, WCO PNG tended to continue to do the same activities and write similarly worded reports without considering alternative ways of working or alternative conservative paradigms.

More broadly, this analysis elucidates how M&E processes can become technologies of global governance that "convey an aura of objective truth" (Merry 2011: 84) while simultaneously concealing the politics of their production. For instance, when WCO managers and staff choose which information to include in project reports, they decide what information is shared and what information is excluded in a way that demonstrates impact and effectiveness using clear, seemingly objective indicators and measurements. Managers' desire to present a

positive representation of WCO to donors and others in order to secure WCO's reputation as a successful organization likely influence decisions about included information, as Indira suggested. Further, as Merry (2011) points out, when WCO selects information to include in their reports (or even lies about its accomplishments), they also define how their accomplishments and effectiveness are measured. This finding suggests how M&E, which the field of conservation originally promoted to ensure accountability and improvement, may result in entirely different effects, such as selective or even inaccurate constructions of knowledge and subjective measurement. This finding also underscores some limitations of M&E; when managers and staff selectively choose what information to include, their reports become a particular representation of a project that they wish to present, rather than a M&E report. In this way, the practice of M&E does not necessarily accomplish accountability-focused or improvement-focused M&E and instead results in the social production of success.

NGOs face an additional disincentive to report on their challenges and failures because of competition for funding among NGOs, even if donors say they are receptive to more honest reporting. For instance, if WCO produced donor reports describing their failure to achieve marine conservation objectives and another NGO reported to the same donor that it was successfully managing marine areas in partnership with local communities, the donor would be more likely to continue to support the "successful" organization, even if WCO provided legitimate explanations for its challenges. This pressure to remain competitive with their peers is likely another contributing factor that explains why NGOs construct effectiveness and impact.

Another reason WCO PNG managers may have discouraged critical reflection is to minimize evaluations that challenge underlying organizational or project assumptions. Problematic evaluations that threaten a project's successful image may not be looked upon favorably, as other scholars have demonstrated. van Ufford (1988) concluded it was important for all actors within Dutch donor agencies to show a common rationality and demonstrate that everything was going well: "showing that a consistent policy had been executed was in the interests of all concerned: project staff, directors, government. If together they could construct an image of a well-organized machine, they could count on continued autonomy with regard to decision-making…It was in everyone's interests that a picture of smooth development administration be presented by the staffs to their directors, by the directors to the Ministry and in turn by the Ministry to Parliament" (1988: 91). Similarly, Mosse (2004; 2005) showed how the

success of a UK Department for International Development (DFID) agriculture project in India depended not on its activities but on constant translation by project brokers who ensure project coherence. Project policy changes were the result of ruptures in the project's social relationships: "the alliances, the mediators, the chains of translations, interests, and agendas that are tied up in the project...the failure in interpretation is a social failure" that occurred when the project's brokering networks and group of believers fell apart (Mosse 2005: 184). This anthropological scholarship underscores how organizations depend on networks of individuals to present a cohesive picture of a project or policy. In the case of WCO, varying staff attitudes and behavior towards M&E resulted in competing logics among different WCO offices and failure to ensure organizational coherence on the value of M&E.

At the same time, M&E, as a technology of global governance, has the potential to transform conservation practice by orienting organizations towards defining and quantifying their accomplishments. WCO aims to address complex conservation challenges, such as saving critically endangered species and conserving threatened habitats, but appears to lack high-level leadership to communicate its aims and intended norms to its employees throughout its multiple offices. M&E represents one mechanism through which WCO could coordinate its multiple offices, programs, and projects to focus on activities that will address key conservation challenges. If, however, managers fail to recognize the potential for M&E to produce particular representations of reality and do not encourage critical reflection among staff, M&E is more likely to become a technology of global governance that fails to make organizations such as WCO more accountable or more effective.

Although the data in this chapter illustrate varying attitudes and behavior towards M&E and competing institutional logics within WCO, these data does not necessarily assume that WCO did not achieve success in its projects or that WCO's activities consistently failed to achieve larger impacts. As Ferguson's (1990) seminal work highlights, and Mosse (2005) confirms, a project that does not achieve its stated aims still has important effects and consequences. Rather, this chapter shows how WCO failed to communicate a common logic on prioritizing M&E practices across its multiple offices, which has implications for WCO's long-term success as well as conservation implementation more broadly. Without senior-level prioritization of M&E and incentives for critical reflection, such reflection is less likely to occur, which means WCO also misses an opportunity to identify and address problematic outcomes. It

is possible, as the WCO Global Marine Manager points out, that an employee may reflect upon his mistakes, because he is conscientious, interested in learning, or recognizes a need for improvement. As WCO's Conservation Monitoring Manager says, however, at an organizational level, "star soldiers" need direction in how to storm fortress walls: this chapter illustrates this lack of senior-level direction in coordinating M&E across WCO's international, national, and local offices, resulting in broader failure to measure progress and reflect upon outcomes. Moreover, this chapter advances critical reflection on evaluation and measurement within the field of conservation by showing how staff at a large, international conservation NGO construct effectiveness and impact and highlighting some of the limitations of M&E.

CHAPTER THREE: The implications of governance-at-a-distance: Understanding individual decision-making in conservation projects

INTRODUCTION

Manus is the northern most province in Papua New Guinea (PNG). To travel from Port Moresby, PNG's capital, to one of the World Conservation Organization[5] (WCO)'s project sites, you first fly to Los Negros island, which adjoins Lorengau, the capital of Manus province. Then, you take a bus from Los Negros towards Manus Island. At "The Lonely Bridge," you board a boat for an eight-hour trip to Mbuke Island. If you leave Port Moresby in the morning, you have a chance of arriving at the project site just after night falls. When I visited WCO's project site in Mbuke, I learned that no WCO manager based in Port Moresby had ever visited this project site. I later learned that few WCO staff even visited WCO's project in Madang, a more easily accessed location on PNG's north coast.

I was the only person to visit both of WCO's marine project sites in Madang and Mbuke, according to field staff, a situation which illustrates the limited extent to which WCO project managers visit field sites. Instead, managers increasingly rely upon modern forms of communication to manage conservation projects and stay informed on developments in the field. Whether it is phone calls between national and field staff, Skype calls among staff in different countries, or email communication among staff, managers at large, international conservation NGOs[6] typically rely on means of communication that allow them to mange projects from a distance, a management style that I term "governance-at-a-distance." As one staff member put it, "the conservation director and the country representative have not been to all of the projects that they are supposedly running, so there is really no connection between management and project staff. How are the messages meant to get up from the field to the management level?" This chapter examines the prevalence and effects of such governance-at-a-distance management styles to better understand managers' intentions and project activities and outcomes.

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[5] The name of this organization and of all individuals are pseudonyms.
[6] Here, I specifically refer to managers at large, international NGOs, sometimes referred to as BINGOs or Big International NGOs. This trend is not applicable to the national NGOs in PNG, which tend to operate more locally.

This chapter analyzes governance-at-a-distance management strategies using a case study of WCO's marine project in Mbuke's community managed marine area, which includes a marine turtles protection component. This project is staffed by one Mbuke villager and managed by the Marine Manager, who is based in Madang, with overall oversight by the Country Director and Conservation Director, both of whom are based in WCO PNG's national office in Port Moresby. To investigate the consistency between what project managers believe is occurring, what field staff claim to be doing, and what marine conservation projects accomplish in practice, I describe how managers envision this project at the national level and then examine marine conservation efforts in Mbuke.

I identify and describe five factors that emerge when managers employ governance-at-a-distance strategies. First, I suggest governance-at-a-distance allows managers to envision Papua New Guineans as ideal partners in conservation efforts and to develop a vision of Papua New Guineans as model environmental subjects, who will actively participate in conservation efforts based on their environmental convictions. Second, I describe how socio-cultural and communication differences between managers and field staff limit honest dialogue and complete understandings of project activities. Third, I show how governance-at-a-distance also results in social distance. Fourth, I illustrate inconsistencies between managers' stated beliefs about the importance of understanding field realities and their actions. Finally, I address personal choices that affect staff availability, as well as more general constraints, such as time and resources that contribute to the prevalence of governance-at-a-distance management strategies. These factors illustrate some of the difficulties and misperceptions managers may encounter when they employ governance-at-a-distance management strategies.

This chapter is organized in five sections, including the introduction. The theoretical framework considers political ecology, governmentality and environmentality, scholarship on disjunctures between intentions and actions, and development scholarship on the social lives of professionals. The methods section describes the data collection and analysis. The results section identifies and describes the five above-mentioned challenges that arise when managers employ governance-at-a-distance management styles, highlighting the entrenched nature of some of these challenges. I then propose two explanations for why managers govern from a distance: to maintain a national presence and to avoid addressing field complexities. The final section presents conclusions.

THEORETICAL FRAMEWORK

This chapter builds upon political ecology, governmentality and environmentality, scholarship on disjunctures between intentions and actions, and development scholarship on the social lives of professionals to understand how organizations shape the actions, assumptions and motivations of individual conservation professionals. Political ecology scholarship explores the complex social relationships of conservation and development and places emphasis on how local people may articulate specific indigenous identities to benefit from, engage with, and contest or negotiate conservation or resist and subvert power and authority.[7] This scholarship also shows how the subjects of such interventions learn to redefine the original intentions of conservation or development programs to suit their own interests or even renegotiate programs if their interests change.[8] Tsing (1999), for example, illustrates how Meratus Dayaks in Indonesia represent themselves as "tribal elders" to conservationists and other 'green development' actors by utilizing globally circulating categories in their own way.[9] These collaborations between tribal elders and green development actors allow for political agency of both sets of actors, underscoring Tsing's point that the Dayaks, or similar communities, may "mold their own actions strategically" (1999: 159). On the whole, this scholarship highlights the ways in which local communities may position themselves to benefit from conservation, an insight that I consider when examining the actions of Papua New Guinean villagers.

Second, a body of scholarship on governmentality—the "conduct of conduct" (Gordon 1991: 2; Foucault 1991)—examines the practices through which subjects are governed and the ways governments attempt to produce subjects best suited to the aims of government (see Rose 1990; Ferguson 1990; Gupta 1998; Dean 2009; Bryant 2002). Agrawal (2005) uses the term "environmentality" to investigate how power/knowledge, institutions, and subjectivities are constituted and shaped by each other. I draw upon the concepts of governmentality and environmentality to examine how conservation managers attempt to shape Papua New Guinean villagers to be interested in and supportive of marine conservation efforts. I also consider the ways in which Foucault's notions of power enable and constrain individuals (1991; 1988; 1979;

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[7] See for example Sundberg (2006); Doolittle (2006); Dove (2006); Hirtz (2003); Li (2000); Tsing (1999); Moore (1997); Scott (1990).

[8] Scott (1989) emphasizes the limitations of speaking truth to power, urging scholars to be aware not just of public transcripts, the "open interaction between subordinates and those who dominate," but also more elusive, hidden transcripts, or "power spoken behind the back of the dominant."

[9] Other scholars caution that such indigenous articulations must be carefully navigated (e.g., Dove 2006).

1977). For instance, conservation managers have the power to make management decisions, but the range of their decisions may be constrained by factors such as organizational objectives or donor agendas.

Third, some scholars have begun to observe differences between what organisations claim to do and their actual practices. Carrier and West (2009: ix) suggest such gaps and inconsistencies have become "the normal state of affairs" rather than evidence of particularly difficult projects or exceptional situations. Mosse supports this perspective, writing "the disjuncture between policy and practice is not an unfortunate gap to be bridged between intention and action; it is a necessity, actively maintained and reproduced by knowledge systems (2004: 97). I build upon this scholarship on disjunctures between intentions and achievements to investigate how well designed projects can unfold in entirely unexpected directions.

Finally, while scholars of conservation have paid little attention to the relationship between institutions and individuals and to how institutions produce particular types of individuals (but see Agrawal 2005), a growing number of development scholars have begun to consider the social lives of development professionals and to write about the experiences, motivations, and worldviews of these actors (Fechter and Hindman 2011; Mosse 2011).[10] Lewis (2008; 2011), for instance, uses life history methods to investigate how work histories influence individual motivations to work in government or non-government sectors and how individual backgrounds result in particular worldviews. Lewis (2011) found "weakening social and family networks" influenced workers' decisions to leave international field postings and return home (2011: 189). These workers explained that, after a long time away, they sensed weakening ties with their friends and family "back home" and wanted to "go back home and start investing in personal relationships" (2011: 190). Such scholarship suggests how individual interests can influence managers' decisions as well as showing how these interests may change over time.

This scholarship also illustrates pressures individuals may face from their organizations or superiors. Eyben (2011), for instance, documents the pressure development workers faced to have a presence in the capital in order to maintain good relationships with other donor representatives. Eyben writes "the importance of 'being there' resulted in development workers who spent the overwhelmingly majority of their time in capitals, working and socializing with an

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[10] Similarly, sociologists show how business schools produce particular types of individuals likely to make similar decisions (Khurana 2010) and illustrate how managers learn from each other (Jackall 1998).

insular community of donor representatives and a handful of Bolivian consultants and government officials, rather than getting to know the country and its people in any broader sense" (2011: 141). She highlights the effect of this pressure on the perspectives and actions of development professionals: they "stay on the edge, rather than fully engage with diverse cultural experiences…[becoming] internally 'monocultural'" because of their failure to socialize outside of their own small world (2011: 152). Similarly, Rajak and Stirrat note the typical social lives of expatriate workers limit external perspectives because these workers do not engage in the daily life of the country but rather create a "social cocoon, socializing with each other and reproducing…differences between the expatriates and the host community" (2011: 169).

Eyben also describes how development professionals avoid reality checks to minimize knowledge or information that contradicts dominant knowledge within the donor community. She writes "the local is messy because it reveals complexities and particularities that obscure the simplicity of the targets" (2011: 154). In one instance, Eyben discovered the local situation challenged the current aid policies and wrote a summary of her field visit for her supervisors. She never received a response and speculated her supervisors "did not want to know about the complexity of the local that contradicted pre-established global policy objectives" (2011: 153). Her experience suggests field visits may be uncommon because these visits present professionals with insights that challenge or contradict current approaches or priorities. Likewise, Rajak and Stirrat write "field trips are carefully orchestrated by counterparts at various levels…only very rarely does the field visit throw up new knowledge or new issues" (2011: 173). In addition, managers may not gain an understanding of project complexities during a short field visit, which can resemble "development tourism" (Chambers 1995). I build upon these development studies within the field of conservation to advance understanding on the role of professionals in conservation interventions and to analyze the organizational pressures that shape the actions, assumptions, and motivations of conservation professionals.

METHODS

Interview sample

This chapter uses data from semi-structured interviews personally conducted in PNG between January and December 2010, at NGO and government offices, as well as with other key stakeholder groups. Table 1 illustrates the number of interviews I conducted by sector. NGO interviews include representation from both large, international NGOs and smaller, national or

local NGOs based in PNG. All donor organizations interviewed fund marine conservation projects in PNG. While each interview informed my understanding of marine conservation efforts in PNG, this chapter draws primarily on interviews with staff from large, international NGOs (n=31) and from interviews and discussions with Mbuke island villagers. As in the previous chapter, all names are pseudonyms and some genders were changed to protect individual identities.

To understand WCO goals and priorities, I also reviewed public WCO documents, such as press releases and website material, and internal documents, including strategic plans and workplans, and external project evaluations.

Table One. Number of Interviews conducted by sector.

Sector	Number
Headquarter offices of NGOs	13
International NGOs in PNG	18
National or local NGOs in PNG	10
National Fisheries Authority	22
Department of Environment and Conservation	9
Provincial government	13
Other government	7
Donor organizations	5
Dive, surf, and general tourism industry	12
Academics	5
Other stakeholders	6
Madang, Manus, and New Ireland villagers	436

Analysis

Using Nvivo9, I coded my interview data and field notes to identify overall categories and themes that I used to develop a codebook. I then coded each interview based on the identified themes. I developed my coding methodology following qualitative coding methods (Auerbach and Silverstein 2003; Corbin and Strauss 2008; Richards 2009; Saldana 2009).

Management strategies and styles emerged as an important category of discussion in interviews with NGO staff from all over PNG. I identified 14 distinct types of management when coding my interview data (Table 2). I define management strategies as strategies managers utilize to achieve specific conservation outcomes when overseeing projects and working with staff. These strategies are distinct from organizational strategies, which represent a more broad strategy promoted by the organization. To ensure accurate identification of management strategies, I recoded each interview while only looking for reference to management. I coded text

from interviews when managers described their own strategies and when staff described their managers' styles and strategies.

Managers may utilize more than one management strategy since not all strategies are mutually exclusive. For instance, a manager may employ a top-down management style but also promote a performance-focused style. Other strategies, such as top-down management and inclusive management, are not complementary. Further, some types of management, such as non-adaptive management or micro-management, may not be an intended strategy by managers but were discussed by managers or staff in interviews. Therefore, the table below describes both intended and unintended management strategies.

Table Two. Management styles and representative quotes

Management Styles	Data (Illustrative quotations from interviews)
adaptive management: uses management as a tool for learning, experimenting, and monitoring	"There are always things which are changing, the important thing is to adapt, so we have absolutely no objection to modifying, to adapting the project in the course of its implementation…we are pretty flexible."
non-adaptive management: failure to adapt management style to the situation; pre-determined or rigid management	"I am not sure that we learn particularly well from what we have done in the past…sometimes we do the same things… adaptive cycle of program management should theoretically be built in…but it often isn't.
building personal relationships: explicitly implementing strategies to include staff or to ensure staff happiness; trusting staff opinions; relying on personal relationships	"I have been focusing on the staff…making sure their work is going well and keeping them happy …focusing on their needs and getting them going, establishing relationships."
community focused: prioritizing communities and people	"Our agenda is to help people conserve their land and we have to be very conscious with the communities…if the community has another problem that is more immediate, then let them work on that and then we can do conservation later." "Conservation is 10% and 90% is about community relationships…if you get your community relationships right, things will fall into place so I give priority to that."
ensuring best practices: defining goals based on evidence, either in field site or from conservation literature; ensuring professional, goal-oriented planning	"My strategy here [is]… to facilitate a process where project aims can be put into paper, into goals, milestones, objectives, log frames." "We tried to conceptualize a program management approach… to develop best practices that could be then really applied by every [WCO] project and program…a standard that is a recommended…from defining goals and objectives and coming up with operational plans."
field presence: ensuring or prioritizing individual or organizational presence at the local level	"My strategy here…is to go out to the guys, to the marine guys and really get the information." "You need to have presence on the ground...you need a visit…so

	people know you exist, that you are interested in them and you reassure them that you know that they exist."
delegation: opposite of field presence relying on other organizations to provide information about field situation	"We will really be playing the coordinating role, we will not be on the ground doing the implementation. Our job will be made easier by our partners on the ground and we will just coordinate the information…we have this new structure that is really going away from the field focus."
inclusive management: soliciting staff opinions and involving staff in decision-making; including consultative processes	"Everything has to be really consultative in [WCO]…everything needs to have buy in and I went through this long consultative process from project staff to senior management staff and all these offices." "My biggest thing is to work really hard on creating space, so that the staff feel ownership of the project and [contribute] their ideas and thinking…I do that in a bunch of ways…I don't come up with the ideas, but I often manage the process so that everyone's ideas can come out."
"make myself redundant": an intention to build staff capacity and work his way out of a job	"When I walk away, I [want to leave] behind me a team of local people…my objective here is to make myself redundant… you have a duty to build capacity in the places that you go to."
management at a distance: managing a project via email, phone, Skype without visiting or observing the project	"We just pay Samuel's salary and no management or oversight…there is no money to go there." "The on the ground management was absolutely appalling…[the director] had no connection with [field staff]. He refused to leave [the city]." "We try and do a lot of our work virtually for both carbon footprint and for cost reasons, so some travel, but most of it is from here, we do big video conferences, telephone calls, emails."
micro-managing: managing every aspect of a project; checking on staff to ensure that even small tasks are done in specified manner	"[My manager] will deal with [everything]…she is first in line…she is very much a micromanager." "He didn't let the staff go to the project site…He did not trust his staff enough even though he had employed them. He was doing everything by himself."
performance focused: defining project aims using specific objectives and goals; emphasizing end results	"What [WCO] is doing in general..is looking more at how small sites can expand their impact…to have a larger impact." "There is a big push to make sure that we remain on track and find the most strategic intervention points…that will achieve bigger wins… you have a results chain and it is the *modus operandi* for the project… it requires setting sensible goals and targets."
"roll up your sleeves": active project involvement; providing direction but also demonstrating a willingness to work and interact at	"You have to roll up your sleeves and if the team falls apart you get in there and do some of the work"

all levels, as necessary	
top-down management: opposite of inclusive management; explaining policies and objectives without soliciting staff input or opinions	"The director had to check with the [national] office and the [international] office and then he came back and said no, [they told me] we can't do that…" "It is a top down thing so whatever policies are manufactured at the top have to be transferred down. And if you want to do some changes, it still comes down to whatever the head office says."

The most common strategy identified by both managers and staff is a management style I term "governance-at-a-distance" (n=34 interviews; 88 references), which refers to the ways in which managers located at international or national offices assume they can rely on email, phone, and other "distance" forms of communication to stay up to date and informed about field-based projects without visiting the projects. This type of management style is therefore the focus of this chapter.

RESULTS

To illustrate some of the assumptions managers' make about the environmental convictions of Papua New Guineans, I first describe WCO priorities as outlined in WCO documents. For instance, the fifth guiding principle in WCO's strategic plan suggests a vision of an inclusive marine program: "involve local communities and indigenous peoples in the planning and execution of field programs, respecting their cultural as well as economic needs" (WCO 2010). The first objective of WCO's Western Melanesia Conservation Program Framework 2009-2014 recognizes the importance of community participation in WCO's marine program: "Voices of coastal communities in governance of environment, food security and development planning are strengthened." These documents illustrate general WCO assumptions that Papua New Guinean communities are interested in participating in WCO projects and that they will be ideal conservation partners.

One component of WCO's global program framework is its marine turtles protection strategy, which includes goals and objectives on protecting turtle habitats, creating marine protected area (MPA) networks, and eliminating illegal harvest and trade. This document's success column notes that five communities in the South Pacific region have declared their beaches as protected nesting sites and further notes two goals: "1 critical turtle nesting site in Manus, PNG effectively managed" and a "management plan for 1 critical turtle nesting site in Manus, PNG approved by local communities." WCO's global marine turtle strategy and its Coral

Triangle Initiative (CTI) documents articulate similar goals. The CTI is a six-country initiative designed to simultaneously promote sustainable fisheries management and ensure food security through marine conservation. It represents one of WCO's 13 global priorities and an ideal opportunity for WCO to expand current projects into a broader marine program with the potential for greater impact. Consequently, WCO PNG managers face pressure to successfully conserve and manage areas of high marine biodiversity in the CTI region such as Madang and Manus.

These WCO documents illustrate one way in which organizational priorities shape and constrain individual managers' intentions. However, despite the inclusionary discourse described in WCO documents, inclusion happens very differently in practice, as the following sections will show. Table Three illustrates how organizational pressure to conserve and manage places like Manus travels up and down organizational hierarchies and underscores opportunities for goals and activities to be re-worked and re-packaged by individuals throughout this process. When managers employ a governance-at-a-distance management strategy, they rely on these upward and downward flows of information to design, implement, and report upon projects. Each of these three WCO offices have their own distinctive institutional logics and working cultures, as shown in Chapter Two, and also face different pressure in implementing projects.

Table Three. Key responsibilities and information flows among WCO offices.

	Selected Responsibilities	Downward Flow of Information	Upward Flow of Information
WCO Global	Develops organizational priorities that align with organizational mission and objectives	Communicates organizational objectives and strategies to WCO PNG managers, often through organizational documents	Reports on WCO Global activities and achievements (including ones from country offices like WCO PNG) in annual reports, to board of directors, etc.
WCO PNG	Designs national activities that align with WCO Global organizational priorities	Translates organizational goals into national projects and work plans	Reports on national and field activities to WCO Global and to donors
	Reconciles tensions between WCO Global organizational priorities and on-the-ground realities	Communicates organizational and project goals to field-based staff	
WCO Field Office	Reconciles tensions between WCO priorities and on-the-ground realities	May describe activities to local communities	Reports on activities to national managers
	Reconciles tensions between role as NGO staff and community member		May write or contribute information for WCO or donor reports

The following sections identify and describe five challenges that arise when managers employ governance-at-a-distance management styles related to: managers' assumptions about Papua New Guineans environmental convictions; socio-cultural differences; social distance; managers' assumptions about their own actions; and personal versus professional choices.

Environmental convictions

As noted above, WCO PNG managers envision Papua New Guineans as ideal conservation partners who will be interested in and supportive of WCO's marine conservation efforts. WCO's Conservation Director, for example, described his discussions over the phone with Samuel Parkop, who serves as WCO's only Mbuke staff, about Mbuke's community managed marine area, saying that Samuel felt such areas "will work in his place" and expressing optimism about Samuel's work. Similarly, Thomas McDermott, WCO's former Country

Director, said "there are reasons we can have success up there [in Mbuke]…we have a good guy up there in [Samuel]." Although Thomas had never visited Mbuke, he explained how he and others had talked with Samuel over the phone and through email communication about WCO's marine activities in Mbuke, including managing marine areas, protecting turtle habitats and eliminating illegal turtle harvest and trade. In this section, I describe three examples of villagers' actions that challenge these WCO managers' assumptions about the environmental convictions of Papua New Guinean villagers.

While in Mbuke, I spoke with villagers about the three-year no-take zone they had implemented to improve the island's surrounding marine resources, including turtles. As I talked to a Mbuke man involved in the village's conservation effort, a dying turtle lay at our feet. I asked about the turtle and he explained that he had caught it the night before, along with several others. He continued talking about his work with WCO in Mbuke, describing his perception of how fish numbers improved following the creation of the village's no-take zone. A young boy, perhaps 10, came towards us as we sat on a tree trunk and talked about conservation. The boy carried a soccer ball that he began throwing at the turtle's head. The turtle let out what I, from my environmentalist bias, can only describe as a yelp. The boy continued bouncing the ball on the turtle's head. The turtle moved its front paws slightly, made some agitated sounds, and eventually fell still and quiet. The Mbuke villager continued talking about his commitment to the environment, not blinking at the young boy's treatment of the turtle.[11]

During my visit, Samuel described how villagers protected a nearby island because of its importance as a wild fowl nesting area. He explained village regulations prohibited the collection of wild fowl eggs except on specific days each month when villagers were allowed to harvest eggs. When visiting this island with Samuel and several others, I saw one of the Mbuke men placing several eggs into his canoe. Samuel justified this man's taking of the wild fowl eggs to me by explaining that this man's family did not have enough food. As we toured the island, I observed our boat skipper helping himself to three eggs.

My third morning on Mbuke, Susan, a Mbuke villager, took me snorkeling in the management area. We paddled out in her canoe and jumped in the water. The management area

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[11] Turtles have served as a source of protein in Manus villages for centuries (Spring 1981). On several occasions, I witnessed turtles for sale in the provincial Lorengau market and I recognize turtle consumption is culturally accepted in many Pacific communities. I use this anecdote to highlight the inconsistency between WCO assumptions of Papua New Guinean environmental convictions and villager actions, not to criticize turtle consumption.

lacked the characteristics of other no-take zones I had observed in PNG: the few fish we encountered were scared, and there were few shells and only one *bêche-de-mer*.[12] As we paddled back to Mbuke, Susan paused and took out a plastic bag filled with tin cans: "Diana" tuna cans and "Ox and Palm" corned beef cans. I watched without comment as she threw the tins into the middle of the management area. She explained a few Mbuke women had asked her to bring their trash out to the sea. I could not stop myself from asking if dumping trash was allowed in the management area. Susan assured me it was not a problem and we could do it.

Separately, these three examples merely illustrate individuals who do not follow the community management rules. Collectively, however, these vignettes begin to show a gap between project rhetoric of a committed community managing its conservation area and contributing to turtle conservation and village behavior that contrasts with this project rhetoric. While villagers themselves described their enthusiasm for engaging in projects with WCO and their commitment to conservation, their actions show a community that is not supporting WCO's vision of conservation.[13] This situation exposes contradictions between the conduct of Mbuke villagers and the vision of marine conservation expressed by WCO PNG managers.

Simon Foale (2001) addresses a similar dichotomy between intended turtle conservation and villagers' actions in the Solomon Islands. He argues that Melanesians do not share Western assumptions about biodiversity conservation, despite "appear[ing] to embrace the goals of achieving [marine] sustainability," and elaborates that an appeal "to rural Melanesians not to kill leatherback turtles on the grounds of the importance of these species to marine ecosystem functions, and ultimately to the long-term food security of local human populations, would entail a certain level of disingenuousness" (2001: 51). Foale then relates the following story: "When a Vonavona Lagoon [Solomon Islands] fisherman was asked what he would tell his grandchildren if he discovered that he was responsible for killing the last hawksbill turtle on earth, he answered 'I'll tell them how good it tasted'" (Foale 2001: 51). As this narrative suggests, the likelihood that WCO will convince Mbuke villagers to support their vision of protecting turtle habitat and

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[12] *Bêche-de-mer* is known as sea cucumber in English, *pis lama* in Tok Pisin, and *bonai* in the local Titan language. Papua New Guineans previously harvested *bêche-de-mer* for sale to export markets. However, following a noticeable decline in *bêche-de-mer* numbers, the National Fisheries Authority implemented a three year ban on its collection, beginning in 2009.

[13] I recognize there may be reasons why the Mbuke community represents themselves in this way, including potential financial gain or other benefits from such behavior.

eliminating "illegal" harvest and trade on the basis of biodiversity and ecosystem functioning seems unlikely, particularly given WCO's absence of community education programs in Mbuke.

The ways in which the Mbuke villagers position themselves as committed conservationists is reminiscent of broader theoretical discussions on self-positioning and the ways in which individuals may seek to represent their community in a way that attracts external actors and benefits, as described by Tsing (1999) and others. When I asked Samuel about his motivation for becoming involved with conservation organizations, for instance, he initially mentioned an interest in looking at issues in his village. Next, he explained how Mbuke received funding as a result of this interest and described how the village was then able to buy a boat and a motor. Samuel elaborated that Mbuke villagers appreciated tangible benefits: "if you work with NGOs and you are receiving some money, you are okay. But if you are not receiving an allowance or something like that, then you see that people do not commit themselves… they can see that partnering with the NGOs can do something." Samuel's statements suggest that some individuals in Mbuke realized that positioning themselves as a community concerned about and committed to conservation would enable engagements with conservation organizations, such as WCO, that could result in tangible benefits. At the same time, WCO needed a community who could participate in their turtle conservation project and help them achieve their stated CTI goals; Mbuke represented themselves to WCO as an ideal community to implement such a project.

Despite these seemingly compatible WCO and Mbuke goals, the vignettes above highlight inconsistencies between what managers believe to be occurring and what actually occurs in Mbuke. This situation underscores the potential effects of governance-at-a-distance management styles, which are generally employed by managers who are based in the capital and are therefore less likely to observe the behaviors of Papua New Guineans. Consequently, managers are likely to continue to make assumptions about Papua New Guineans as ideal conservation partners. Further, if managers do not visit project villages, they miss opportunities to raise awareness about conservation, as understood by WCO, or to recognize a need for environmental education.

Moreover, when WCO managers govern-at-a-distance, they rely on field staff, such as Samuel, to inform them about project activities and local challenges. If field staff do not contradict managers' assumptions through direct communication or project reports, such assumptions persist, which contributes to incomplete and unrealistic understandings of project

realities. As previously noted, WCO's CTI document asserts that WCO has "carried out substantial site-based work" and sets a goal of effectively managing one turtle nesting site in PNG, with a management plan approved by local communities. WCO PNG managers believe such activities are achievable and Samuel has assured them these activities are underway in Mbuke, as Ryan Harrington, WCO's former Marine Manager, describes in the section below. However, the vision of WCO PNG managers, reinforced by Samuel's statements that he can deliver on WCO objectives in Mbuke, contrasts with Mbuke villager actions. This disjuncture between managers' assumptions about the environmental convictions of Papua New Guineans and villagers' behavior is one factor that contributes to gaps between managers' intentions and project outcomes when managers employ a governance-at-a-distance strategy. The following section elaborates on how managers who accept field staff claims about community commitment or project achievements or at face value risk incomplete understandings of project situations.

Socio-cultural differences

This section expands upon how communication differences between managers and field staff limited honest communication about project activities, further contributing to disjunctures between managers' intentions and field activities. Ryan Harrington explained how WCO PNG managers believed Samuel Parkop's promises about his ability to carry out conservation activities in Mbuke. When I asked Ryan how WCO selected Manus as a project site and why WCO staff had not been to visit the project, he explained:

> talking to someone does not imply an equal relationship and that is what the Moresby staff do not understand. They thought if they talked to [Samuel] straight…they do not understand that [Samuel] will tell them what they want to hear. So they believe in this myth that [Samuel] is an island person and knows everything about his place. So they think okay, [Samuel] told us he can save all the turtles. And I know that [Samuel] knows he cannot do that and I talked to him and said why did you say that. And he is like well...so as a manager, they need to…be aware and they need to work to create a process to breakdown where the staff feel free…but [Moresby managers] do not understand that and they just talk to the staff without considering hierarchical dynamics. And those relationships [are] very important, especially in the Pacific because people do not…[speak] outside of the boundaries.

Ryan's perspective on the willingness of WCO management to accept Samuel's statements about his ability to implement marine conservation strategies suggests that WCO PNG managers did not consider larger socio-cultural issues and power dynamics at play in manager-field officer communications. Ryan emphasized WCO managers assumed that because

Samuel is from Mbuke he "knows everything about his place." He stressed how WCO management accepted field staff reports at face value, without considering the possibility that staff "will tell them what they wanted to hear." Ryan also described how managers assumed that, as "an island person," Samuel would understand and be able to translate Mbuke's interest in turtle conservation to WCO staff, a statement that reflects an assumption by managers that a Papua New Guinean will understand the culture in a particular project site, even if he or she does not have a social science background or training. Such assumptions that a "native" villager is well positioned to act as a liaison between his community and NGO staff, without any training, are common among conservation organizations in PNG. A further challenge, that I return to in the discussion, is that, as a Mbuke villager, Samuel must navigate tensions between his responsibilities as a WCO staff member and his identity as an Mbuke villager.

Indira Bhatnagar, a WCO PNG manager, supported this perspective that WCO PNG managers fail to contextualize Papua New Guinean staff perspectives or to consider differences in how Papua New Guineans communicate with supervisors or senior staff. She explained "[national staff] do not speak up in group meetings because they do not feel it is appropriate. And it makes it difficult because it looks like people are happy and they are not and you only find that out in quiet conversations in the coffee room afterwards."

Part of this misunderstanding arises from dynamics between expats and national staff. For instance, in the WCO meetings Indira refers to, expats compose the management team while Papua New Guineans make up the majority of the junior positions; consequently, the meeting dynamic is not just between senior and junior staff but also between senior expat and junior national staff. A further challenge, as some staff suggested, is that expats and national staff may have different ideologies or values.

Education and access to information also influence meeting participation. Kevin Kuk, WCO's Forest Research Coordinator, explained that he used to feel shy at meetings because he felt he did not know enough to contribute. Now, however, he said he has more experience and uses the internet to learn new information and consequently feels more comfortable sharing his thoughts. At the same time, Kevin said he makes choices about what he shares, explaining "there are some things the local people tell me that I do not tell [expats] and things [expats] tell me and I do not tell [locals]."

Lauren Pomat, a Papua New Guinean conservationist who runs a national conservation NGO, suggested national staff do not feel they have the power to share their opinions. She explained such a situation "is quite common among [big international] NGOs, that you might have a very good local person but they may not have the decision-making powers or the power to intervene. And sometimes that can lead to projects falling apart or not achieving [their] full potential."

One WCO Global manager described communication differences among her team, none of whom are native English speakers and emphasized that such differences had to be actively addressed to ensure good communication. However, she said conservation practitioners "do not teach ourselves those sort of human interaction things up front in the conservation movement, we only do that when we come across problems," a statement that suggests recognizing and addressing such differences is a skill that has to be learned.

Overall, these comments suggest the potential for WCO managers to misunderstand the cultural context in which staff share opinions. Consequently, managers may unintentionally enable an atmosphere where they are likely to make assumptions about staff agreement or misunderstand wider contexts. When managers govern from a distance, they rely on staff to inform them about the situation on the ground; if managers do not understand how cultural and communication differences can affect such information, they are more likely to have a partial understanding of the project. Conversely, managers who employ governance-at-a-distance strategies while also recognizing the potential for staff to report what they assume their superiors want to hear can take steps to encourage honest communication with their staff and to minimize such communication issues.

An expat manager at another international NGO described her efforts to minimize cultural communication differences and ensure cultural sensitivity. She said:

> it takes an effort…in PNG, people are reticent to give you their opinions…we are not used to that long silence that [Papua New Guineans] are used to. And you get the silence and it does not mean that they are not answering, it means that they are still thinking about things…I bite my tongue long enough to get their opinions.

She emphasized learning to be comfortable with silence in order to allow Papua New Guinean staff time to express their opinions.

Peter Nelson, a Papua New Guinean manager at a national NGO, described how his organization tries to place statements within an appropriate context. He gave an example of a

community who approached his organization for help with their water supply. He explained how a staff member responded "'what is the problem with water?'...because [the community was] asking for a water pump and they need to know if that is the real problem. Then, the community told them that the water is dirty. And [we] asked why is it dirty? And they said 'oh, the pigs are crossing the river." The organization asked "do you need a pump or do you need something else?" The employee explained that the NGO then worked with the community to set up fencing to keep the pigs away from the water, rather than responding to the initial request for a water pump. He used this example to illustrate a wider issue: the "need to dig down and find out what the real problem is, you might otherwise address the symptoms." As Nelson suggests, if the NGO had accepted the community's first request, the NGO might have provided a water pump without realizing the community needed fencing to prevent pigs from contaminating the water supply. His story illustrates how effective communication between an organization and a community can ensure project activities address community needs.

This sub-section illustrates some of the many socio-cultural disconnects in PNG between senior and junior staff, expat and national staff and between national NGO staff and communities. Melanesian scholarship also addresses ontological and epistemological differences between expatriates and Melanesians.[14] Such communication challenges are likely to persist because socio-cultural differences cannot be solved by expat managers from Port Moresby simply encouraging Papua New Guinean staff to share their perspectives or managers visiting field projects more often. Further, as one manager put it, some social and cultural differences are entrenched and overcoming such communication challenges can be a slow process.

Social distance

In addition to creating physical distance, governance-at-a-distance also results in social distance among staff. I regularly interacted with NGO staff who worked in field locations of varying remoteness from the national office, many of whom expressed a desire to have a closer connection to their organization. For example, Samuel Nickson, a field staff with another international NGO, explained his distance from the larger organization: "[two of our offices] are staffed by only one person each, it has always been pretty sad. I sit here everyday staring at the four walls and at times no one disturbs me." Samuel felt isolated from the NGO in his daily activities but also emphasized the close connections he had with staff over email, which kept him

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[14] See for example Gegeo 2001; West 2005, 2006; Kirsch 2006; and Halvaksz and Young Leslie 2008.

feeling connected to the organization. He elaborated "we feel that we are a part of this family…I came down [to the office] feeling so good because my friend [a co-worker] called…he said if you ever need help, or doing a survey and you need [help], I can always make time to assist you." His comments illustrate how managers can govern at a distance and still make an effort to connect with field staff to minimize social distance and feelings of isolation.

Two examples further illustrate how social distance can contribute to a lack of understanding about how individuals contribute to organizational goals. Samuel Pakop, the WCO employee in Mbuke, said "I [do not really know] most of the other activities that WCO do[es] across the planet. I am not really sure about the main objectives of WCO. What is the main objective of WCO Global, I am not really sure what is their purpose." Similarly, John Kepore, who replaced Ryan Harrington as WCO's Marine Manager, said he was not clear on the goals of WCO's Madang office or on WCO's position on proposed changes in PNG's Environment Act, which would potentially impact WCO's Madang project site. He elaborated "what is happening in Madang right now, we do not have a clear position on all of these developments coming…what is WCO's position?" John emphasized that he had tried to clarify WCO's mission and vision with WCO PNG staff in Port Moresby during several different discussions but had been unsuccessful, saying "I would like to have a clear vision on where we are going, we cannot be working in the dark, somebody needs to tell me what to do." He further explained that, because he was based in Madang, he missed opportunities to participate in strategic discussions with senior managers to understand WCO's broader goals. Indira Bhatnagar, a WCO PNG project manager, recognized this gap, saying "[less] than 10% of WCO staff could [accurately describe WCO's mission and goals], not even close." She suggested that "maybe that is why there is a big disconnect between [our international office] and the country offices."

Such disconnects also existed between WCO and the communities in which it worked. Ryan Harrington described how he discovered community members did not understand WCO's goals and mission. He said:

> Like with [a Riwo villager], he has been working with [a WCO-affliated researcher] for 15 years and the other day he was like, I never knew why I count fish and all of this stuff. And he said he really never knew why he was doing it and he said now I know why…you get glimpses of empowerment…They are hard to capture in project talk, like what are you going to say, x number of people empowered to think critically?

Ryan's point underscores the importance of project staff and community members understanding how their activities contribute to overall organizational goals. His comment also raises the difficulty of capturing such moments in ways that can be shared with managers and donors as positive project achievements.

This section briefly illustrates two ways in which governance-at-a-distance can contribute to social distance. First, staff who are physically distant from the organization can feel socially distant. When staff are physically distant, they are less likely to be involved in discussions about how their activities contribute to the larger work of the organization or to participate in project planning. Consequently, these staff described their lack of understanding about the overall work of WCO and how they contributed to it. Further, it is also important to note that social distance can also emerge even when staff are not located in physically remote areas.

Managerial assumptions

A fourth factor in understanding governance-at-a-distance management strategies is managers' assumptions about their own actions. The majority of WCO managers described their belief in the importance of observing field projects and understanding field perspectives. Thomas McDermott, WCO's former Country Director, explained that he consistently encouraged senior managers from WCO Global to visit projects in PNG, saying "for the people in the head office, you have to get them out of the head office at least once a year to get a field reality." His statement suggests that he recognizes the importance of senior managers visiting field offices to understand on-the-ground realities. At the same time, his stated belief was not matched by his actions: this manager had not visited any WCO marine projects during his tenure in PNG.

When explaining why Elisa, an expat manager conducting a review of WCO's marine program, did not visit Mbuke, one of WCO's two marine project sites, Thomas said "we had a restricted budget… Elisa was able to talk to [Samuel] anyway [on the phone] and meet with the marine team but she could not go to all of the places…we just did not have enough money…we had to get Elisa to focus on the key players…and it is not easy to get to Manus...That was the bottom line and for the cost it would incur, we would not have got as significant benefit…you have to make choices…" Thomas' statement illustrates how the high cost of traveling to project sites in PNG and limited time force managers to make decisions about the level of field engagement necessary to understand and manage a project. Although Thomas said he believed staff needed to visit the field, he then said such visits are not always possible. He further implied

that phone communication can replace in-person visits. This example shows an inconsistency between his stated belief about the importance of understanding on-the-ground realities and his commitment to ensuring that such visits occur.

Similarly, managers may make assumptions about their understanding of and rapport with field staff. Elisa described her ability to listen to and talk with field staff as her biggest accomplishment when working at the field level. She said

> I am connected through the personal friendships to the guys in the field…being able to read a bit between the lines of work plans and stuff…[my] ability to listen patiently, because I am from the outside…this was a big thing that I managed to get the people talking to me and providing me with information…that is, for me, the biggest achievement.

Elisa's comments suggest a rapport with field staff and an awareness of the need to "read between the lines" to understand the broader picture, similar to the two managers above who emphasized the importance of listening. Yet field staff remembered their interactions with Elisa differently from the way she described them. One said Elisa never asked staff questions about the field situation and never listened to what was happening at the project level. Two field staff said Elisa came to the office but never visited the communities. Patrick Tanou complained about her approach, saying "She came here to do the strategic plan, how do you know about fishermen if you…are just in town?"

These differing perspectives on the same manager-field staff interaction suggest individuals may remember situations in different ways. Elisa had good intentions: she described her goals to build a relationship with the field staff and believed she was able to understand field level dynamics and realities, describing this understanding as her biggest achievement in PNG. At the same time, field staff did not consider their relationship with Elisa to be a good one and felt she lacked an understanding of the project context. Overall, these examples suggest managers may believe they act in one way but that their actions may either not be consistent with their stated intentions or may be perceived differently.

Personal choices

Staffing concerns and a reluctance among many qualified individuals, both expats and Papua New Guineans, to be based in field locations also contribute to governance-at-a-distance strategies. Managers explained that individuals with field experience reach a point at which they start to prefer an office job to a field job, which results in difficulties finding experienced staff who are also willing to manage field projects. WCO's Country Director described this problem

in the PNG office, saying "it is a problem in biodiversity conservation, it is the young, unattached people who go out and do fieldwork but they have no experience. And the guys with experience are now married with a family and they need to have an office job, probably not in that country anymore and the wife does not want to stay there…"

One expat manager described this change in himself: "what has changed, as I have gotten older, I used to spend long periods out in the bush and now I want to be at home with my wife and my baby…the reality for me now is different." Similarly, another expat WCO staff based in Port Moresby, who oversaw a project with a difficult to reach field location, described how he tried to minimize his trips to project sites because he felt guilty leaving his family for such long periods.

Managers also described how such locational preferences affected their hiring. For instance, Thomas McDermott explained that he recruited someone for one of the WCO marine projects who then "decided he would not come to Moresby and they [instead] stayed in the US to start a family." WCO's preferred candidate was unwilling to live in the field location so WCO then offered the position to their second choice candidate. Such situations can result in organizations having to accept less qualified staff for field positions.

Additionally, supervisors may relocate experienced field staff to the capital to utilize their field experience in shaping policies or organizational strategies. A senior government officer described how he was promoted to an office job and required to focus on administrative and management tasks because no one else in his department had the necessary field expertise and knowledge. He said he missed the field visits and participating in on-the-ground activities: "since I got in this job, I have never gotten my hands dirty, I have never worn my wetsuits…" When supervisors move staff from field locations to the capital, they lose experienced staff in the locations where conservation activities are implemented.

Overall, these comments suggest individuals may reach a time when they are no longer willing to make personal sacrifices for their professional lives, resulting in a situation in which individuals gain experience over time, but then leave field positions because they feel they have become too distant from home. This situation further limits the pool of qualified, experienced individuals, both expats and locals, willing to live in rural, field-based locations where conservation projects frequently operate, suggesting that governance-at-a-distance management styles are likely to persist.

Additional constraints

Other factors, such as limited time,[15] financial resources, and high transport costs,[16] some of which were alluded to above, represent further challenges that contribute to governance-at-a-distance management styles. In addition, it is possible that a community-based marine and coastal marine conservation project implemented by Conservation International has influenced other NGOs to limit their field visits or approach community components with greater caution. An independent evaluation described the CI project, which had a substantial community component,[17] as encountering "failure in overall management, in financial management, in monitoring and internal evaluation and in technical backup" and it ended prematurely (Baines et al 2006: iii; see also Dowie 2008 and Balboa 2009). One individual who served as an adviser to the project described how the project expended significant financial resources and effort on community components without focusing its effort. She said

> One of the activities was to map out an area, a tiny little island with a small bit of coast on the mainland and I saw pictures of something like eight, ten, all this satellite gear hooked up here, there, and everywhere, and there were 40 people trampling around everywhere, GPS for every crab hole…these results were presented to use with all this wonderful GIS data…I asked the question, could you show us a map that indicates the types of land use… and they said we actually, we do not have that data. And I said, you have crab holes and Panduau trees, but you do not have land use? So I said, where are the settlements…they frowned…and they said we did not put in settlements and I said what is the point?...[the project] was that sort of thing, it was ridiculously technical, but did not give relevant information in a lot of cases.

This individual, and other conservation practitioners, suggested that this well-known and very expensive failure contributed to increased caution among NGOs in implementing community activities in PNG.

Finally, it is important to note that PNG is an extremely expensive location: in a comparison of the cost per locally managed marine areas in the Pacific, PNG represents the most

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[15] I recognize that, as a doctoral student, I had the luxury of spending significant time in villages without the demands of project management, organizational and donor reporting, and other office responsibilities. Such extended stays are likely impossible for senior managers; instead, there may be other strategies managers can use, including partnering with researchers or more closely collaborating with local or grassroots organizations. It is worth noting that two international NGOs did explicitly seek to engage with me on my research findings, saying that the information I collected in the village would be helpful for them in understanding their programs. More collaboration of this nature could be valuable.

[16] Managers also increasingly cite climate change and concern about the organization's carbon footprint as a limiting factor in staff travel.

[17] This project's community component generated a large amount of community data, with the aim of establishing community-based marine conservation areas. The evaluation notes that "a considerable body of the required data has been amassed" without achieving any community-based marine management areas (Baines et al 2006: iv).

expensive cost per site. The average cost per site in PNG[18] was $14,544, compared to $2,506 in the Federated States of Micronesia, $2,854 in the Solomon Islands, $6,580 in Fiji, and $8,348 in Palau (Govan 2009: 60). While time and expense represent real challenges in PNG, these factors represent common challenges that affect any organization operating in PNG and therefore do not explain how gaps and inconsistencies between project intentions and outcomes emerge and persist.

Discussion: Explaining Governance at a distance

There are many reasons for governance-at-a-distance management strategies, including the difficulty and expense of getting to project sites, particularly when organizations have limited budgets and staff have limited time. PNG's mountainous terrain and limited road infrastructure means that WCO managers cannot drive from the WCO PNG office to any of WCO's field sites. The effort required to get to these remote field sites in PNG likely intensifies governance-at-a-distance management strategies in PNG because of the barriers (and even mental efforts) managers must overcome to reach these sites. This chapter argues that such governance-at-a-distance strategies are likely to persist, especially given that senior staff indicated a reluctance to be based in project areas, and the difficulty of finding qualified field staff. Even if WCO increased its field presence and decreased its reliance on a governance-at-a-distance strategy, my findings illuminate some entrenched challenges that are likely to persist. These include managers' assumptions about: the environmental convictions of Papua New Guineans; accepting field staff reports at face value; or the ability of a native villager to represent the interests of his village to an NGO.

As I alluded to in the results, a villager who works for an NGO while being based in his native community faces several challenges. As a WCO staff member, Samuel is responsible for implementing project activities, delivering on project aims, and ensuring villager compliance with turtle protection, wild fowl harvesting, and dumping trash in the management area. As an Mbuke villager, Samuel has ties within the community that he could jeopardize if he enforces community management rules. This finding highlights a limitation in arguments for a field presence, underscoring how managers or staff who are based in a community may lack incentives to enforce management rules or to convince villagers to adopt different behaviors because of their personal ties to the community.

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[18] These calculations included eight sites in PNG, which include the locations in my study.

The results also show the multiple implications of a governance-at-a-distance strategy, from the physical distance between managers in Port Moresby and field staff in project sites to the cultural and ideological distances that emerge in communication and interaction among senior vs. junior and expat vs. national staff as well as the social distance created when staff do not feel connected to the organization. These multiple meanings of distance illustrate how there is a literal difference that can be bridged by visiting projects as well as socio-cultural differences that are more entrenched and less simple to bridge.

I suggest two explanations for why managers govern from a distance. First, national managers must balance many tensions, including the pressure to maintain a presence in the capital, as described by Eyben (2011) and Rajak and Stirrat (2011). While managers who visit field sites likely gain an increased understanding of the projects they manage, other dynamics exert pressure on these managers to remain in the capital.

For WCO's senior managers, "being there" is Port Moresby, rather than Madang or Manus. One WCO staff described Port Moresby as a "conservation clique: you live, work with, play with your expat conservation community, very intense, intellectually and emotionally." These managers meet with their counterparts at other large international NGOs or visit government ministries in an attempt to engage with their peers and government officials and to raise their organization's profile. For example, Department of Environment and Conservation staff rarely pick up the phone and many cubicles are often empty. A manager who tries to collaborate with Department of Environment and Conservation staff by calling the office or visiting during a short visit to the capital is unlikely to interact with staff. While capital-based NGO staff may still face challenges in meeting government officials, managers in the capital have more flexibility and opportunities. Port Moresby is a small town and NGO staff are likely to informally interact with their peers or government officials in town. I regularly ran into conservation practitioners and government staff at the grocery store, markets, yacht club, and airport.

At the same time, this commitment towards coordination in Port Moresby comes at a cost: it compromises managers' ability to fully understand field activities, as the example of Mbuke shows. Some managers recognize the tradeoffs in balancing their national and field level presence. Paul Smith, a former Terrestrial Manager, for example, explained that his initial responsibilities were technically focused. However, when he was promoted, he focused more on

"project management and all that sort of stuff…it is funny, it is important to get into the bush and I have been doing less and less of it." His comment suggests that he knows the importance of spending time in the field and observing local realities but his management responsibilities prevent this type of engagement.

Second, managers may evade field visits to avoid confronting the reality of problems that occur in the field. If managers remain in Port Moresby, they can continue to reassure their superiors and donors that everything is going well, based on field staff reports. However, if managers visit the project and discover inconsistencies, such as local villagers killing the turtles that field staff claim they are protecting, managers must then confront these problems. Governing-at-a-distance allows managers to avoid addressing these complexities.

WCO's Conservation Director's visit to Madang exemplifies how short field visits may not give staff a complete picture of project activities. After spending a morning visiting one project village with field staff and an afternoon on a boat touring the conservation site, he returned to Port Moresby optimistically describing villagers' interest in working with WCO on marine conservation. He said he felt field staff reports on local villagers' attitudes towards WCO were overly pessimistic in comparison with his observations. This manager used his field trip to reconfirm his own assumptions rather than to investigate why field reports differed from his observations. Both these explanations highlight the limited incentives that exist for managers to visit field sites, a finding that I explore further in the conclusion section below.

CONCLUSIONS

This chapter uses a case study from Mbuke village, PNG, to illustrate how disjunctures between what project managers believe is occurring, what field staff claim to be doing, and what marine conservation projects accomplish in practice emerge when managers employ a governance-at-a-distance strategy. The results show five factors that contribute to the types of disjunctures that occur when managers employ such a governance-at-a-distance strategy and suggest several entrenched challenges that are likely to contribute to the persistence of governance-at-a-distance. Managers' stated their intentions to develop projects that contribute to WCO priorities and outcomes, such as successfully conserving and managing areas of marine biodiversity in the CTI region. The CTI is one of WCO Global's priority areas, which likely influenced managers' decisions to work in Mbuke, despite their limited knowledge of the area.

As this chapter shows, however, by employing a governance-at-a-distance management strategy, WCO PNG managers encountered several difficulties in achieving their intended aims in Mbuke.

Second, the findings underscore the dangers of the assumptions managers may develop when they govern from a distance. For instance, WCO PNG managers desired PNG communities who could represent ideal conservation partners. When the Mbuke field staff assured managers that Mbuke represented such a community, he reinforced managers' assumptions about the environmental convictions of Papua New Guineans. However, the vignettes in this chapter show how Mbuke villagers positioned themselves as ideal targets of conservation programs while continuing to act in a completely different manner, a finding that underscores how local people may articulate particular identities to benefit from conservation, similar to political ecology scholarship on how local communities may position themselves in particular ways to benefit from conservation. The absence of WCO managers or other WCO staff from outside Mbuke also meant that villagers could not be held accountable for their behavior. Further, it is worth noting that, in some cases, local communities may have more experience with conservation organization staff than the conservation organization staff have had with communities, which means that such communities have significant expertise in engaging with, and potentially manipulating, NGO staff. Additionally, in the absence of community awareness raising programs, or other similar mechanisms, managers failed to shape Papua New Guineans into environmental subjects interested in and supportive of marine conservation efforts. This situation further suggests how making assumptions about the commitment of local communities can result in projects that unfold in unexpected directions, contributing to gaps and inconsistencies between intentions and achievements.

Third, this chapter provides insight into some of the personal choices and motivations of conservation professionals by advancing scholarship on the social lives of conservation professionals. Similar to Eyben (2011) and others, my results suggest that managers may avoid or limit field visits to avoid the "messiness" of the local situation or to minimize knowledge that challenges already defined objectives. Further, personal preferences for office jobs, rather than field positions, mean that governance-at-a-distance strategies are likely to persist in the future, raising questions about how conservation organizations can address the challenges that result from such a management style or even whether the operating mode and structure of large conservation organizations are conductive to achieving effective, on the ground conservation.

This chapter identifies real constraints that contribute to governance-at-a-distance strategies, such as tensions between office responsibilities and field time, pressure for managers to have a presence in Port Moresby, challenges in recruiting skilled staff for field positions and resource limitations. Managers who are based in the capital but responsible for field projects will likely always experience tension between a national and a field presence. However, such challenges can be addressed by planning for field visits in the project budget and finding staff who are interested in living in field locations or providing incentives for staff to live in such locations. In contrast, more entrenched challenges such as socio-cultural differences in communication and power asymmetries will not be solved by managers simply visiting project sites or interacting with field staff. This chapter also suggests limitations in arguments for a field presence by showing how field staff based in project locations may still not be able to address certain challenges, particularly if staff are from that particular community.

In conclusion, this chapter argues that governance-at-a-distance is broadly characteristic of all large conservation organizations and is likely to persist in the future, particularly given some of the entrenched challenges that I highlight above. In the example described in this chapter, governance-at-a-distance contributed to disjunctures between intentions and achievements that resulted in WCO PNG failing to achieve the types of marine conservation outcomes, such as turtle conservation, that they wished to achieve. This chapter therefore illustrates a case where governance-at-a-distance does not work. An important next step in understanding governance-at-a-distance is identifying situations in which governance-at-a-distance works and situations when it does not work.

CHAPTER FOUR: Producing Knowledge and Ignorance: Understanding varying conservation approaches among conservation professionals

INTRODUCTION

> On paper, you look at Madang, the infrastructure, the number of organizations, and you think, wow, this is a place where conservation should be able to work and in reality is completely the opposite. And all of the factors have come together and things have not been working there, I think it is an eye opener.
>
> --Conservation manager, Papua New Guinea

Conservation organizations have become larger, better organized, and more professional over time (Uphoff 1993; Edwards and Hulme 1996; Zaidi 1999; Wapner 2002). As the number and type of conservation NGOs has expanded and their expenditure has grown (Oates 1999; Brockington and Scholfield 2010b; Holmes et al 2012), their size and influence has also grown (Brockington and Schofield 2010a). However, despite both the growth of conservation NGOs and increasing international commitments to conserve biodiversity, such as the Convention on Biological Diversity's Aichi Targets, global biodiversity continues to decline (Butchart et al 2010). To better understand the challenges faced by conservation NGOs in conserving biodiversity, I explore how conservation professionals shape discursive practices and define conservation goals, thereby shaping knowledge forms. This chapter addresses lacunae in three inter-related bodies of literature: first, that on the inner workings of conservation NGOs; second, that on conservation as political and economic processes; and third, a growing body of work on gaps between discourse and practice in conservation projects. My study advances discussions about the role of development in conservation through a case study from Madang, PNG.

While many social scientists discuss the NGO sector, systematic examinations of how "local and international organizations interact...and what ideas are implemented within this network" are limited (Brockington and Schofield 2010: 570). Few studies empirically examine the internal debates and politics of the organizations behind international conservation (King 2009). Development scholars have produced institutional ethnographies that examine the internal workings of development agencies to show how actors shape discourses and produce particular policies (e.g., Cooper and Packard, 1998; Bebbington et al 2004; Mosse 2005). For example,

Lewis et al (2003) analyze the influence of organizational culture on World Bank development projects in Bangladesh, Burkina Faso, and Peru. In contrast, conservation scholars have paid comparably less attention to analyzing conservation project formation and implementation. Analysis of conservation NGOs that shows how internal deliberations at various scales shape individual approaches, thereby producing particular project and organizational priorities is needed. This chapter tracks the decision-making processes of staff at international, national, and field offices who define and implement marine conservation projects.

Second, this chapter pays close attention to the "agencies and ideologies of differently positioned actors" at multiple scales to analyze how individual conservation actors shape organizational practices and outcomes (West 2006: 26). This approach draws upon seminal institutional ethnographies that examine how development "brokers" (Mosse 2005) translate and transform project knowledge, converting organizational goals into local activities, and interpreting local activities to represent success to higher level authorities and maintain project coherence. This approach also illuminates possibilities for deviation and alteration: Heyman (2009), for instance, draws attention to the role of middle managers and field staff in reworking goals from the top to the field and transforming their actions into particular representations of success that appear to contribute to organizational goals. Dove (1992; 1994) illustrates how Pakistani foresters' beliefs about farmers' preferences were universally inaccurate and resulted in misguided development assistance. He showed how this misguided assistance persisted because foresters' continued to insist on the accuracy of their (inaccurate) beliefs even when presented with evidence to the contrary. Dove's analysis underscores how attention to beliefs—and the persistence of beliefs—can uncover the roles of individuals in producing particular effects and interventions, including what Matthews (2005; 2011) terms the production of ignorance, a situation in which forest bureaucrats may deliberately produce a public fiction about forestry to achieve their own aims. This chapter considers how conservation professionals produce knowledge and ignorance (a lack of knowledge), responding to appeals (e.g., Sundberg 2006; Heyman 2009; King 2009) for analyses that examines the internal workings, debates, and politics of conservation organizations.

While some conservation scholars have drawn attention to differences in perceptions of biodiversity and ideals of management, such scholarship tends to describe differences between "Western" and "non-Western" culture, between urban professionals and rural subsistence users

(e.g., Grove 1990), or even between national and international conservation scientists (Lowe 2006). In contrast, I seek a less dichotomous analysis, with the aim of examining individual understandings of conservation among a range of conservation professionals at multiple levels. One such pioneering work is Sachedina's (2010) ethnography of the African Wildlife Foundation (AWF), which shows how geographic distance between staff in urban areas and staff in field areas contributed to marginalization and exclusion among AWF field-based staff: "Community conservation officers were usually junior in hierarchy and disempowered, undercapitalized, and marginalized from AWF's management. It was virtually unheard of for community officers to attend AWF program or annual meetings, yet these fora were where AWF's thinking and conservation learning took place" (2010: 612). Sachedina (2010) underscores how the location of individual staff affected their influence within AWF. Hardin (2008) also shows differences among individuals at different levels, arguing such differences occur because of varying engagements with place. She illustrates that some hunters and conservation biologists, despite divergent agendas about how wildlife should be managed, share an intimacy with place or particular species that consultants or administrative experts lack (see also Remis and Hardin 2009). Similarly, I illustrate different approaches and understandings among rural and urban conservation staff with varying levels of mobility and site-specific knowledge (see also Chapter Three).

Third, a growing number of scholars have drawn attention to differences between what organizations claim to do and their actual practices, using examples from both conservation and development organizations. Ethnographies of development agencies in such varied sites as development in Lesotho (Ferguson 1990) and Egypt (Mitchell 2002), green neoliberalism within the World Bank (Goldman 2005), and conservation and development improvement schemes in Indonesia (Li 2007) have shown how policies and programs are depoliticized to be amenable to technical solutions and acceptable to development practitioners and elites. Similarly, using a case of water management in Brazil, Lemos and Oliveria (2004) illustrate how actors may justify technical interventions to circumvent local party politics. This scholarship generally concludes interventions will continue to fail to address dominant political or economic structures and power asymmetries among development practitioners, elites, and the subjects of their interventions, which allows elites and technocrats to continue to implement interventions and survive changing politics. Despite such failures, these projects still have important outcomes: for instance, the

World Bank livestock program in Lesotho does not achieve its aim of eliminating poverty but does expand bureaucratic state power. Ferguson (1990: 254) emphasizes: "what is most important about a 'development' project is not so much what it fails to do but what it does do," suggesting "its real importance lies in 'side effects,'" the "instrument-effects" that are exercises of power.

More recently, Carrier and West (2009) have emphasized that disjunctures between intention and action are not rare instances of particularly difficult projects or exceptional situations, but instead are "a necessity, actively maintained and reproduced by knowledge systems" (Mosse 2005: 97). This perspective shares with Ferguson the recognition that instrument-effects, or disjunctures, produce dynamic effects. To understand such disjunctures, Lewis and Mosse (2006) propose comparing the worlds that development actors aim to achieve with gaps between intentions and outcomes.

Some studies document how such disjunctures emerge in practice. Filer (2009), for instance, details how the different working groups of the UN Millennium Assessment possessed a preconceived conceptual framework on the relationships among people, ecosystems, and knowledge systems and then created "virtual communities" to match this technical, apolitical vision of environmental management. Van Helden (2009) describes how managers and donors promoted a particular vision in two integrated conservation and development projects but had little control over field level implementation, leading to disjunctures between the vision and outcomes of the project at the head office and the field level. This chapter builds upon this scholarship by recognizing such instrument-effects and disjunctures as ubiquitous. This chapter therefore moves past accounts of conservation failure as instrumental or critical and instead illuminates how and why such disjunctures continuously emerge through marine conservation efforts.

Moving beyond conservation versus development

A proliferation of scholarship exists on the linkages between conservation and development. Here I briefly review the key arguments of this literature to situate my analysis on how individual conservation actors conceptualize the relative importance of conservation and development in their own approaches. Scholars and practitioners alike promoted integrated conservation and development projects based on the premise that conservation could be achieved through sustainable development. Still, many scholars continue to question the ability of such

projects to achieve their aims, describing their premise as "inherently flawed" (Oates 1999: 44) and drawing attention to the "ill-conceived and untested assumptions about their sustainability and appropriateness to local conditions" (Barrett and Arcese 1995) as well as to problematic conceptions of homogenous communities (Agrawal and Gibson 1999). Many critiques highlight the failure of such conservation and development projects to meet their stated objectives (Wells et al 1992; Terborgh 1999; Hulme and Murphee 2001; McShane and Wells 2004; van Helden 2009) and recognize that "making a link between conservation and development…was almost impossible" (West 2006: 35).

Similarly, conservation inquiries have devoted significant attention to anthropocentric (e.g., Adams and McShane 1997; Brosius et al 2005) versus biocentric (e.g., Wells et al 1993; Oates 1999) approaches. Others suggest "'pure' conservation is just a form of development" (Brockington et al 2008: 159). Some conservationists view development or poverty reduction activities as critical components of core conservation (e.g., Ghimire and Pimbert 1997; Hulme and Murphee 1999; Neumann 2002; Roe and Elliot 2004). Those who support this perspective then advocate for including development priorities or tackling poverty as part of conservation's core agenda. Other conservationists view such development activities as distracting attention from conservation's core aim of protecting biodiversity, arguing that it is not possible to simultaneously achieve conservation and development (Oates 1999; Adams et al 2004) or suggesting that poverty alleviation aims have supplanted biodiversity conservation (Sanderson and Redford 2003). Despite such polarizing opinions, most large conservation NGOs, even those that prioritize scientific approaches, now recognize community conservation approaches as an important component in their work. For instance, Conservation International, whose founding staff left the World Wildlife Fund to pursue a scientific, rather than a community, approach, now recognizes social concerns in its work (Dowie 2004; MacDonald 2008). Still, organizational recognition does not necessarily translate into staff acceptance, as this chapter will show.

This chapter questions whether the challenges faced by conservation organizations stem from the types of instrument-effects identified by Ferguson and others; from the prioritization of immediate human needs over wider, longer-term changes in ecological systems, as Oates and others argue; or whether these challenges result from different perspectives among conservation professionals. To address these questions, this chapter analyzes the perspectives of individual conservation actors within the complex institutional landscape of an organization I term, as in

previous chapters, the World Conservation Organization (WCO). As staff struggle to align field projects with organizational strategies in order to achieve organizational objectives, disjunctures emerge among actors at each level. By incorporating data from WCO's multiple offices, this chapter presents a multi-leveled perspective on marine conservation efforts.

I begin by describing the study area and methodology, illustrating why insights from PNG, what some describe as a "marginal out-of-the way" place (Tsing 1993), have important implications for conservation theory and practice globally. Like many other seemingly out-of-the way places, Madang Lagoon represents a place that shapes processes at local, national, and international scales. Its high ecological diversity and inclusion in the regional Coral Triangle Initiative (CTI), a multilateral partnership on coastal and marine conservation among Indonesia, Malaysia, PNG, the Philippines, the Solomon Islands, and Timor Leste, mean that Madang Lagoon is a location of interest and importance for conservation practitioners, Further, given the importance of social relationships in human-environment interactions in PNG, WCO's project in Madang Lagoon is a particularly appropriate location to investigate these research questions. The results section then describes the decision-making processes, internal debates, and discursive practices through which certain conservation strategies become prioritized over others, producing organizational objectives, project outcomes, and local level consequences. I conclude by highlighting different perspectives among WCO staff and propose three reasons why managers may invite ignorance on organizational activities and outcomes.

DESCRIPTION OF STUDY AREA

WCO is an international organization with a headquarter office, regional staff based in national offices, semi-autonomous national offices, and field offices. In some regions, including the Asia-Pacific region, a national office acts as a regional hub for administrative staff and thematic experts. National offices are expected to contribute to global objectives and strategies but also maintain some independence in defining national strategies. In the PNG national office, managers based in Port Moresby, the capital of PNG, regularly communicate with staff at headquarter and regional offices and with staff in other national offices who provide financial support or strategic guidance. WCO has multiple field offices throughout PNG that are located close to project sites. The level of interaction between these field offices and the national office varies among field offices and individual managers. As Figure One shows, each level of WCO produces a strategy for organizing and focusing their work. In the sections below, I will show

how WCO PNG managers manage project knowledge to ensure that the Madang workplan and national strategic plan contribute to WCO's global program strategy.

Figure Two. Schema of WCO Offices and Their Strategies.
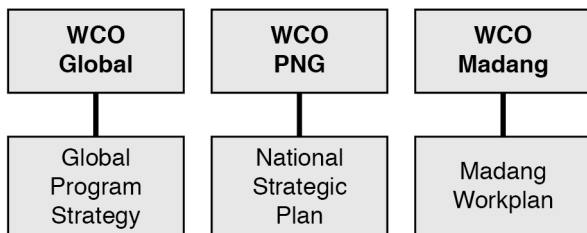
This chapter focuses on WCO's marine conservation efforts in Madang Lagoon, an area several conservation organizations identify as significant for global biodiversity. PNG's reef ecosystems are among the richest on earth (Chin et al 2008) and Madang Lagoon is the most ecologically diverse lagoon on PNG's north coast and contains coral reefs, mangroves, and seagrass habitat. Madang Lagoon's rich reef diversity represents 57 percent of reef species in PNG and 14 percent globally (Jenkins 2002a; 2002b). WCO played a role in creating and registering four marine Wildlife Management Areas (WMAs) in Madang Lagoon, representing 27 percent of the area.

More recently, WCO has emphasized Madang Lagoon's biodiversity when identifying it as a key priority within the regional CTI. Potential threats to Madang Lagoon's marine habitats (and to WCO's conservation efforts) include commercial and industrial interests, such as inland logging concessions, the in-progress Pacific Marine Industrial Zone, and the Ramu Nickel mine (see Havice and Reed 2012). Additional threats include an average annual population growth rate of 3.7 percent (NSO 2002), water pollution, and climate change impacts, including coral bleaching and ocean acidification. Madang Lagoon is typical, and therefore generalizable, of the scale and space in which conservation interventions occur globally.

Madang Lagoon is a particularly appropriate location for considering tensions between conservation and development because social relationships are the core component of human-environment relationships in PNG, as Melanesian scholarship demonstrates. Bamford, for instance, illustrates how the Kamea track "social relations over time...based on human-environment relations (2007: p. 62). Jacka (2001) highlights how Paiam and Western conceptions of land differ, resulting in divergent interpretations of the same events. Jorgensen

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(1997), West (2006), and others document the complexity of land ownership in PNG. This scholarship illustrates how misinterpretations can occur when extra-community actors ignore the economic, historical, political, and social contexts of their interventions and further stresses the challenges that can arise if external actors ignore social relationships. This chapter therefore recognizes that attention to social relationships in human-environment interactions is critical in understanding Papua New Guineans engagement with conservation.

METHODS

Between January and December 2010, I conducted semi-structured interviews at NGO and government offices and with other stakeholders in Port Moresby and administrative centers in Madang, Manus, and New Ireland provinces. These NGO interviews include representation from large, international NGOs and smaller, national or local NGOs in PNG. Accordingly, my data include staff perspectives from diverse types of institutions. This chapter draws primarily on 28 interviews with WCO employees: 17 employees at different offices in PNG and 9 employees at headquarter and regional offices. I conducted multiple interviews with some employees. I also conducted interviews with donor officials funding WCO's work (n=5) and with government officials, NGO staff, and other stakeholders familiar with WCO's operations, which informed my analysis. I observed many WCO activities, from internal WCO staff meetings to WCO activities in communities. I also reviewed public WCO documents, such as press releases and website material, and internal documents, including strategic plans and workplans, and external project evaluations.

As with the analyses in previous chapters, I coded my interview data and notes, using Nvivo9, to determine categories and themes that I used to develop a codebook. I then coded each interview based on identified themes. I developed my coding methodology following qualitative coding methods (Auerbach and Silverstein 2003; Corbin and Strauss 2008; Saldana 2009). To protect individual identities all names are pseudonyms and some genders were changed.

Additionally, I draw upon 436 household surveys that I conducted in Madang, Manus, and New Ireland provinces, including 224 households in Riwo village in Madang, one of the villages adjacent to Madang Lagoon, which hosts three out of the area's four WMAs. This chapter uses these household surveys, as well as village focus groups and participant observation, to evaluate WCO staff opinions about conservation and community needs from the community's perspective.

FINDINGS

Envisioning Marine Conservation: Aligning Organizational Strategies

I first describe WCO Global staff perspectives on the relationship between international and national offices in achieving global strategies. WCO prioritizes key areas and species that the organization defines as critical in conserving and protecting biodiversity. WCO's website includes statements describing the threats to biodiversity, the urgency of conservation work, and the need to focus on large-scale conservation efforts with the most potential for positive impacts. Through its focus on key global initiatives in priority areas, including the Coral Triangle region, WCO positions itself as an organization capable of addressing critical threats. WCO describes its CTI conservation activities through six strategies: sustainable live reef food fish trade; sustainable tuna; fisheries bycatch; marine protected areas; marine turtles; and climate change.

WCO Global staff play a key role in ensuring that national offices and programs prioritize activities in these six areas and contribute to global initiatives, such as the CTI. Tanya Russo, WCO's Conservation Monitoring Manager, explained that the "different [national] offices are supposed to join together to deliver the [global] program objectives." Hunter Thompson, the Marine Initiatives Manager at WCO Global, described WCO's global initiatives as a way for national offices to "coalesce around common, shared goals…based on capacity, interest, and conservation need." For instance, he said, the PNG office "needs a coherent marine program that plugs into the Coral Triangle" and described his role in ensuring that WCO PNG contributes to global initiatives.

When asked how WCO evaluated whether national programs contribute to the organization's marine goals, Hunter responded "when I can see [their budgets and work plans], I will be satisfied that we have changed internally [to be more effective and successful]…by getting those things theoretically you have more joined up work plans…" Similarly, Tanya considers whether "the offices in the network…mov[e] together, this is the process that we are going through, what we call an alignment towards a new strategic plan, priorities that take it all the way down…I need to ensure the projects…fit in the bigger picture and to make sure that there is a clear goal and objective." Their colleague, Liam Sullivan, WCO's Monitoring and Evaluation Manager, also emphasized clear, coherent strategies. He further stressed the importance of fisheries strategies in PNG, explaining that, because fishing is important for the

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population, WCO PNG's strategy contributed to WCO fisheries related goals, including CTI strategies on sustainable tuna and fisheries bycatch.

Liam's comment reflects an inherent staff assumption about the importance of fisheries in conserving Madang Lagoon that is also present in WCO PNG project documents. For instance, a 2000 report designed to guide the marine program over the next 5 to 10 years states: "the majority of Melanesians live a subsistence lifestyle in coastal villages and are highly dependent on local harvesting of inshore marine products for food and cash" (WCO 2001: 52). The report recommends creating a Madang marine park to "provide for long-term management, development, and conservation of an inshore marine area that is of national and international significance for marine biodiversity conservation, but that is also used intensively" (WCO 2001: 56). This assumption that a marine park benefits local populations is also evident in a 2005 report that describes Riwo villagers' reasons for supporting WMAs: "because it improved fish stocks (36 percent), it restored the beauty of the reef (27 percent), it benefited the community in a general sense (19 percent), and it kept outsiders away (6 percent)" (Jenkins et al 2005: 4). On the whole, WCO project documents advance the assumption that WMAs are important for a local population "highly dependent" on fisheries in a biodiverse area that is "used intensively." In the following sections, I evaluate how the perspectives and assumptions of WCO managers correspond to field realities.

Building Toilets to Save Fish: Reviewing the project

WCO Global staff envision coherent global strategic plans that inform and shape national strategies for contributing to global initiatives, as outlined above. WCO staff based at national and field offices then play a role in ensuring that national strategies and local activities contribute to WCO priorities.

In 2009, the WCO Madang staff decided to review a decade-long marine project. Ryan Harrington, WCO's former Marine Manager, said the staff decided:

> To review the work that had happened before, why the assumptions were made, why people decided to do this…looking at the politics and social and economic and cultural reasons why everything went the way it did. And that was agonizing and that took like a year of renegotiating, asking the people in the villages…asking what happened…trying to make some sense of what they were saying and WCO's role. And we emerged with a different vision or idea.

Ryan also directed a Participatory Rural Appraisal (PRA) that Madang staff and village youth carried out in the villages surrounding Madang Lagoon. This PRA complemented data

from a WCO Madang household survey that sought "to determine the socio-economic drivers of environmental change in Madang Lagoon" (Yen 2010: 2). As part of the PRA, participants identified "solid waste, human waste, climate change induced environmental impacts, oil spillage by ships, shortage of natural resources, and land contamination by plantations" as their environmental concerns (WCO 2010: 21). Participants did not list concerns related to fishing, although they identified fishing as one of several livelihood strategies. The PRA also identified agriculture as the primary livelihood strategy in Madang Lagoon. These findings contributed to Ryan's belief that WCO's approach of creating WMAs to increase fish catch was not aligned with community priorities.

As a result of this review, the WCO Madang staff concluded the project had not included significant community involvement in the WMAs. Staff recognized these communities felt they had not benefitted from the WMAs, which contributed to tension between villagers and WCO's Madang office. Ryan described WCO's past approach of short village visits as "ticking them off a box…for the project framework," an approach that achieved WCO's objective of setting up WMAs. In contrast, Ryan believed long-term engagement between WCO and the villages was necessary to understand village dynamics and generate community support, which he thought would then help to ensure long-term project sustainability.

Following this review, the WCO Madang staff said they "emerged with a different vision" that recognized agriculture-based livelihood strategies in Madang Lagoon and broadened the marine project's approach to include livelihood and social development components. The Madang staff believed that, after a history of tensions between the communities and WCO, it was important to first regain the communities' trust. Consequently, Madang staff focused on improving WCO's relationship with villagers and began working with different groups within the communities, including women, youth, and church groups. Ryan believed if the project regained community trust and addressed social and livelihood concerns, WCO would be better positioned to engage villagers on conservation issues over the long-term.

As part of this broader approach, the Madang office proposed addressing sanitation issues. Ryan explained the PRA "evidence shows water quality is the biggest issue, it is a lagoon issue. They wash in saltwater, near toilets. That is a great link, health and environment, so if you do not move toilets and if the coral reefs are declining because of the water quality…" The Madang staff shared Ryan's belief that sanitation efforts would address water quality issues,

which would eventually contribute to conservation. Ryan justified his broad approach to project activities: "you may have to build toilets to save fish…and build up the name of your work, build up the trust and people with a shared vision for this work."

The WCO Country Representative and Conservation Director, both of whom are based in Port Moresby, did not support this broader approach, and told Ryan "no, we shouldn't work on toilets." Ryan explained his managers ignored the PRA results that demonstrated agriculture as a community priority and continued to pressure him to promote organizational strategies on WMAs that assumed increased fish catch would benefit the community.

WCO senior managers in Port Moresby said they felt the Madang project's community engagement focus represented a departure from WCO objectives and did not support the project's sanitation component. For instance, Sally van Vliet, the Conservation Director, stressed the importance of ensuring individual projects contribute to the organization's conservation aims:

> in the end, you need to check [is] the work you are doing contributing to conservation…to take the Madang project, whatever they are doing and it does not matter if it is…a football tournament or removing toilets…but in the end you need to say what has this [activity] contributed to our core business, which is conservation. And that was missing sometimes…and that is what we are trying to address, whatever [activities are] done, we [need to] see how it contributes to conservation.

Sally explained her view that the project was not contributing to larger, WCO marine objectives: "We were doing marine projects, but it was not put into a larger project and a larger framework where there is a connection" to WCO's global objectives. The process through which WCO tried to integrate the Madang marine project into its larger global framework, described below, further illuminates varying individual approaches within the organization.

Emphasizing Conservation: Realigning the project through the strategic plan

As it became apparent that field staff visions differed from the preferences of their superiors in the Port Moresby office, WCO's Country Director and Conservation Director proposed a technical solution: to revise the strategic plan. All of the Madang staff supported this decision and agreed the strategic plan needed to be revised because the marine components were not well connected to PNG project activities. Consequently, WCO organized a marine program strategic planning workshop in February 2010.

At the workshop, Port Moresby managers prioritized ensuring that all WCO PNG strategies, objectives, and goals contributed to existing WCO Global strategies and objectives. Managers stressed that all activities must fall under one of six CTI strategies. This approach meant that WCO managers defined national priorities according to previously defined global priorities, rather than first considering how the project location could contribute to larger conservation goals, or even investigating whether the project location could contribute to such goals.

Staff participants described the workshop as top-down, with PNG managers from Port Moresby leading discussions and representatives from the Madang and Manus offices, the two locations where WCO carries out marine projects, rarely speaking. Ryan described the tone senior managers set at the workshop: "they said to me and [the Manus marine staff member] that your work is outside of WCO's work. They said 80% of your work is outside…they say that I am irrelevant and we have to get with the program."

Another staff member said there "are entrenched structural, hierarchical issues within the organization and they [were evident in] our strategic plan" discussions. WCO's national office in Port Moresby sent six representatives to the meeting while only one staff member from the Madang office and one representative from the Manus office attended. The dominance in Port Moresby-based staff, in both numbers and voice, suggests an attempt by senior managers to regain control over the marine project and ensure the marine strategy met organizational priorities.

When I discussed the strategic plan with Patrick Tanou, one of the Papua New Guinean WCO Madang staff, who did not attend the workshop, he said local actors and the local situation did not drive the strategic plan. Rather, he said the strategic plan

> is from people, they come from someplace in the world. They do not know what is going on here and they do the strategic plan and you should get the people on the ground to be doing the plan...how can you expect people from another place who do not know anything about your place [to write your plan]...and then after all of these expats go back to where they came from, you are just there with their 'smart' ideas, you have to work on them.

Patrick's comment underscores his frustration over his exclusion from the strategic planning process, despite his knowledge of the "on the ground situation." He suggests a sense of place is important in gaining knowledge about particular locations and that non-local actors who "come from someplace" else lack such knowledge. Patrick feels he knows Madang Lagoon, the

communities, and what will and will not work. Consequently, when he and other Madang staff were not included in the planning process, this exclusion contributed to frustration that their knowledge of Madang, gained from their position on the ground, was not understood or valued within WCO.

This limited participation of field-based staff in conservation decision-making is not limited to WCO's strategic planning process but is representative of conservation decision-making globally. Strategic planning meetings and other decision-making fora tend to take place in the organization's capital location, rather than in the field offices. Further, because conservation professionals who work in the field tend to be more junior while senior staff are generally located in capitals, junior staff may also have less opportunities to participate in shaping conservation strategy.[19] This geographic distance therefore can limit the decision-making power of field-based staff, as Sachedina (2010) also demonstrates by describing how rural community conservation officers at the African Wildlife Foundation were excluded from annual or program meetings that were held in urban locations.

Following the workshop, three senior staff finalized the marine strategic plan without involving Madang or Manus staff. WCO's Conservation Director, who had arrived in PNG one month earlier, and a WCO Austria employee on secondment to the region worked with WCO's Singapore-based Asia-Pacific Director to finalize the strategic plan. The Conservation Director described WCO's efforts to think more broadly about project contributions to larger organizational objectives as the key difference in the new plan, which represented a successful outcome to her. She explained it "is going away a little bit from the small project approach and trying to use that to have a larger impact."[20] In contrast, Ryan viewed the final version as excluding his approach and those of his Madang and Manus colleagues, stating "whatever [part] we had managed to put in there, struggled to put in there, in that [strategic planning] process, they cut all of it out…and they came back with their new light version." To Ryan, the strategic plan represented a failure to convince his superiors to support a broader, more long-term approach.

Curiously, despite the emphasis senior managers placed on the marine strategic plan, none of the marine staff had the final version. Ryan said "I am the marine manger and I do not

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[19] See Chapter Three on personal and professional choices contributing to this divide.
[20] Linking local activities to larger outcomes is a challenge for conservation generally. The Coral Triangle Support Program Year 3 report recognizes this challenge for the region.

have a copy of the strategic plan." John Kepore, a Papua New Guinean who became the Marine Manager in September 2010, also said he had not seen the strategic plan. None of the other Madang staff, nor Samuel Parkop, the Manus staff member, had a copy. This limited staff participation in the strategic planning workshop and lack of access to the final marine strategic plan contrasts with the importance that senior managers placed on project realignment. This disjuncture suggests that senior managers used the strategic planning process as a public exercise to demonstrate their efforts to ensure project alignment, rather than as a participatory process that reflected multiple staff perspectives.

To further illustrate how each PNG strategy corresponds with a global strategy, objectives, and goals, I describe the WCO CTI and WCO PNG strategies here. The four WCO PNG strategies in the revised marine strategic plan are: coastal management and inshore fisheries; offshore fisheries; marine species (turtles); climate change and tourism (WCO internal document n.d.). Each strategy then contains specific objectives. For example, WCO's coastal management and inshore fisheries strategy has six objectives: integrating ecosystem based management into sectoral policies and legislation; financing spatially managed marine areas; establishing comprehensive and ecologically representative marine networks; achieving and showcasing effective management of spatial area networks; achieving and showcasing effective long-term community-based management; and incentivizing good practice in commercial inshore fisheries (WCO internal document n.d.). By 2014, WCO aims to have: 1) marine management area ordinances and community bylaws passed for 10 communities in two provinces and 2) community-based organizations in two provinces effectively managing local marine area networks. These WCO PNG strategies are similarly worded to the WCO CTI strategy, with identical language in some places, a similarity that illustrates how WCO PNG managers succeeded in aligning the marine project with WCO Global strategies and objectives.

WCO's strategic planning process illustrates how senior managers rejected the reorientation proposed by the Madang staff, marginalized or ignored field staff opinions, and instead focused on ensuring the Madang project aligned with organizational goals. By promoting the coastal management and fisheries objectives and not including WCO Madang's proposed sanitation or agriculture components in the strategic plan, WCO PNG prioritized global strategies that would achieve internationally and nationally desired goals of creating WMAs. This decision allowed Port Moresby managers to continue to emphasize aligning field-based

projects with WCO global and national strategies rather than addressing field staff concerns or community priorities. Such a process further illustrates how WCO PNG managers produced official knowledge on the WCO Madang office that excluded WCO Madang knowledge, therefore producing ignorance about WCO Madang manager and staff preferences.

Figure Three illustrates the process through which WCO PNG ensured that their preferred approaches were prioritized, resulting in particular organizational objectives and intended project outcomes. This figure also depicts the limited participation of the Madang and Manus staff in the strategic planning process, showing how six WCO PNG staff participated while only one staff each from WCO Madang and Manus participated.

Figure Three. WCO Approaches and Internal Decision-Making Processes.
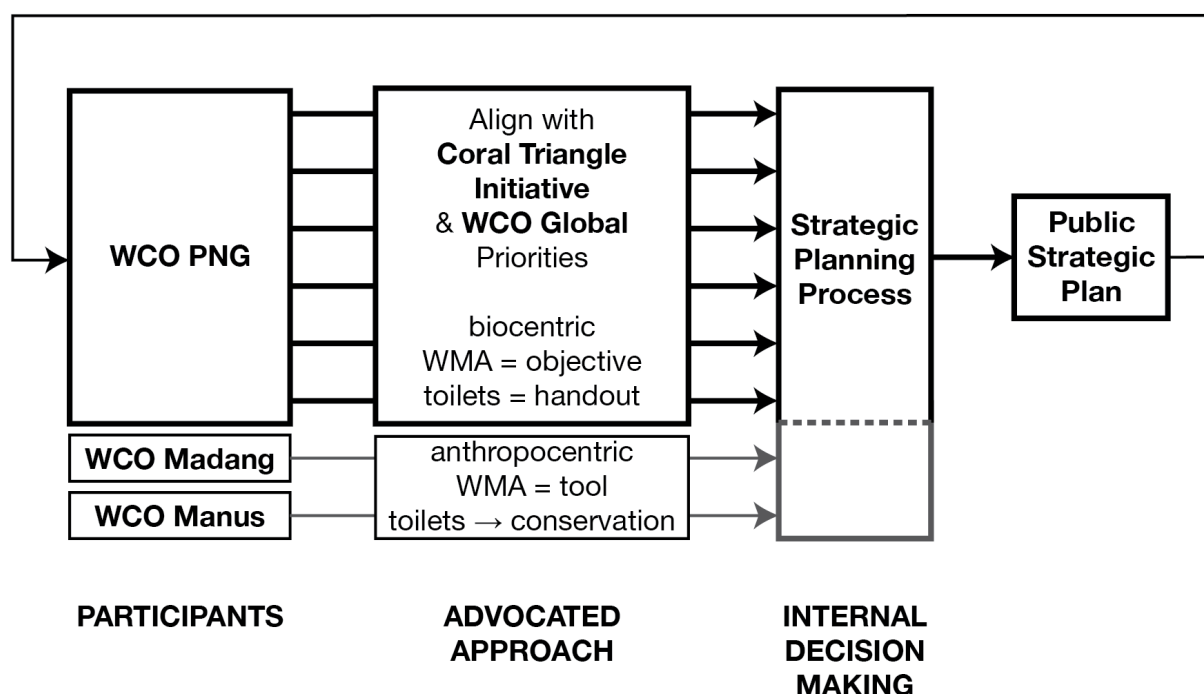
This is the template: Ontological differences and Organizational pressure

In this section, I suggest the varying approaches towards project reorientation and the strategic planning process do not result from miscommunication or personality differences but are emblematic of more fundamental ontological differences among conservation professionals. As noted previously, Port Moresby-based managers expressed concern about Ryan's interest in addressing the social aspects of conservation. Thomas McDermott, WCO's former Country Representative, described a conversation with Ryan where he told him: "you have a tendency to

move away from conservation." Thomas advised Ryan to be cautious about influencing his staff to favor social approaches, disregarding Madang staff support for this approach and again emphasizing that the marine project needed to realign with WCO's goals, particularly on WMAs.

Ryan described how managers pressured him to create additional WMAs:

The biggest problem is that WCO wanted to do WMAs. I was put under massive pressure to put in WMAs and I did not do it because it was not working…And you get [WCO managers] who keep going on WMAs…but a community has no need of them…[yet] I was pushed to launch new WMAs within 3 or 4 months of arriving.

Ryan stressed that "the LMMAs[21] and the MPAs are the management tool, they are not the objective…your objective should never be to create 10 WMAs, what does that mean?" This comment underscores ontological differences in how Ryan and his managers viewed WCO's objectives and conceptualized objectives versus tools. Ryan's field experience shaped his perspective that the WMAs were "not working" and were not an effective tool for achieving WCO's objectives. He felt his managers' emphasis on WMAs created an inappropriate focus on additional areas rather than on management of existing areas or support for livelihood components that could bolster local support for the WMAs. In contrast, staff based in Port Moresby and elsewhere continued to recommend establishing and promoting WMA networks, consistent with WCO and CTI strategies on coastal management and marine protected areas. Further, Ryan suggests his managers assume creating WMAs is a reasonable objective in itself while Ryan considers WMA creation to be a mechanism or tool towards other ends. Such differences elucidate ontological differences among individuals at different levels within WCO on how to implement conservation, underscoring tensions on the role of social or development activities in conservation efforts.

Donor or organizational pressure may also influence individuals to implement particular organizational strategies. Ryan explained WCO's "original proposal [to its funders] promised [additional] LMMAs or WMAs," which he suggested influenced his managers to urge him to create WMAs. Ryan also suggested managers pressure their staff to contribute to WCO Global objectives because of managers' own anxiety about fitting in with WCO's priorities. He said, "[Management] made it very clear that they prioritized the wishes of the network and of their superiors." He elaborated "there is this fear by the Moresby office that they will not fit in and they say this is the template, [you] need to move from where you are today." Ryan's comment

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[21] Locally Managed Marine Areas, or LMMAs, are another protected area approach.

illustrates the emphasis placed on the WCO "template," the idea that all projects should align with WCO Global strategies.

This organizational pressure to align projects with a WCO "template" was not unique to the marine program but representative of broader pressure throughout WCO. Paul Smith, the former Terrestrial Manager, described a similar situation in which WCO's Asia-Pacific Director told his staff to align their projects with WCO's global template. He said this manager reprimanded him for trying to reassure his staff that their projects would fit in to the new structure:

> She started banging on about these key initiatives and [when] she left the room for awhile, I said, [to my team] you don't have to worry…you have to concentrate on your own project and how you can deliver…and my own job and the job of others is to make sure that fits in with the structure. And she walked back in the room and she heard me and she objected.

Paul said this manager then told him that he needed to ensure that all of his staff aligned their projects with WCO Global initiatives. These examples illustrate how WCO international, regional, and national offices placed pressure on staff to promote preferred strategies that were in line with WCO's overall goals and intentionally ignored other approaches. This pressure may then translate into supervisors placing pressure on their staff. As a conservation organization, WCO Global and WCO PNG's interest in focusing on conservation is understandable. However, the mismatch between WCO's conservation goals and the community's focus on agriculture, which is discussed further below, raises larger questions about how an organization decides a particular location can contribute to its organizational aims, a question I turn to below.

Hearing the Undercurrents versus Ignoring the data

The sections above illustrate varying approaches to marine conservation in PNG within WCO. This section presents an additional dynamic: that managers ignore data that do not support their desired approaches, as WCO PNG managers did when they minimized the findings of the Madang office's PRA and finalized the strategic plan without marine staff input. To further explore this dynamic, I first revisit WCO assumptions about Madang Lagoon. I then compare these assumptions with field level evidence and household survey data.

Managers may make or maintain assumptions based on a desire to ensure simplicity and avoid addressing complexity. For instance, WCO managers who assume increased fish catch benefits the community can continue to support WCO's global marine conservation priorities as an appropriate strategy in Madang Lagoon. If managers recognized agriculture as the most

important livelihood strategy, these managers might have to reconsider whether WCO PNG can achieve such marine conservation aims in Madang Lagoon.[22] Further, by recommending WMA creation to increase fish catch, WCO's approach to marine conservation seems simple. If managers instead considered Madang Lagoon projects within a larger context of global fish consumption and the fishing industry, such a simplified approach no longer seems applicable.

Remaining in Port Moresby enables managers to believe project activities contribute to broader WCO objectives. Conversely, a manager who visits Madang Lagoon and discovers inconsistencies between his vision and the project may then have to address these inconsistencies. In addition, short field visits may simply reconfirm managers' assumptions because managers cannot gain in-depth understandings of community preferences or project activities in one to two days, as an example of WCO's Conservation Director illustrates (see Chapter Three). After spending a morning touring one of the project villages with field staff and an afternoon on a boat visiting the conservation site, Sally returned to Port Moresby enthusiastically describing villagers' interests in working with WCO on WMAs. She said she felt Madang field reports on villagers' attitudes towards WCO were overly pessimistic in comparison with her observations. Her statement discounts the work of the Madang office in understanding villagers' attitudes and priorities.

In contrast to Sally's perspective, Lauren Pomat, the Executive Director of a national conservation organization, emphasized the complexity of Madang Lagoon in a manner consistent with the Madang staff perspective. She described the challenges of working with different communities on marine conservation: "the community is so fragmented. You cannot get consensus, one lot say one thing and another lot say another and there is no consensus, so it is very hard to work in a place like Madang Lagoon." Lauren's comment corroborates the idea that one morning is too short to understand the multiple interests within communities.

Robert Nelson, who works for a national NGO in Madang Lagoon, cautioned that NGOs that spend limited time in communities may not understand the dynamics:

> they drop in and stay for one hour or two hours and that is a problem because you need to build a relationship with the community…if you spend little time in community, you have to really know the dynamics in the community…if you spend less time…you will not hear…the undercurrents.

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[22] WCO does not conduct any terrestrial conservation activities in Madang, which means that it does not address Madang Lagoon agricultural or land issues through other WCO programs.

I asked Patrick Tanou how the Conservation Director had developed a perspective on Madang Lagoon that contrasted with project staff opinions. He responded,

> that is what [the managers] want to hear and you only see what you want to see and you only hear what you want to hear…[Sally] never talked about [the WMAs] to me, if she had, I would have told her [about the problems]. Yeah, of course the leaders would say everyone wants this and that, but when it comes to the individuals, it is all about livelihoods, you can't have a WMA expected to run smoothly like that.

His comments underscore the potential for managers to visit field projects and observe what they want to see, particularly when managers do not ask field staff opinions. This situation also highlights how Sally's perspective on the importance of WMAs to community livelihoods differs from perspectives of the Madang staff and staff from other organizations.

Highlighting Agriculture

My survey data support the PRA findings that agriculture is the primary household occupation, while fishing remains a distant second, as shown in Table Four. However, Riwo households occasionally engage in fishing, usually as a supplementary occupation for additional protein and income. In contrast to common assumptions that most fishermen in Madang Lagoon are migrants, all of the households who described fishing as their primary livelihood strategy were born in the village.

Table Four. Household engagement in fishing.

Variable	Respondents	Percentage of Respondents
Primary Occupation		
Agriculture	180	80
Fishing	15	7
Engage in fishing	172	77
Primary fish location		
Reef/shallow	122	54
Deep sea	47	21
Sell fish	131	58

Households reported catching up to 50 reef fish per trip. Among the households who fished, most typically reserved some fish for household consumption and then sold the remaining fish at the local market to generate cash income. The majority of households sold at least half of their fish catch: 51% of households (n=114) sold between 40 and 90% of their fish catch.

As noted earlier, WCO managers promote WMAs at least partially based on the assumption that WMAs benefit local communities through increased fish catch. My data show,

however, that villagers do not perceive the WMAs as significantly increasing fish catch.[23] When asked the effect of the management area on fishing levels, 71% of respondents felt the WMA had no effect or that fishing levels had decreased (Figure Four). Similarly, when asked if and how the marine area condition had changed in the last five years, 87% of Riwo residents did not believe the WMA had improved the condition of the marine area (Figure Five).

Figure Four. Effect of management area on fishing levels

Decrease	No Effect	Increase
71	85	63

Figure Five. Effect of management area on marine condition

Degraded	No Change	Improved
29	160	29
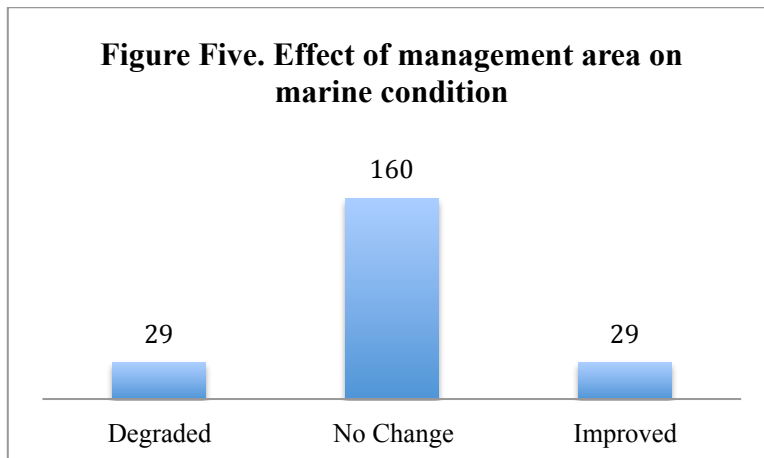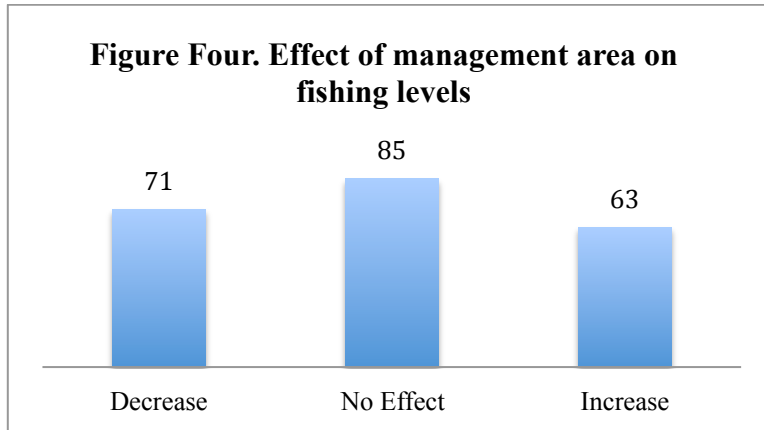
As these data illustrate, the assumption that WMAs result in community benefits, such as increased fish catch, may be popular among senior level managers, but the majority of Riwo residents do not appear to share this assumption. Further, these data illustrate that agriculture is the primary livelihood strategy among Riwo households. As a whole, these data illuminate more quantitatively the contradictions between organizational assumptions and field evidence, a mismatch I explore in the discussion. I now turn to a final component in understanding WCO's marine conservation efforts by considering eventual exit strategies.

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[23] I tested statistical significance and observed response variation using a chi-square goodness of fit test. The results that WMAs did not have significant effects are statistically significant, with p-values of 0.0.

Changing Environments and Geographic Inertia

As noted earlier, WCO focuses on critical global priorities and areas and Madang Lagoon has the potential to contribute to such priorities. However, the communities' interest in agriculture, rather than fisheries, makes the potential "fit" between these communities and WCO's strategies and its CTI priorities more tenuous.

At the time of WCO's internal debates about the marine project, public debates were taking place on the threat of extractive industries to Madang's environment and on proposed changes to PNG's Environment Act. Yet, despite the proposed legislation changes and potentially disastrous effects of industrial activities on Madang Lagoon, WCO did not address these larger-scale commercial and industrial issues or engage in discussions on the Environment Act. For instance, John Kepore, who replaced Ryan Harrington as WCO's Marine Manager, said he asked WCO's Communications Director about WCO's position on the Environment Act when he started working at WCO. He elaborated "…what is happening in Madang right now, we do not have a clear position on all of these developments coming…what is WCO's position?...I just put it on the table, do we have a position on all of these things coming up in Madang and she sidetracked that..." Given probable industrial impacts and local community interest in agriculture, this situation raises questions about how long an organization should focus on one location, particularly if the goals of the organization and the community diverge over time.

Thomas McDermott, WCO's former Country Director, framed this issue as "geographic inertia." He elaborated, "once you have been based in an area, you will only move if there are strong enough reasons to do so… there is geographical inertia because it is expensive to move and reinstall and [it is also] a question of the environment and the relationships. But the danger is there, that you cannot afford to stay in one area forever, then you are back to the handout mentality, people are used to you being there…" He said geographic inertia resulted in organizations remaining in one location for long periods.

Several others raised concerns about NGOs focusing on the same location for extended periods. Samuel Nickson, a staff member of another international conservation organization, explained "there are a lot of places out there that need to be protected and we cannot sit in one area all the time, we need strategies that would eventually get people to practice conservation and we would move on to other places…[my organization] has been in the Bismarck Sea for the last 20 years and [he shook his head] that is way, way too long, need to move on."

Robert Nelson also recognized the potential problems of geographic inertia: "NGOs, where they are permanently based…in the community it can be good, but it can also be a problem, because people will see you as human cargo, they know that you are there as an outsider, an organization with money and they will depend on you." Robert's organization defines an exit strategy and uses specific indicators, such as independent community action, to evaluate when activities will be sustainable without the organization. Robert stressed this process is gradual: "when we are very sure that these communities can stand up, then we tell them okay, we are leaving you now, but if you have any problems you know where we are. We do not just drop communities, we go through a gradual...exit process…over several time periods." Conservation practitioners in PNG also identified lack of NGO exit strategies as a barrier to effective marine conservation practice in PNG at a 2010 workshop (March Girls Report 2010).

Patrick Tanou, one of the WCO Madang staff, said he felt WCO should consider an exit strategy for Madang Lagoon:

> WCO needs to…not step into things or start things they will not finish. We have to think really critically about the things we do, the kind of people we are involved with and the partners we have…I do not blame [the WCO staff] we work with, they talk about how they want the community to work with WMAs or how they want to see the WMAs extended in 5 to 10 years, but…We can go in but is it according to the peoples' need, is it relevant?...[WCO has] been here for more than 10 years…but… conservation…for a place like Madang, it is not going to happen…Times are changing, you have to change with time and what is happening today and we cannot focus on the past… conservation is great, I would love to conserve all of Madang Lagoon…[for it to] become a big WMA but that is never going to happen.

His statement suggests the vision of Port Moresby-based managers to extend WMAs and continue its current focus in Madang is unrealistic.

John also expressed uncertainty about WCO's long-term plan for Madang Lagoon, saying "It seems to me we are here so long as the money is there, that is the only strategy that I have seen." WCO project reports provide support for John's perspective on allowing the financial situation to define efforts in particular locations. One internal marine report stated that "the activities undertaken this quarter have very much been driven by funding opportunities that have arisen. Given the funding for the [specific marine] project is running out, the focus of the project has been on investigating funding opportunities to continue the conservation work."

Donor representatives also said they considered appropriate funding periods for organizations and projects. Jane Hopkins, a donor program officer, said her foundation asks

"when is enough enough" in terms of supporting organizations. She said, "Madang got to the point that enough was enough." She explained her foundation felt WCO's approaches did not address Madang's large-scale threats, saying: "maybe before WMAs made sense, but over the years…[WCO] could not adapt to address those larger threats." A staff member at another organization said, "WCO wanted to do certain things that was not [compatible with] how communities understand [the situation] and, you know, things went bad from there… I think that is one [of the problems], we go in with rigid plans and our own agenda and, second, we are not responsive to concerns that arise during our presence."

These comments suggest that a particular approach, such as WMA creation, may be appropriate at one time but may not be as the situation changes. For instance, WMA creation may have initially been an appropriate strategy in Madang Lagoon. However, as larger scale threats from extractive industry emerge and the community continues to rely on agriculture for its livelihoods, WCO's aims and strategy no longer match the on-the-ground situation. Although WCO Global managers or others may view a marine conservation strategy as appropriate, given Madang Lagoon's high biodiversity and location within the Coral Triangle, the on-the-ground realities make such a strategy a challenging one to implement and to gain community support for.

This problem is also one of commensurability, where a conservation strategy that works in one location may be adapted in other sites without adjustment for local specificities based on an assumption that community positions and desires are similar around the world. As West points out, seeing communities this way does not allow for understanding "the process by which communities come into being across space and time," becoming instead a "shared social process and product" (2006: 36). Such an approach also ignores the social context of human-environment interactions, a critical component in understanding PNG engagements with conservation.

This section illustrates how Madang Lagoon may not be an appropriate location for WCO to achieve its goals, given external threats to Madang Lagoon's marine environment and mismatches between WCO's goals and community focus. However, as several staff describe, WCO is experiencing geographic inertia: as a result of WCO's decade-long investment in Madang Lagoon, it has been easier for WCO to continue its activities and hope community attitudes and conservation outcomes improve because ceasing its Madang activities and focusing

on a more appropriate location could involve substantial time and resources. The discussion positions these challenges within broader literature on conservation theory and practice.

DISCUSSION AND CONCLUSION

My results illustrate three systematic differences in the beliefs and approaches of individual staff at WCO's PNG and Madang offices. First, Madang staff favored a social and livelihoods approach while Port Moresby-based managers emphasized conservation-focused projects and sought to align WCO's marine projects with identified organizational strategies. Such contrasting perspectives of field-based and capital-based staff underscore tensions on the role of "development" in conservation efforts and mirror larger debates on the relative value of anthropocentric versus biocentric approaches. WCO's Conservation Director exemplifies the perspective of those who argue social development activities distract attention from biodiversity conservation. By emphasizing that marine activities should contribute to conservation goals rather than supporting social or agricultural needs, he represents the concern of many conservation professionals who advocate for prioritizing conservation. The Madang Marine Manager, in contrast, embodies the belief that including development priorities or tackling poverty as part of conservation efforts can boost local support for such areas, resulting in win-win outcomes. Individuals who share this perspective are likely to recognize this approach not as a move away from conservation but as a broader, long-term approach that seeks to achieve both biodiversity protection and improved livelihoods.

Second, individuals approach conservation from different temporal scales. Port Moresby managers focused on short-term outcomes from project activities while the Madang staff supported long-term approaches, a difference that merits further research. Third, staff possessed ontologically different beliefs about the role of WMAs in conservation: Port Moresby managers viewed WMAs as objectives while the Madang manager perceived WMAs as management tools.

It is important to consider, however, that the WCO PNG preferences for conservation-focused projects and short-term approaches and beliefs about WMAs as objectives could be reversed in another example or in a different organization, with field-level staff instead exhibiting these preferences. My point here is not to suggest that managers and staff at national offices will always possess these characteristics but rather that conservation professionals often have different beliefs and approach conservation in different ways. These differences result from the individuals who occupy these positions rather than from a structural reason at national or

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local levels. More analysis on the background, experience, and factors that influence staff approaches is necessary to understand how such variations influence conservation projects and outcomes. These findings illustrate how tracking the inner workings of conservation organizations can illuminate individual preferences and actions. They also suggest challenges faced by conservation NGOs in achieving their objectives do not necessarily stem from prioritization of conservation over human needs or from the types of challenges Ferguson and others describe, which conclude interventions will fail to change dominant structures or address power asymmetries. Instead, the challenges described here emerge from the way organizations themselves recognize, incorporate, or reconcile the diversity of perspectives on anthropogenic and biocentric approaches to conservation. These systematic differences within conservation organizations have two broader implications for conservation theory and practice.

First, disjunctures between intentions and outcomes can represent both failures and possibilities. For instance, some staff may welcome failures when they do not support intended outcomes, such as when Port Moresby managers undermined the Madang staff's attempt to reorient the project. Disjunctures also provide opportunities for staff to ignore particular project knowledge and instead persist in their beliefs about appropriate project strategies. Similar to Dove's (1992; 1994) findings on the behavior of Pakistani foresters, the persistence of WCO PNG managers in promoting WMAs highlights how some individuals promote particular strategies even when presented with contradictory evidence.

This last point raises a second observation about how conservation practitioners may invite ignorance about certain project aspects. While the relationship between power and knowledge in environmental management has been widely studied, research on the production and/or reproduction of ignorance constitutes an emerging field. Matthews (2005) asserts that, like knowledge, ignorance can be produced and maintained, arguing the production of power and ignorance is both managerial and tactical. By paying attention to issues managers choose to ignore and what managers promote, this study sheds additional light on the effects of power relations in conservation decision-making.

Individuals in organizational contexts like WCO may produce ignorance for a variety of reasons. One reason may be to avoid being associated with project failure, in part because managers and staff worry about the effects of failures on their careers. An admission that a

project fails to achieve its outcomes may require explanations, allocations of blame, or challenges to superiors, actions staff may be unwilling to take.

Second, as the results suggest, managers may invite ignorance to ensure simplicity and avoid addressing complexity or inconsistencies. Managers often do not want to know about the complexity of local situations that "contradict pre-established global policy objectives" (Eyben 2011: 155). Consequently, such ignorance is common among large projects and organizations, where the head office "frequently is ignorant of the difference between its visions of the project and the vision held by field staff" (Carrier and West 2009: 19). Ignoring particular data or failing to learn about local contexts allows individuals to continue to promote certain organizational interventions, as shown by Port Moresby managers who ignored data on differing community and WCO interests and who limited visits to Madang. Such a strategy also enabled managers to rework local activities into representations of success that supported broader WCO goals and kept WCO Global staff ignorant about the implementation challenges in the field.

Third, producing ignorance enables individuals to avoid admitting failure or to represent failure in a more positive light to their supervisors or donors. For instance, van Helden (2009) found staff are more likely to describe how lessons learned from a project could be used to design improved projects rather than to admit failure (see McCallum and Sekhran 1997). Matthews (2005) documents a similar strategy by Mexican forest officials who control knowledge on forest practices to produce knowledge on failure that justifies their future interventions. Likewise, Heyman (2009) agrees admissions of failure are often tactical and designed to argue for additional projects or resources (see Li 2000). WCO's approach also depends on collusion among WCO PNG staff who selectively share information and represent challenges as lessons learned, leaving WCO Global managers ignorant about existing tensions and challenges (as also described in Chapter Three).

WCO PNG managers avoided admissions of failure by continuing to demonstrate ways in which WCO PNG aligned with WCO Global goals, such as by revising the strategic plan. By evaluating the contribution of national offices through project documents, WCO Global reinforces reliance on visions and documents, rather than on the ground realities. Consequently, WCO PNG managers had no incentive to share information about Madang Lagoon challenges with WCO Global. Therefore, the Madang marine project conformed to organizational goals on paper, if not in practice, and produced what other scholars have termed "virtual projects" (Carrier

and West 2009). This situation is reminiscent of Mosse's conclusions on development interventions: "for policy to succeed it is necessary it seems that it is not implemented, but that enough people firmly believe that it is" (2003:70). Rather than admit difficulties, tensions, or failure, WCO managers provided evidence to show enough people, at the right levels, that they implemented the marine plan, a strategy that further perpetuates organizational ignorance because these managers did not share project challenges with WCO Global. By producing a strategic plan that aligned with WCO Global marine conservation goals, WCO PNG managers met the expectations of WCO Global managers. If WCO PNG managers had instead shared information about project challenges, they would have potentially opened themselves up to criticisms from their superiors or even placed their own jobs at risk.

While Dove (1992) and Matthews (2005; 2011) write about the production of ignorance within government forest bureaucracies and forest communities, I suggest the production of ignorance represents a more general trend beyond these cases or the WCO offices and Madang Lagoon community. The production of ignorance illustrates a broad tendency among government bureaucrats, conservation and development staff, and others to share particular types of knowledge while minimizing or ignoring other types of knowledge. When these actors minimize or ignore knowledge, they contribute to the production of ignorance. Such tendencies may result from individual motivations, organizational or policy environments, or other factors that deserve further interrogation to better understand the relationships among power, knowledge, and ignorance across geographic contexts.

In summary, the experience of this marine conservation project illustrates the multiple ways in which organizational mandates may diverge in practice as individuals translate goals into projects and then repackage activities to demonstrate contributions to organizational goals. I argue disjunctures between the approaches of staff based at capital and field offices have important consequences for the temporality, political process, and accounting practices within WCO's marine conservation efforts. In this experience, the preferences of capital managers were promoted and included in the strategic plan while the preferences of field staff were marginalized. This process highlights ontological differences among individual staff and illustrates how managers may deliberately minimize or ignore such differences, including contradictory evidence, underscoring the importance of research and attention to the production of ignorance, rather than knowledge alone, in understanding conservation decision-making.

CHAPTER FIVE: Towards an environmental subjectivity in Papua New Guinea's marine conservation efforts

INTRODUCTION

I met Anna on a Saturday morning in July 2010. I stopped at her house with Kanawi, one of my research assistants, as part of a household survey I was conducting in Pere village, PNG. She invited us to come sit on her back porch. We leaned against the wall, facing Anna and her eldest daughter Nellie, looking out towards the sea. She politely answered our questions, giving typical responses about her family's history in the village, their participation in village activities, and their dependence on fishing. When we started discussing the changes that had occurred since the creation of a community management area, she took care to emphasize the importance she placed on conserving fisheries and the marine environment through the management area. Many other Pere households had also described positive attitudes towards fisheries and conservation, saying they had gradually seen increases in fish and more colorful corals, changes these households associated with positive management outcomes. Anna said similar things, but then she suddenly began to cry as she explained how worried she was for Pere's long-term future and how critical conservation and fisheries management were if Pere wanted to maintain their fisheries-based livelihoods. Her statement indicated a concern that Pere's way of life was threatened and she connected this concern with a need to conserve the environment.

Anna is well off in Pere. Her family runs a small trade store from the bottom of their house that sells items such as biscuits, cigarettes, and instant noodles. The income from this store, combined with her daughter's excellent fishing ability, means that the family has both sufficient food and cash income. While we were talking, three children approached the house and she invited them to share our lunchtime fish and *sago*.[24] Afterwards, she described her concern that many children are now hungry since the ban on *bêche-de-mer* harvesting reduced the level

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[24] Sago is a starchy staple food, extracted from the center of palm trees and beat to make a flour-like substance.

of income in the village.[25] She estimated that she feeds three to five children a day, who she said know that they can always come to her for a biscuit or some extra fish.

Anna is aware of Pere's regional, national, and international connections. Her eldest son married a European woman and now lives in Europe although they still visit Pere. She spoke of life outside Pere, and Manus province, with knowledge and understanding. While some Papua New Guinean villagers may have unrealistic expectations of conservation organizations,[26] Anna recognized many complex challenges of conservation in PNG and her community's role in conservation.

When Anna began to cry as she described the importance of fisheries for Pere's future, she stressed that Pere needed to manage its fisheries and marine resources in a sustainable manner. All of her responses on questions about attitudes towards conservation illustrated strong support for conservation and management activities.

Convictions like Anna's form the basis for understanding individual attitudes and behavior towards marine conservation and the potential for involvement in particular activities to further shape individual attitudes and behaviors. Anna's original support for the management area was based on her recognition of the need to increase fish numbers in the areas surrounding her village. Her emotional insistence about her belief, however, suggests the potential for such thoughts about the environment to become stronger over time.

This chapter explores how individuals come to care about conservation and how their attitudes and beliefs translate into particular actions and behavior that support environmental protection. To understand Pere villagers' beliefs and actions in relation to marine conservation, I examine how varying levels of participation in a marine management area shape attitudes and beliefs. I focus on new technologies to govern the environment that have emerged in Pere through NGO awareness efforts. I describe how this awareness raising introduced new terms that provided villagers with the tools to describe their desires and efforts in a way that also connected them to PNG's international conservation community. To examine whether actions and behavior match stated changes in attitudes and beliefs, I use a household survey, interviews, and

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[25] Papua New Guineans previously harvested *bêche-de-mer*, or sea cucumbers, for sale to export markets. Following a decline in *bêche-de-mer* numbers, the National Fisheries Authority implemented a three-year ban on its collection, beginning in 2009. The majority of Pere households said the closure affected their livelihoods, most commonly reporting decreased household income and financial problems, such as difficulty paying school fees.
[26] See West 2006 and Benson 2012 for examples in PNG.

observations. This comparison shows positive environmental attitudes alongside difficulties in enforcing the management area rules.

Explaining the role of individuals in marine conservation is important for several reasons. Marine protected areas (MPAs) remain the primary global mechanism for conserving biodiversity despite concerns about their negative social impacts (West et al 2006; Christie et al 2003) and mixed ecological outcomes (Kareiva 2006). There is an urgent need for work that documents successful conservation arrangements while recognizing such limitations or contradictions in MPA management. Further, understanding the role of local community actors is critical in examining how different arrangements can enhance biodiversity conservation theory and practice. By elucidating the beliefs, interests, motivations, and actions of Pere individuals, my findings shed light on community involvement in conservation efforts and subject formation in relation to marine conservation. Such discoveries are of importance to scholars of conservation and environmental governance and conservation practitioners who seek to understand both how to involve local communities in marine conservation efforts and how their involvement shapes biodiversity conservation.

THEORETICAL FRAMEWORK

This chapter draws upon common property scholarship and literature on subject formation and environmentality, which share a common concern with understanding how individuals act in relation to the environment. A substantial body of literature on common property regimes demonstrates individuals who under certain specific conditions cooperate to manage common property resources, often in the absence of external authorities (NRC 1986; McCay and Acheson 1987; Berkes 1989; Ostrom 1990; Baland and Platteau 1996; Ostrom et al 1999; Agrawal 2003). Fishers around the world have successfully cooperated to develop institutional arrangements (Acheson 1988; Lim et al. 1995; Berkes et al. 2001; Acheson 2003) and studies demonstrate that community closures can increase fish abundance over time (Russ and Alcala 2004; Cinner et al 2006). In the Pacific, scholars illustrate the positive ecological effects of *tambu* areas, such as preserving fish catch and increasing fish reproduction (Adams 1998; Fa'asili and Kelekolio 1999; King and Faasili 1999; Colding and Fole 2001; Thomas 2001; Johannes 2002; McClanahan et al 2006). In North Manus, for instance, Cinner et al (2005) found *tambu* management areas contained 60 percent higher fish biomass than non-protected areas, promoted larger, more mature fish, and contributed to reproduction and recruitment

increases. Scholars have also shown that areas closed for non-conservation purposes, such as celebratory feasts and religious ceremonies, may still result in conservation outcomes (Aswani 2005; Foale and Manele 2004; McClanahan et al 2006). Scholars associate low in-migration rates, community organization, social cohesiveness, and strong leadership with successful community management and enforcement of fisheries closures (e.g., Walmsley and White 2003; Aswani 2005; Cinner 2005; Cinner et al 2006; McClanahan et al 2006; Gutierrez et al 2011). I examine the presence of these factors in Pere's marine management area.

Second, I draw upon an emerging literature on subject formation and the environment to explore the formation of environmental subjects. As in the previous chapters, I draw on a body of scholarship on governmentality—the "conduct of conduct" (Gordon 1991: 2; Foucault 1991)—that examines the practices through which subjects are governed and the ways governments attempt to produce subjects best suited to the aims of government (see Rose 1990; Taylor 1984; Ferguson 1990; Gupta 1998; Dean 2009; Hannah 2000; Bryant 2002). Several scholars have applied this governmentality framework to the environment, examining how governments or institutions seek to improve local populations and environments, but this analysis places more emphasis on government improvement schemes than on environmental subject formation. Others have interrogated analytics of eco-knowledge or geo-power to understand how nature comes into existence through particular types of knowledge, an approach that draws more on Foucauldian understandings of bio power than on subject formation (e.g., Luke 1999; Braun 2000; Demeritt 2001; Rutherford 2007).

Relationships between subjectivity and actions in the field of the environment have received comparably less attention (Rutherford 2007). One notable exception is Agrawal (2005), who develops the concept of "environmentality" to investigate how power/knowledge, institutions, and subjectivities are constituted and shaped by each other in community based forest management in India. Gabriel (2011) extends this concept to urban parks and park subjects in Philadelphia's Fairmont Park. He uses archival photographs and park commission annual reports to illustrate the formation of park subjects and the everyday actions that constituted the park. He stresses that the formation of the park and park subjects was not inevitable but regularly produced and maintained through everyday practices such as photographs depicting men looking at the river, climbing on boulders, or relaxing—practices that produce images of acceptable park

behavior. Gabriel emphasizes that discourse "requires continual renewal and is always partial and open to reworking" (Gabriel 2011: 138).

Others also demonstrate how "governing is always becoming" rather than a completed project (Rutherford 2007). In his analysis of the psychology of work and therapeutic interventions, Rose (1990) illustrates how individuals can shape themselves to improve their quality of life or move closer towards the individuals they wish to be. He emphasizes this process is not binary but that "we make, and can remake, our lives through our own choices" (1990: 253). Rose asserts individual attitudes and beliefs can change and re-change over time, bringing ambitions "into alignment with the ideals and aspirations of individuals, with the selves each of us want to be" (1990: 213). Agrawal (2005) also recognizes individual choice in the technologies of subjectivity, noting subjectivity is not merely imposed by state power but freely chosen by autonomous individuals who decide to act in particular ways.

To Agrawal and many who expand upon "environmentality," the role of the state is critical in shaping citizen preferences and behavior. Agrawal (2005) shows how changes in individual attitudes and beliefs followed institutional reforms in the Indian forest sector. Birkenholtz (2009) similarly concludes that attitudes and beliefs towards environmental protection follow state institutional change, rather than preceding it. Government policies first shaped population behaviors and then sought to alter their perception in Yeh's (2009) analysis of a Chinese ecological construction project in Inner Mongolia. In contrast, this chapter considers the formation of environmental subjects in the absence of the types of state regulations most frequently described in scholarship on environmentality (though see Haggerty 2007). Given the low level of national or provincial government involvement in Pere village, as in many village localities throughout PNG, I investigate whether changes in individual attitudes and beliefs can emerge without government institutional regulation or policies.

When analyzing subject formation and the environment, scholars have drawn attention to varying factors in differential attitudes towards the environment. Birkenholtz (2009) found caste and class influence farmers' attitudes towards state groundwater conservation and regulation. Scheduled castes were much less likely to support regulations to limit tubewell construction and to limit withdrawal than general castes, which Birkenholtz attributes to a history of mistrust by the state among the scheduled castes and their fears about losing water access. Conversely, Agrawal (2005) found that individuals who participate in the regulation and enforcement of

forest rules began to care about the environment through their participation in these activities. He therefore proposes that regulation is not only about restraining rule-breakers but rather the relational and embodied basis for the formation of environmental subjects. He describes it as: "the source of awareness and recognition of the fragile resources on which livelihoods depend and the context in which practices unfold" (2005: 22-23). He concludes that differences in involvement and participation shaped environmental subjectivities in Kumaon and rejects more common assumptions that narrow social categories of caste, class, and gender shape differential attitudes. I draw upon this finding to formulate hypotheses about factors that shape environmental subjectivity.

This study contributes to literatures on common property and subject formation by exploring how individuals come to care about and act in relation to marine conservation, using a case study from Pere village, PNG. I build upon common property scholarship by analyzing whether Pere village possesses the factors associated with successful community management and enforcement of fisheries around the world. I advance scholarship on environmentality by examining individual attitudes and behavior to explore whether participation and involvement in decision-making shape attitudes and beliefs. This chapter therefore provides insight on the involvement of local communities in marine conservation efforts and how such involvement shapes marine conservation outcomes.

STUDY SITE AND METHODS

This case study is based on research in Pere island, Manus province, approximately 300 kilometers north of mainland PNG. Pere is situated to the southeast of Manus Island and is part of the Admirality group of islands. Pere villagers speak Titan, a language common to the southeast coast and coastal islands of Manus. Pere's traditional reef tenure area is about 75km² of shallow reefs (Langarap and Matawai 2009). Pere is most well known through the work of Margaret Mead and others who followed in her path, an association which lingers today (Roll 1980).

Survey overview

I conducted a household survey in Pere during July and August 2010. Prior to beginning my household survey, I presented my research objectives to selected community groups, including the five ward councilors, a group of individuals involved in the management area, a third mixed group of elders and other community leaders, and an open community meeting.

Consequently, by the time I began carrying out the survey, Pere villagers were generally aware of my presence and my research topic. I hired and trained five local villagers as research assistants so that all survey questions could be asked in Tok Pisin and Titan to ensure a high level of understanding.

The survey included 164 questions grouped among 24 categories. Villagers were asked to consider the past five years when responding to questions on changes over time. On average, the survey took 1 hour, 44 minutes to complete, with total time ranging from a minimum of 30 minutes to a maximum of 3 hours, 30 minutes. I field-tested the survey and conducted the same survey in two other PNG villages: Riwo village in Madang province and Nonovaul, in New Ireland province.[27] A total of 436 villagers throughout PNG participated.

Each household was invited to participate and households were visited multiple times to ensure an opportunity to speak with the household head. 164 households in Pere participated, representing approximately 92 percent of all households. Nine households could not be interviewed, either because household members were away from the village or, in two cases, because the household chose not to participate.

While I use quantitative data to illustrate aggregate findings on individual attitudes and beliefs, I complement my survey results with qualitative data. Discussions with community focus groups held with youth, women, and elders, the Pere Executive Council, and other village leadership institutions, such as youths trained as part of the Locally Managed Marine Area (LMMA) network,[28] provide additional data that I use to triangulate my findings. I typically spent 12 to 14 hours a day interacting with villagers. In addition, I interviewed conservation practitioners working in Pere and PNG and provincial fisheries officers in Manus and officers based in the capital. Other studies (e.g., Snodgrass et al 2008) have shown that survey data and statistical techniques can elicit important insights about environmental attitudes, beliefs, and practices, particularly when combined with ethnographic methods.

Analysis

To evaluate the relationships between variables, I used a Fisher's exact test. The Fisher's exact test is similar to a chi-square test, which tests the relationship between two categorical variables, but the Fisher's exact test is a non-parametric test that does not assume that the

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[27] I included an additional 17 questions on Fish Aggregating Devices (FADs) in Pere because of interest by the National Fisheries Authority and local NGOs.
[28] The LMMA network became the Center for Locally Managed Areas (CLMA) in 2008.

expected value of each cell is five or higher. The frequency of some responses in my survey was less than five, so the Fisher's exact test is more appropriate. The tables below include the results of the Fisher's exact test, which automatically calculates p-values. I used a p-value of 0.05, or 95% significance. I used STATA 10 software for analysis.

Hypotheses

What are the factors that shape Pere villager's attitudes and beliefs towards marine conservation? Previous evaluations suggest participation and involvement in village decision-making, rather than social categories, shape attitudes and beliefs (Agrawal 2005). Consequently, I hypothesize the emergence of an environmental subject position is independent of social categories, such as gender, occupation, and religion, and predict there will be no statistically significant differences among these categories and attitudes and beliefs. This hypothesis recognizes a broader understanding of the way individuals constitute themselves beyond narrow social categories.

I propose participation and involvement in village decision-making surrounding the management area shape positive attitudes towards the management area and marine conservation. This hypothesis is based on the idea that individuals who actively participate in fisheries and marine resources management will potentially observe positive results from their efforts and will then come to better understand and agree with the need to protect fisheries and marine resources. Conversely, if individual efforts at conservation do not result in positive results over time, I hypothesize individuals will be less likely to agree with the need to protect fisheries and marine resources and will express more negative attitudes towards the management area and marine conservation.

RESULTS

To evaluate the factors that shape Pere villager's attitudes and beliefs, I first describe the history of marine conservation in Pere to highlight independent actions taken by villagers. I then analyze village socio-economic characteristics to evaluate whether Pere exhibits the traits associated with successful fisheries common property arrangements. Finally, I analyze if and how involvement and participation in decision-making shape attitudes and beliefs.

Emerging environmental actions

Pere first initiated a *tambu*, or temporary closure, on its reef and traditional fishing area in 1997 to address concerns about decreasing fish abundance and size. After an initial six-month

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closure, Pere villagers observed increases in fish abundance and size within the *tambu* area. One villager involved in creating the closure explained, "there were turtles coming in and bigger fish coming in…[we saw] this idea was really working."[29] Shortly after the creation of the management area, each of Pere's five wards appointed individuals to enforce restrictions on fishing in the management area. One Pere resident explained this attempt:

> we have a management committee in place, so they are supposed to report the rule breakers to the village court magistrate, but it does not work. We went through all the different methods [of enforcement] under the sun. We divided the sea, like from the end to [an individual's house] that was, Pere 1, you look after that piece of water and then we even divided the sea into five wards and it still did not work.[30]

In the following years, as Pere continued to experiment with temporary reef closures, the International Conservation Organization (ICO) and the LMMA Network began to support Pere's efforts and trained villagers in biological and socio-economic monitoring (Langarap and Matawai 2009). Monitors were then expected to regularly collect data.[31] While Pere villagers had independently experimented with reef closures and enforcement, the involvement of these NGOs formalized village efforts and created possibilities for shaping environmental attitudes. The NGOs sought to shape Pere into a model conservation community through a series of community meetings on the importance of conservation. From an environmentality perspective, these meetings represent a technique to shape villagers' aspirations to match NGO aims of creating an ecosystem-wide MPA. Pere villagers had demonstrated environmentally oriented behavior by creating a management area, but the involvement of ICO and LMMA introduced villagers to new languages, concepts, and tools.

For example, ICO staff held a community meeting in early 2004 to explain the biological importance of conserving aggregating species. During the meeting, ICO staff encouraged Pere villagers to conserve spawning aggregation sites, emphasized the benefits of fisheries conservation, and cautioned that spawning aggregations could easily be overfished, resulting in fisheries depletion or extinction (Hamilton et al 2004). ICO introduced villagers to the Western conservation language of spawning aggregation sites, or "SPAGS," through this awareness raising. While some Pere fishermen knew the existence and timing of these aggregations—and in

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[29] This statement was originally in Tok Pisin.
[30] This quote is in the original English.
[31] Monitors sent their data to the LMMA network for analysis but never received compiled results. This situation led to villagers' mistrust of the LMMA network, which persists today.

fact, ICO depended on their knowledge for studies and reports—ICO's presence changed how villagers described these areas. Pere villagers used SPAGs as a common term in their conservations with me. Similarly, other NGO training emphasized the importance of "Ecosystem-based Fisheries Management (EBFM)," providing villagers' a new way to conceptualize their temporary reef closure, shifting it from a village-led closure to a critical component in a larger ecosystem-wide conservation effort showcased around the world.[32]

The Pere Environment and Conservation Area Management Plan, developed by Pere villagers and local ICO staff, articulates the aspirations of Pere individuals to become individuals who care about and act upon the environment using new conservation language and concepts. Its overall goal is: "To safeguard the marine environment, maintain and restore fish populations and other fishery resources in Pere Environment and Conservation Area for the collective benefits of the current and future generations." This management plan then describes how Pere hopes to achieve its conservation aims by implementing specific activities, including awareness and enforcement, and restricting fishing in particular areas, including in the SPAGS. Villagers initially expected ICO to help them implement this plan, but ICO has not provided this support.

Ten years after Pere villagers first implemented reef closures, the Nali Sopat Penabu Local Level Government (LLG) Assembly formally recognized Pere's management area in the "Nali Sopat Penabu LLG Environment and Conservation Law 2007," the first environment and conservation law in Manus province (Langarap and Matawai 2009). It is important to note that this law recognized the Pere management area after the villagers created it—in other words, rather than the regulation coming first, as in the cases described by Agrawal (2005) and Birkenholtz (2009), the regulation came second in Pere. In the following sections, I consider whether environmental subjectivities can emerge in the absence of state regulations and the presence of NGO activities. I analyze village socio-economic characteristics in the next section to investigate the presence of factors common property scholars identify as critical for successful fisheries management in Pere.

PERE VILLAGE SOCIO-ECONOMIC CHARACTERISTICS
The majority of Pere residents were born in Pere and have spent most of their lives in the village (n=110; 67%). Ten percent of respondents (n=16) were born in Old Pere, an island

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[32] For example, CLMA/LMMA and ICO describe Pere in publications and website text as part of their efforts in the internationally recognized Coral Triangle Initiative.

current Pere residents lived in before sea level rise forced them to migrate to the island that is today considered Pere.[33] Eighteen percent of respondents (n=29) were born in Manus province, though not in Pere, and five percent (n=9) were born outside of Manus. Several of these household members originally lived in Bougainville and moved to Manus during or after the Bougainville crisis.[34] In other situations, a parent who was originally from Pere had a job outside of the village, such as working for the government or teaching, and the entire family lived outside the village or province and then returned to Pere when the family member retired. The average household size is five people, with size ranging from one to ten people. In general, Pere villagers are from Pere and expect to live in Pere for the majority of their lives, an expectation that I argue contributes to high levels of village involvement.[35]

Pere residents depend on fishing for their livelihoods. 90 percent of households (n=148) said their primary household occupation is fishing. In addition, three respondents said their primary occupation is collecting crabs, increasing the number of households who depend on the sea for their livelihood to 92 percent. Five percent (n=8) of households rely primary on business, usually running a trade store or operating a passenger boat between Pere and Lorengau, the capital of Manus. Two percent (n=4) are formally employed and serve as a village pastor or a teacher. Many residents also depend on remittances from relatives.

As a small island with no electricity, Pere is isolated from mainland PNG. The primary source of information about events outside Pere is via mobile phones. Thirty-four percent of respondents (n=56) said they relied on their mobile phones to hear news, usually by calling friends and relatives elsewhere. The next most common source of information was hearing the news from others who received it via their mobile phones (n=28; 17%). While 73 percent of households (n=120) said they read a newspaper, only nine percent of respondents (n=15) described newspapers as their primary source of information. Reading frequency also varied substantially: households most frequently read one newspaper per week (n=47; 29%), followed by once a month (n=27; 16%), and only one respondent said he tried to read the newspaper on a

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[33] Pere residents have inhabited multiple islands throughout their history; many residents also speculate that climate change may force them to move Pere to another location in the future.

[34] The Bougainville crisis arose from a war of secession between 1988 and 1998 that resulted in the formation of the Autonomous Bougainville Government in 2005.

[35] Demerath (2003) also highlights an acceptance among Pere villages that they will remain in their village. He concludes young Pere villagers disengage in higher education because "*ples i stap,*" indicating that village is there and they can always return.

daily basis.[36] Households often shared newspapers; I observed one newspaper circulate among at least ten households, serving as an additional way in which villagers share communication about the world outside Pere. Twenty-seven percent of households own a radio (n=45) while eight percent own a television (n=13).[37] On the whole, this data shows that Pere villagers share information about outside events among themselves and suggests general social cohesiveness among villagers.

Participation in Pere activities is high and most residents participate in at least one local institution, usually church activities. Other popular activities were fisher's associations, such as the Pere Fishermen's Association and the recently formed Manus Fisheries Cooperative Society (MAFISCO), sports, and village committees. Residents generally describe Pere as an organized community. Grace, a member of the Pere Executive Council, credits conservation efforts with organizing the village. She said:

> conservation brought in all of these organizations, I mean Pere is one of the most organized communities in Manus. I think it is because during our process of going into conservation, management of our resources, we needed to organize ourselves and…in that process of organizing ourselves we also needed to organize our main structure, our community structure, so now everything else that comes in, we have all of those structures in place, all because it started from conservation… I think it is conservation in Pere that was one of the eye openers to all of these changes…and it paved the way for us to organize ourselves.[38]

The majority of residents described their participation in village institutions as average, stating they usually spent about 24 hours per month on village activities. Forty-three percent (n=70) said their participation was high or very high while only eight percent (n=14) said their participation was low or very low. Villagers in Madang and New Ireland provinces, where I also conducted household surveys, also described their village participation as average (72% and 63%, respectively). However, they defined average participation at much lower levels than in Pere. In Riwo village in Madang, for instance, 70% (n=113) of respondents said they spent two to six hours per month on village activities. Residents in Nonovaul, in New Ireland province, described average participation as 16 hours per month, an amount significantly lower than in Pere. These differences in village involvement are also evident in community days: in Pere, the

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[36] The national newspapers arrive in Manus province via the Air Nui Guini flight, which arrives three to four times per week. Consequently, available newspapers are not always the most recent versions or may not be available the day an individual visits town.
[37] These televisions run on batteries or generators and typically serve as informal cinemas.
[38] This comment was originally in English.

weekly community day is mandatory and individuals who do not attend face social pressure and must pay fines. In contrast, Nonovaul's community day is more casual and Riwo does not consistently organize community day. These variations underscore the high level of participation in Pere village activities.

Pere residents generally felt they had a say in village decision-making. They described community decision-making as a bottom up process where the community holds discussions and the Pere Executive Council, composed of the council of chiefs and elected officials, then makes the final decision. Eighty-eight percent of respondents (n=145) said everyone in the village has a fair say in decision-making. Among the ten percent of respondents (n=17) who did not agree that everyone had a fair say, respondents generally said women and youth participated less. In an evening discussion I organized with Pere women, all participants said they were comfortable sharing opinions in community meetings. They cited the various women serving on village committees, including the education, law and order, physical planning, and sports committees. One woman explained, "In our community, meetings must have women attend, make decisions, share opinions."[39] In addition, each ward has a woman representative.

In contrast to the high level of activity and engagement among Pere villagers in their local committees and other village institutions, other forms of government are noticeably absent. The Manus provincial government is based in Lorengau, several hours away by motorboat, and government representatives generally only visit for official events or purposes. Respondents said the LLG President (n=61; 37%) was the most frequent government visitor to Pere and said he attends events, such as the management area launch, or visits prior to elections. When asked specifically about provincial fisheries officers, 82% of respondents said fisheries officers visited Pere to raise awareness on fishing and fishing cooperatives or to conduct monitoring. Respondents most commonly said government representatives visited once a year or "not often," demonstrating that government officials are not regularly present.

Pere villagers view fisheries management as an individual and village responsibility rather than a government responsibility. 48% of respondents (n=78) identified individuals as the group who should address coastal fisheries management while 40% (n=65) ranked individuals second. Forty-three percent of respondents (n=71) said the village was the level best positioned

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[39] This statement was originally in Tok Pisin.

to address fisheries management while 48% (n=78) ranked it second. Respondents ranked provincial government and national government third and fourth.

Between the training of village monitors in 2004 and July 2010, when the survey was conducted, villagers said local monitoring and rule enforcement decreased. Monitors did not actively enforce fisheries restrictions and perceptions that the management area rules did not work were common. While 93% of respondents (n=153) said there were management area rules, only 35% (n=57) said these rules were effective. Villagers said the rules were not effective because there was no enforcement: 35% of respondents (n=58) said enforcement was moderate, 50% (n=82) described enforcement as low, and 9% (n=15%) said there was no enforcement. I return to this issue of enforcement in the discussion section, after describing the attitudes and beliefs of Pere villagers.

ENVIRONMENTAL ATTITUDES AND BELIEFS

Agreement on protection of fisheries and marine resources

Pere villagers strongly agree with the statement that fisheries and marine resources should be protected, with an average response of 4.74. General involvement in fisheries and beliefs about who should solve fishing problems did not result in a statistically significant difference in agreement on the need to protect fisheries and marine resources (Table 5). However, individuals involved in community decision-making were slightly more likely to agree that fisheries and marine resources needed protection than individuals who did not participate in decision-making, a statistically significant finding. This finding suggests individuals who actively participate in fisheries or marine resources management will be more likely to agree with the need to protect fisheries and marine resources, providing support for my second hypothesis.

Table Five. Attitudes towards fisheries and marine resources protection (n=164). Bold numbers represent statistically significant values (p-value=0.05). Questions were recorded on a Likert scale, from 1 (strong disagreement) to 5 (strong agreement).

	Agreement with the statement "Fisheries should be protected"
OVERALL	4.74
Is there a role that you and household members can play to address fishing problems?	
Yes (n=119)	4.76
No (n=16)	4.69
Leaders only (n=13)	4.77
Fisher's exact	.472
Are you involved in community decision-making related to the management area?	
Yes (n=97)	4.75
No (n=65)	4.74
Fisher's exact	**.014**
Who should solve fisheries problems?	
Community (n=146)	4.73
Government (n=4)	4.75
NGOs (n=8)	4.75
Don't Know (n=5)	4.0
Fisher's exact	.224

Changes in attitudes over time

When asked if their attitude towards the management area had changed over the past five years, the majority of individuals described positive changes over time, with an average score of 2.97. Individuals who said their household or leaders could play a role in fisheries management reported a more positive change in attitudes towards the management area over time than individuals who said their household did not have a role (Table 6). Further, individuals whose households were involved in decision-making reported more positive changes in attitudes than individuals whose households were not involved. These findings suggest individuals who participate in fisheries and marine resources management and decision-making will be more likely to agree with the need for protection and to report positive changes in attitudes over time, supporting the second hypothesis.

Table Six. Attitudes towards the management area over time. Bold numbers represent statistically significant values (p-value=0.05). Attitude change was recorded on a scale from 1 (negative) to 3 (positive) while size, speed and length were recorded on a scale from 0 (small/gradually/long time) to 1 (substantial/suddenly/recently).

	Attitude change	Size of change	Speed of change	Length of change
OVERALL	2.97	.67	.11	.66
Is there a role that you and household members can play to address fishing problems?				
Yes (n=119)	2.97	.67	.13	.62
No (n=16)	2.8	.79	.07	.64
Leaders only (n=13)	3	.46	0	.85
Fisher's exact	**.049**	.121	.363	.133
Are you involved in community decision-making related to the management area?				
Yes (n=94)	2.97	.64	.13	.68
No (n=67)	2.96	.71	.10	.64
Fisher's exact	**.024**	.127	.154	.190
Who should solve fisheries problems?				
Community (n=145)	2.97	.69	.12	.65
Government (n=4)	2.75	.67	.25	.67
NGOs (n=8)	3	.38	.13	.88
Don't Know (n=4)	3	.50	0	1
Fisher's exact	.062	**.016**	.177	.055

Household role in addressing fisheries problems also shows a statistically strong relationship with changes in attitude towards marine conservation (Table 7). Individuals who said their household or leaders could play a role in fisheries management reported a more positive change in attitudes towards marine conservation over time than individuals who said their household did not have a role, similar to attitudes towards the management area. Further, this variable showed a strong relationship with related questions about changes in attitude towards marine conservation over time: individuals who said their household or leaders could play a role in fisheries management reported more substantial changes, slightly more sudden changes, and more recent changes. However, involvement in community decision-making and beliefs about who should solve fisheries problems were not statistically significant predictors of attitudes towards the management area over time, though it is important to note that all groups reported positive changes over time.

Table Seven. Attitudes towards marine conservation over time. Bold numbers represent statistically significant values (p-value=0.05). Attitude change was recorded on a scale from 1 (negative) to 3 (positive) while size, speed and length were recorded on a scale from 0 (small/gradually/long time) to 1 (substantial/suddenly/recently).

	Attitude change	Size of change	Speed of change	Length of change
OVERALL	2.93	.64	.10	.63
Is there a role that you and household members can play to address fishing problems?				
Yes (n=118)	2.93	.68	.11	.62
No (n=14)	2.79	.58	.10	.42
Leaders only (n=13)	3	.54	0	.85
Fisher's exact	**.019**	**.001**	**.029**	**.002**
Are you involved in community decision-making related to the management area?				
Yes (n=94)	2.91	.64	.1	.63
No (n=67)	2.96	.65	.1	.64
Fisher's exact	.139	.177	.231	.153
Who should solve fisheries problems?				
Community (n=145)	2.92	.67	.10	.61
Government (n=4)	3	.50	0	1
NGOs (n=8)	3	.38	.13	.75
Don't Know (n=4)	3	.25	0	1
Fisher's exact	.352	.152	.446	.157

Categorical affiliations were not statistically significant predictors of attitudes and beliefs on the environment. Gender, household occupation, and religion did not show a statistically significant relationship with attitudes towards fisheries and marine resources protection or towards marine conservation over time, though men were more likely to describe gradual changes in attitudes towards marine conservation while women described slightly more sudden changes (Annex 1, Tables 7 and 8). Similarly, gender and religious affiliations did not show a significant relationship with attitude changes towards the management area over time (Annex 1, Table 3). However, households whose primary occupation was fishing or employment reported more substantial changes in attitude towards the management area over time, compared with households primarily engaged in business who reported only small attitude changes. This difference may be explained by the lower dependence on fisheries among households engaged in business. In addition, given the small number of households engaged in employment, this difference could result from one opinion rather than signifying a general trend.

In summary, Pere villagers strongly agree fisheries and marine resources should be protected and described positive changes in attitudes towards the management area and marine

conservation over time. In addition, two variables were associated with more positive responses: involvement in addressing fishing problems and involvement in decisions related to the management area.

DISCUSSION

The emerging body of scholarship on environmentality suggests that behavior precedes interests, often in the context of government regulation (e.g., Agrawal 2005; Yeh 2009). In Pere, where government regulation did not emerge until after villagers experimented with no-take zones, the process has been slightly different. Villagers exhibited some behaviors that suggest the formation of an environmental identity: initiating a *tambu* area in 1997; developing a management plan; and attempting to monitor the area. In addition, villagers' stated that their attitudes towards the management area and marine conservation became more positive over the past five years, suggesting individual attitudes and interests came to align with initial conservation behaviors, similar to what scholars of environmentality predict.

Pere exhibits several characteristics associated with successful community management and enforcement of fisheries closures globally. Pere has low in-migration rates, high social cohesion and community organization, and strong leadership. At the same time, villagers said lack of enforcement makes their management area rules ineffective, a finding which suggests villagers have failed to transform their positive attitudes and awareness about fisheries and marine resources into everyday monitoring and enforcement practices, in part because neighboring villagers still fish in Pere's management area. This finding underscores larger-scale enforcement as a critical component of successful marine governance arrangements.

Common property scholarship provides some insight on how communities around the world have addressed similar challenges of enforcing fisheries restrictions among neighboring villages (Gutierrez et al 2011), both in terms of excluding resource users (Ostrom et al 1999; Dietz et al 2003) and moving from community-based resource management to more complex, nested institutional arrangements at multiple scales (e.g., Young 2002; Dietz et al 2003; Berkes 2006). Scholars and practitioners also attribute self-enforcement and strong leadership with successful fisheries management (Jentoft 2003; Gutierez et al 2011; Abunge et al 2012).

Pere villagers expressed varying attitudes towards self-enforcement. Many villagers felt individuals deserved payment for their efforts. For instance, during a meeting between the Pere Executive Council and the socio-economic monitors, participants stressed that money was

necessary for fuel to patrol the area and for flashlights and batteries to provide light at night.[40] Others strongly supported an allowance for individuals involved in enforcement efforts. A few villagers argued that enforcement should be prioritized even in the absence of compensation. After prolonged discussions, the community decided that each ward councilor would nominate three youth[41] to act as "sea-rangers" who would voluntary enforce management areas rules as a service to the community. While Pere villagers planned to move forward with these voluntary enforcement efforts, they still hoped to attract a donor to support their efforts and it is uncertain how long such efforts will continue without financial support.[42]

Other PNG communities have asserted that villagers should receive payment for enforcement efforts. In Nonovaul, for example, the management area chairman repeatedly insisted to me that villagers needed a boat and ranger uniforms to carry out enforcement activities. Villagers in Madang Lagoon expressed similar sentiments. Conservation practitioners are aware of this payment expectation and some NGOs have paid communities for enforcement activities, fueling community expectations of receiving compensation in exchange for enforcement.[43] However, none of these marine management areas generate fees; consequently, it is unclear how such compensation would be sustainable over the long-term.[44] I argue that this situation means that long-term enforcement and management of the marine area will depend on Pere community actions; consequently, understanding how particular environmental behaviors emerge is critical for the long-term sustainability of this marine conservation area and for conservation efforts more generally.

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[40] Prior to my research, Pere had benefitted from a Fishing Aggregation Device (FAD), which resulted in increased fish catch and increased fish for sale by Pere women at the Lorengau town market. As villagers describe, this situation resulted in jealousy among neighboring villages and youth from the closest village, M'Bunai, destroyed their FAD at night. Consequently, some enforcement expectations are related to the losses sustained by Pere after not enforcing fishing rules at the FAD. Pere villagers and their relatives in Port Moresby raised money to partially fund a second FAD that they deployed in September 2010, in partnership with the National Fisheries Authority.

[41] A village youth generally includes males and females up to the age of 35.

[42] Funding for the management plan has been a significant and increasing source of tension between Pere and NGOs. For instance, TNC and the PNG CLMA use Pere in their funding proposals but Pere villagers believe they do not benefit from these proposals. Consequently, several villagers want to secure independent funding. They submitted proposals to support the implementation of the Pere management plan to several different groups but have not been successful yet.

[43] See West (2006) for a detailed account of the exchange relationship expectations of one Papua New Guinean community, who viewed their participation in conservation as an exchange for development.

[44] I do not view ecotourism as a viable option or alternative, despite the interest of some villagers. While tourism may support conservation in some locations in PNG, it is unlikely to be an option in Pere given its location and the high cost of travel to and within PNG.

Rose suggests that governmentality takes shape through a complex assemblage of technologies that shape "aspiration of individuals with the selves each of us wants to be" (1990: 213). Pere villagers have an image of what they would like to become but struggle to align their aspirations with their everyday actions. They have a vision that their beliefs (support for fisheries and marine conservation) will be transformed into actions (effective management and rule enforcement, resulting in increased fish catch). One strong supporter of conservation in Pere explained this challenge: "Pere is a model of conservation and yet we're not succeeding and we have had conservation for a long time and yet we're still figuring out how to do the enforcement and the rules." This villager makes positive statements about commitments to conservation but follows each one with "yet." This syntax mirrors the space many Pere villagers find themselves in: they express positive attitudes and beliefs on the environment and yet these beliefs have not translated into sustained enforcement practices.

Another representative comment comes from an individual who was originally trained by the LMMA network as a monitor. He explained, since the creation of the management area:

> the marine resources really have changed. The results are increase of fish and others, *lalai, pis lama*. When I saw this improvement in our marine areas, it really motivated me to work closely with LMMA so that my community will continue to enjoy a quality of life in a healthy island environment. Everyone in the community supports the [management area] because they saw some positive changes...I became interested in conservation in 2007…because the work of conservation brings value and recovery to our land and reef. One of the things that discourages me most is about the 'monitoring'. We have monitored the tambu areas a couple of times but I haven't gotten the reports yet. I don't know how the condition at the conservation area (monitoring) is going. Another thing is we have come to a halt. I don't know who or what is stopping us from functioning.[45]

This comment that he is discouraged because Pere villages have "come to a halt" illustrates the struggle individuals may face in becoming environmental subjects and underscores that positive attitudes alone have not produced a collective behavioral change in which Pere villagers embrace enforcement as an everyday practice.

Pere's enforcement struggles mirror a wider challenge faced by the conservation community in PNG. Conservation organizations initially focused on creating marine management areas; after successfully creating these areas through a variety of mechanisms (wildlife management areas, LMMAs, local conservation legislation, etc.), many organizations and communities have encountered challenges in implementing and enforcing management

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[45] He gave me this written statement in English.

areas.[46] A program officer with one foundation funding marine conservation in PNG identified enforcement as a major challenge:

> We are grappling with [the issue of enforcement in] the programs we are supporting. Over the past decade, people focused on working with communities, more or less well, setting up protected areas, getting monitored…[now] they are all at a stage where they are at a point that enforcement is a key issue and [they are considering] what to do next and we are grappling with it, what can we do on the enforcement side.

This statement indicates enforcement, implementation, and management as common challenges faced by both the Pere community and the NGO and donor communities. More broadly, it illustrates another key finding of this chapter: that individuals may intend to achieve a particular outcome, such as the effective management of a marine protected area, but may still fail to achieve their intended outcome. This finding underscores how good intentions alone do not result in achievements, suggesting yet another way in which gaps between intentions and achievements emerge. At the same time, by continuing their efforts, Pere villagers may still achieve un-intended outcomes over the long-term that may be better than the ones that they originally imagined.

Despite the challenges they have encountered in aligning their intentions and achievements, Pere villagers have persisted in their marine conservation efforts. In a leader's meeting in late July 2010, Pere leaders discussed visiting nearby villages to conduct conservation awareness. They recognized the importance of engaging neighboring villages in their efforts because the fish near Pere traveled outside Pere boundaries, particularly during spawning periods. The village chief emphasized that other villages "get the benefits of our conservation so they must also protect the fish that belong to all of us."[47] The village magistrate agreed, saying "neighboring communities all use our fishing areas so they must all be clear that we have a *tambu* in the area so that they do not break the *tambu*."[48] After a general discussion on the importance of villages supporting Pere's conservation efforts, participants debated how to raise awareness among neighboring villages. Participants decided Pere representatives would share their experience in creating a management area with neighboring villages and inform them about Pere's restricted fishing area. Pere's chief concluded, "when they know that we are committed to

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[46] The LMMAs in Kimbe Bay, West New Britain are likely an exception; however, the communities surrounding these LMMAs do not fish.

[47] This statement was originally in Tok Pisin.

[48] This statement was originally in Tok Pisin.

conservation, they will all be happy to work towards conservation too."[49] Another villager stressed wider cooperation among Pere and other Titan villages as essential, stating "if the Titan people say we look after, so it is not just Pere, if the entire Titan community [is] managing that and looking after it and it becomes a wider circle of enforcement, and I think that will work…I am convinced it will be all right."[50]

Grace, a member of the Pere Executive Council, presented these plans at a marine conservation workshop in October. A conservation practitioner who attended the meeting later described her reaction to Grace's presentation to me: "Grace is [giving a presentation], talking about [conservation], about EBFM, and just spitting it out. And I am just thinking…this is crazy…Grace talked about Pere communities leading the way and helping other communities to do EBFM..." This individual felt this description of Pere communities leading the way was a "savvy" claim that would not be implemented but was intended to show off or position Grace to receive financial support from the attendees, reminiscent of the ways Tsing (1999), Li (2000), and Hirtz (2003) argue local people may articulate specific indigenous identities to engage with and benefit from conservation.

After witnessing internal discussions about fisheries and marine conservation among many Pere community members, including meetings on their plans for this awareness raising, however, I argue this claim represents more than mere posturing or an attempt by Pere to mold themselves into ideal villagers to benefit from conservation. Pere depends on fishing for their livelihoods; consequently, while they may have ambitious ideas and may encounter difficulty in implementing some of their proposed ideas, their statements indicate their commitment to conservation and awareness and a recognition that their success as a village depends on broader support from neighboring villages. A desire to protect the marine environment or to share this commitment with other communities, whose actions and behavior directly influence fisheries outcomes in Pere, is not in contradiction with financial concerns or material self-interest. Rather, Grace used this new language and the concept of EBFM, which she learned through NGO trainings in Pere, to engage with the meeting attendees in the language they spoke amongst themselves, hoping it would lead to desired support and help Pere achieve the ideals set out in the management plan.

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[49] This statement was originally in Tok Pisin.
[50] This statement was originally in Tok Pisin.

Anna's personal story in the introduction is a reminder of the convictions that underlie statements about environmental attitudes and an illustration of larger processes of change in Pere. She felt strongly about conservation in Pere because of her concerns about the village's future and the positive changes she observed. To be too hasty in judging Grace's presentation as an example of an individual merely seeking to gain from conservation misses a wider point: some individuals in Pere may, and likely do, position themselves to benefit from Pere's environmental commitment. But to characterize their attempts at management in this way ignores the subtle transformation of environmental subjectivities, individuals who have come to care about the environment and who are trying to think and act in new ways and use new languages and tools to do so.

CONCLUSIONS

The commitment of Pere villagers to marine conservation is evident in their statements about fisheries and marine resources protection and their actions to create a management area and a management area plan. These data do not claim that Pere villagers' participation in the creation of a management area or their continued efforts will result in this management area achieving its aims over the long-term nor that communities who follow a similar process will achieve comparable results or experience similar changes in beliefs or actions. Still, Pere villagers have come to care about and think about conservation. As these individuals act in relation to the environment and identify and position themselves in new ways, they have also struggled to enforce management area rules. Their renewed commitment to voluntary enforcement represents an important first step in forging new environmental behaviors, but it is not yet clear if enforcement will become an everyday practice among Pere villagers or if implementation gaps will persist. As I suggested earlier, long-term enforcement and management of the marine area will depend on Pere community actions, which makes the emergence of such environmental practices critical for the area's long-term sustainability.

In comparison to Agrawal (2005), who shows how Kumaoni villagers come to care about forests and manage them effectively, this chapter illustrates that Pere villagers care about the environment and are trying to manage it, succeeding in some ways and facing challenges in others. Both Agrawal and Birkenholtz (2009) point to the importance of state regulations in changed practices among villagers. In Pere, where the government has a limited presence, legal recognition of environment and conservation came after villagers created a management area

with the help of NGOs, a finding that raises questions about whether formal regulations are necessary to support attitudinal and behavioral changes. Pere's experience offers a window into how individuals come to act on their beliefs and the hurdles individuals may encounter when translating their beliefs into actions. Their struggle also illustrates transformation to environmental subjectivity as a process, similar to the ways Rose (1990) and Gabriel (2011) describe how subjectivity can change and be re-made over time.

In summary, this chapter illustrates strong beliefs and attitudes towards marine conservation alongside implementation gaps. For Pere, enforcement of management area rules is likely to be critical in effectively conserving and managing fisheries and marine resources. The high dependence of Pere villagers on fishing for their livelihoods, as well as an expectation that most villagers will spend the majority of their lives in Pere, are two factors likely to motivate villagers to identify solutions to enforcement challenges. As Pere villagers develop and modify their efforts to enforce village rules, it will be important to analyze if differences emerge in reported attitudes and beliefs towards the environment in relation to differential roles in enforcement. If Pere villagers are unable to resolve their enforcement challenges, it is possible that some individuals may become more negative about the management area and marine conservation over time. Still, the long history of common property offers reasons for optimism and serves as a reminder that many communities around the world have worked through some of the challenges facing the Pere community. As such, they offer hope for Pere villagers.

Supplementary material

Table Eight. Attitudes towards fisheries and marine resources protection (n=164). Questions on attitudes towards the environment were recorded on a Likert scale, from 1 (strong disagreement) to 5 (strong agreement).

Agreement with the statement "Fisheries should be protected" (1=low, 5=high)	
OVERALL	4.74
GENDER	
Male (n=135)	4.77
Female (n=29)	4.62
Fisher's exact	.277
OCCUPATION	
Fishing (n=151)	4.71
Business (n=8)	4.75
Employment (n=4)	4.75
Fisher's exact	1.0
RELIGION	
Catholic (n-19)	4.74
ECOM (n=74)	4.65
SDA (n-10)	4.8
WiNeisen (n=52)	4.79
Other (n=9)	4.67
Fisher's exact	.100

Table Nine. Attitudes towards marine conservation over time. Bold numbers represent statistically significant values (p-value=0.05).

	Attitude change over time (1=Negative; 3=Positive)	Size of change (0=small; 1= substantial)	Speed of change (0=gradually; 1=suddenly)	Length of change (0=Long time; 1=Recently)
OVERALL (n=162)	2.93	.64	.10	.63
GENDER				
Male (n=132)	2.95	.65	.07	.62
Female (n=28)	2.86	.59	.22	.70
Fisher's exact	.310	.629	**.032**	.411
OCCUPATION				
Fishing (n=148)	2.93	.65	.10	.63
Business (n=8)	3	.50	0	.63
Employment (n=3)	3	.67	0	.67
Fisher's exact	.471	.606	.374	.540
RELIGION				
Catholic	2.95	.72	.05	.63
ECOM	2.96	.57	.07	.64
SDA	3	.60	.30	.80
WiNeisen	2.86	.76	.10	.54
Fisher's exact	.857	.300	.573	.778

Table Ten. **Attitudes towards the management area over time.** Bold numbers represent statistically significant values (p-value=0.05).

	Attitude change over time (1=Negative; 3=Positive)	Size of change (0=small; 1= substantial)	Speed of change (0=gradually; 1=suddenly)	Length of change (0=Long time; 1=Recently)
OVERALL (n=162)	2.97	.67	.11	.66
GENDER				
Male (n=134)	2.96	.66	.11	.65
Female (n=28)	3.0	.71	.14	.75
Fisher's exact	.527	.862	.808	.600
OCCUPATION				
Fishing (n=150)	2.97	.69	.12	,67
Business (n=8)	2.86	.14	0	.57
Employment (n=3)	3	.67	0	.67
Fisher's exact	.109	**.013**	.177	.175
RELIGION				
Catholic	3	.68	.05	.79
ECOM	2.92	.62	.10	.64
SDA	3	.60	.30	.70
WiNeisen	3	.80	.10	.59
Fisher's exact	.812	.195	.361	.535

CHAPTER SIX: Conclusions

Conservation organizations have become larger, better funded, and more organized over time. However, at the same time that these organizations have increased their capacities and their resources, global biodiversity continues to decline. This mismatch between larger, more professional organizations and declining biodiversity suggests a gap between increased capacity and conservation outcomes and between organizational aims and accomplishments. My dissertation explores gaps between plans and outcomes (Ferguson 1990), between policy and practice (Mosse 2005; Lewis and Mosse 2006), and between intentions and achievements (Carrier and West 2009) to examine the inner workings of conservation at multiple scales. I examine how organizations, conservation professionals and local community actors shape conservation processes and outcomes. In doing so, my dissertation represents the first multi-scaled analysis in the Pacific on marine conservation organizations, conservation professionals, and local communities.

My dissertation highlights several factors that contribute to disjunctures between intentions and achievements: heterogeneous attitudes and behavior among individuals within an organization; personal choices and motivations of conservation professionals that shape their decisions; the ways in which individuals come to care about the environment; the challenges that emerge from governance-at-a-distance management strategies; organizational failure to measure progress and reflect upon outcomes; the relationship between donor, organizational and managerial pressure to report success; and the production of ignorance. Below, I briefly summarize these findings and illustrate how they collectively contribute to understanding how disjunctures between intentions and achievements emerge and persist.

By analyzing the organizational pressures that shape the actions, assumptions and motivations of conservation professionals, I illustrate the heterogeneity of beliefs that exists among WCO managers and staff and show how actors attempt to reconcile these heterogeneous beliefs when implementing marine conservation projects. My findings illuminate four systematic differences among WCO managers and staff that result from the individuals that occupy these positions, rather than from structural differences at international, national and local levels. First,

my findings show how individual attitudes and behavior towards implementing M&E vary among WCO offices. WCO Global managers and staff recognized M&E as an important organizational practice and said they welcomed critical reflection and description of project challenges. In contrast, WCO PNG managers did not treat M&E as an important everyday practice and discouraged critical reflection among their staff by actively eliminating such language in staff reports. Second, managers and staff expressed different preferences for conservation or development components of their projects, which resulted from the different ways in which these individuals conceptualized such terms. Madang staff favored a social and livelihoods approach while Port Moresby-based managers emphasized conservation-focused projects. Third, my findings illustrate how individuals approach conservation from different temporal scales. Port Moresby managers (and some WCO Global staff) focused on short-term outcomes from project activities while the Madang staff supported long-term approaches. Fourth, staff possessed ontologically different beliefs about the role of WMAs in conservation: Port Moresby managers viewed WMAs as objectives while the Madang manager perceived WMAs as management tools. These differences illustrate how the attitudes and behavior of individuals within the same conservation organization can vary widely, which in turn has implications for the types of projects different managers and staff prefer and even for the ways in which managers and staff prioritize M&E practices or relationships with local communities. Such differences contribute to disjunctures between intentions and achievements and tensions between managers and staff on the focus of projects. Moreover, the challenges that result from the heterogeneity of beliefs in WCO emerge from the way organizations themselves recognize, incorporate, or reconcile the diversity of perspectives on anthropogenic and biocentric approaches to conservation.

Second, my dissertation illustrates the personal choices and motivations of conservation professionals by advancing development scholarship on the social lives of professionals within the field of conservation. I highlight several personal choices that shape conservation professionals' actions and decision-making, including personal preferences to be based in headquarter or capital locations rather than in field locations, particularly as individuals gain experience and grow older. Such choices mean that managers remain distant from the implementation of conservation projects, which contributes to continued disjunctures between intentions and achievements. More broadly, this situation illustrates how such gaps and

inconsistencies can become "the normal state of affairs" (Carrier and West 2009: ix) rather than unique tales of a particularly difficult project or an exceptional situation of a project with unintended effects. This analysis raises questions about how conservation organizations can address the challenges that result from such choices and their implications for conservation practice more generally. Further, this analysis also underscores the potential insights for conservation practices and outcomes that can emerge from studying the social lives of environmental professionals.

Third, my dissertation expands on studies of environmentality by exploring how organizations shape the attitudes and behavior of conservation managers. For instance, I show how managers shape the behavior of their staff, such as when conservation managers place pressure on staff to produce positive reports and these staff then begin using such language. Similarly, I reveal ways in which organizational priorities shape individual's actions, such as when managers at WCO PNG sought to align all of WCO PNG's activities with WCO's broader aims. Collectively, these examples illustrate how organizations shape attitudes and behavior and also how individual actions shape conservation processes and outcomes.

My findings also illustrate how individual attitudes and interests came to align with initial conservation behaviors, similar to what scholars of environmentality predict. In Pere, legal recognition of environment and conservation came after villagers created a management area with the help of NGOs, a finding that suggests formal, government regulations are not always necessary to support attitudinal and behavioral changes. My examination of the emergence of environmental attitudes and behavior among Papua New Guineans in Pere village highlights enforcement as a persistent challenge for communities like Pere but also for the conservation community more broadly. This finding illustrates how good intentions (in this case, strong support for the management area and marine conservation) alone do not result in achievements (here, effective management and monitoring), suggesting yet another way in which gaps between intentions and achievements emerge. At the same time, by continuing to pursue their efforts to manage their local marine area and to engage neighboring communities and NGOs in their efforts, Pere villagers may still achieve un-intended outcomes over the long-term that may be better than the ones that they originally imagined, resulting in marine management that is potentially more effective.

Fourth, my dissertation shows how individuals represented themselves in a particular way to engage external actors and attract benefits, similar to findings from post-structural political ecology that illustrate how local communities may position themselves in particular ways to engage with and benefit from conservation and development programs. For instance, my findings show the ways in which Mbuke villagers positioned themselves as committed conservationists and ideal targets of conservation programs while continuing to act in a manner that was inconsistent with WCO's vision of conservation. In contrast to the ways in which ICO sought to shape the attitudes and behavior of Pere villages, WCO managers relied on assurances from field staff about the community's environmental convictions and did not attempt to shape Mbuke villagers' attitudes or behavior through community education programs on conservation or other tools. At the same time, not all changes and conservation actions in villages result from such strategic positioning; in Pere, villagers adopted conservation language with the intent of furthering their conservation aims. These findings underscore village-level complexities and illustrate how assumptions about projects or project communities can contribute to emerging gaps between intentions and achievements before projects even begin.

Fifth, I show how the challenges that WCO managers encountered when they made assumptions about the environmental convictions of Papua New Guineans is also related to a "governance-at-a-distance" management style, defined as a management style in which managers rely on email, phone, and other "distance" forms of communication to stay up to date and informed about field-based projects. I highlight several challenges that result from such a strategy, including the ways in which this strategy results in disjunctures between managers' intentions and project achievements. Further, as noted above, insights on the personal choices and motivations of individual conservation professionals show their preferences for office jobs, rather than field positions, an insight that suggests that governance-at-a-distance management styles are likely to persist.

Sixth, my dissertation highlights the challenges faced by WCO in implementing M&E strategies. My findings show how WCO failed to maintain an overarching set of assumptions, beliefs, and values at its international and national offices, which resulted in an overall organizational failure to define and measure progress and reflect upon outcomes. By failing to effectively measure, much less address, how its outputs contribute to larger outcomes, WCO missed an opportunity to use M&E to learn from its activities and improve organizational,

management or project effectiveness. This finding has broader implications for conservation practice, as suggested by the comment of the WCO manager who described WCO's accomplishments as "small and medium sized wins" that may not contribute to larger conservation successes. While it is possible that conservation programs and projects may achieve significant accomplishments without orienting their tasks and defining intended outcomes up front, organizations are more likely to achieve their broader objectives when they connect project activities to their mission and objectives. Further, for an organization to learn from its experience and then change or modify its approach, the organization must also be open to adjusting its assumptions about approaches and strategies to conservation.

Seventh, conservation scholarship on donor-NGO relationships tends to emphasize the influence of donors on conservation priorities and NGO accountability to donors. My findings did show some ways in which staff felt that donors shaped WCO priorities, such as in the case of WCO managers who pressured Madang staff to focus on WMAs because of a promise WCO had made in one of its project proposals. At the same time, I found that organizational and managerial pressure to report success is greater than donor pressure, as shown through examples of how managers place pressure on their employees to demonstrate success and discourage critical reflection among their staff, a finding that expands understandings of NGO-donor dynamics. This type of behavior hinders M&E processes in particular and conservation practice in general because information provided to donors or others may not accurately reflect projects, which limits the ability of conservation organizations and donors to evaluate how efforts contribute to outcomes or to learn from mistakes to potentially design improved conservation projects. Further, I also suggest that, because NGOs' often compete for funding, NGOs face an additional disincentive to report on their challenges and failures, even if donors say they are receptive to more honest reporting. This pressure to remain competitive with their peers is another contributing factor in explaining donor-NGO relationships.

Finally, my dissertation suggests how disjunctures between intentions and outcomes can represent both failures and possibilties. For example, when managers or staff do not support intended outcomes, they may welcome failure or cultivate ignorance about certain aspects of a project. My findings highlight several reasons why managers or staff may invite ignorance about a particular project or field site, including to: 1) ensure simplicity and avoid addressing complexity or inconsistencies; 2) avoid admitting failure or to represent failure in a more positive

light to supervisors or donors; and 3) avoid being associated with project failure and the potential effects of such failure on their careers. I suggest the production of ignorance represents a more general trend beyond the WCO offices and communities that I describe in this dissertation. Instead, I propose the production of ignorance illustrates a broad tendency among government bureaucrats, conservation and development staff, and others to share and promote particular types of knowledge while minimizing or ignoring other types of knowledge. Such tendencies may result from individual motivations, organizational or policy environments, or other factors that deserve further interrogation to better understand the relationships among power, knowledge, and ignorance across geographic contexts.

Each of these findings suggests ways in which conservation achievements vary from intentions, resulting in conservation projects and outcomes that differ from imagined and intended effects and showing how conservation professionals and local communities do not always behave as expected. My point is not just that the intentions of marine conservation efforts in PNG vary from their achievements but that they almost always do. My dissertation therefore presents the perspective that the anomalous is ubiquitous; such gaps and inconsistencies are not exceptional anomalies but rather the norm.

Further Analysis and Future Research

This section brings together the multiple themes that contribute to understanding how organizations, conservation professionals and local community actors shape conservation processes and outcomes at international, national and local levels. It turns to the broader implications of these findings for conservation practice to explore how insights from marine conservation efforts in Papua New Guinea can shed light on conservation efforts globally.

My dissertation analyzes how individual actors transform organizational policies and intentions into projects and actions by examining the everyday experiences of conservation professionals. By including insights from multiple levels, my dissertation illustrates the everyday processes and social relations through which policies and projects develop and are contested, negotiated, reworked or supported by managers, staff or communities. These findings illustrate how conservation action happens across distance and operates at multiple scales, from the international and national level, where policy and project design most frequently takes place, to the field and community level, where project implementation occurs. These multiple scales then create opportunities for field staff to reorient projects, as the Marine Manager did in Madang, or

for managers to repackage projects in a more favorable light, as the national manager did with staff reports. By illustrating the multiple levels at which gaps emerge and persist, I show how gaps between intentions and achievements occur not only at a theoretical level but also stem from the daily attitudes and behavior of conservation professionals and local communities.

My dissertation uncovers many challenges in marine conservation efforts throughout PNG, ranging from organizational challenges in monitoring and evaluating conservation outcomes to professional tensions in approaches to conservation. These challenges suggest that WCO's incentive structure does not ensure a mechanism for staff to share complex information or project challenges. Further, the experience of WCO illustrates some of the misalignments in incentives that face international conservation organizations. Because WCO PNG must fundraise to support its activities, they must send positive messages that demonstrate an overall picture of success to their donors, to their supervisors at WCO Global, and even to their colleagues in other organizations. WCO PNG faces similar incentive-related challenges within the WCO network; because WCO PNG is one of many national offices around the world that is affiliated with the WCO network, WCO PNG experiences pressure to be seen as a successful national office within WCO. Consequently, WCO PNG must convey to WCO Global that it is in alignment with WCO Global priorities.

Collectively, the multiple challenges highlighted in my dissertation also suggest that WCO's current approaches to addressing environmental challenges throughout PNG are not sufficient to achieve WCO's goals and objectives. However, it would be a mistake to assume that these challenges are unique to WCO; instead, I suggest that the challenges faced by WCO are representative of larger challenges faced by the conservation movement as a whole and underscore a lack of fit between some of the operating modes of large conservation organizations and effective conservation on the ground.

There is growing consensus that current approaches to addressing 21st century environmental challenges are not sufficient and that new approaches, solutions (Biggs et al 2010) and transformations (Westley et al 2011) will be necessary. Biggs et al summarize this perspective by saying: "There is increasing agreement that more adaptive, integrated, collaborative ecosystem-management approaches, interlinked at multiple scales, would improve society's ability to sustainably manage complex social–ecological systems" (2010: 8). This

scholarship suggests the need to better understand factors that could facilitate transformations or encourage the emergence of new approaches in conservation practice and theory.

Understanding governance-at-a-distance is particularly important within this context because governance-at-a-distance is characteristic of all large, international conservation organizations and is likely to persist in the future. Therefore, an important next step in understanding this phenomenon will be in understanding when such a governance-at-a-distance strategy works and when it does not work, with the aim of identifying the patterns and types of strategies that lead to better outcomes.

Governance-at-a-distance allows for possibilities within the gaps between intentions and achievements. Both the WCO Madang staff and the WCO Manus staff were initially able to take advantage of WCO's governance-at-a-distance strategy by running their marine projects in a different way than the WCO PNG managers intended. The WCO Madang staff, for example, began to focus on a social and development component, which had not been approved by WCO PNG managers. The Madang office employed this strategy for several months before WCO PNG managers eventually became aware of this shift in project direction and stopped the Madang staff from continuing to implement this approach. In this example, WCO's governance-at-a-distance management strategy allowed the WCO Madang staff greater autonomy and flexibility in their project approach, although this autonomy was only temporary. If the Madang office had shifted the project approach to one that better aligned with the preferences of individual managers at WCO PNG, it is possible that WCO PNG managers would have supported this shift, suggesting how gaps can be productive in introducing new approaches.

The emergence of gaps between intentions and achievements may also produce un-intended effects that are better than the ones initially imagined. In Pere village, for instance, where villagers originally envisioned creating a locally managed marine area but have faced challenges in enforcing the management area rules, this gap between their intentions and achievements could result in unintended but positive outcomes. Because of their challenges in enforcement, Pere villagers have had to consider additional strategies to conserve their area, such as including neighboring communities and engaging with the NGO community. Over time, these originally unintended strategies may end up contributing to an outcome that is better than the ones originally imagined by Pere villagers.

In summary, my dissertation portrays international conservation organizations as they are incessantly shaped, through internally varied and contradictory processes and misaligned incentives structures, by the donor communities or local communities whose priorities must be reconciled with the ecological outcomes that would, in a simpler world, be straightforward indicators of success or failure.

Appendix A: Policy Recommendations

As noted in the preface, one of my aims in this dissertation was to present a nuanced analysis that closes the gap between conservation advocates and critics by including recommendations aimed at improving the practices of environmental institutions and the relationships among conservation actors. This dissertation has produced a number of findings that may be of interest to conservation practitioners responsible for designing and managing conservation programs and projects as well as for donors who fund such programs. While these recommendations may seem overly simple or obvious to some, my experiences suggest that anomalies between project intentions and project achievements in marine conservation efforts in PNG develop because of such simple fissures and addressing their underlying causes is a complex task.

First, my dissertation illustrates how WCO failed to communicate its aims and intended norms on M&E to its employees throughout its multiple offices, which resulted in different attitudes and behavior towards implementing M&E policies. M&E represents one mechanism through which WCO could coordinate its different offices, projects, and programs to ensure that it focuses its efforts on activities that will address key conservation challenges and contribute to broader organizational goals. However, as my findings show, such coordination is unlikely to occur in the absence of high-level leadership and effective communication on the importance of M&E to employees at all levels. Further, some managers placed pressure on their employees to produce reports that emphasized success and minimized discussion of project challenges. If an organization or managers want to implement M&E as a process to measure organizational outcomes and highlight areas for improvement, managers need to encourage critical reflection among their staff in order to have a basis for understanding and evaluating conservation progress. Otherwise, as I suggest, the practice of M&E is unlikely to accomplish accountability-focused or improved-focused M&E.

Second, my dissertation underscores how managers based in the capital often lacked an understanding of field realities, which was perpetuated by governance-at-a-distance management

strategies and short field visits where managers sought to confirm their prior assumptions. To address this challenge, I propose two recommendations: 1) visit the project to observe what is going on and 2) ensure that staff feel included in the organization. I propose managers visit projects during their initial development, when there is still time for adaptive management, and visiting more frequently. If WCO managers had visited Mbuke earlier, they might have observed how villagers' conduct varied from what Samuel described in his reports or identified the need to add a community awareness component to the project. Further, managers could reverse the directions of some of the trips in their budget; rather than paying for Samuel to visit the WCO PNG office, WCO PNG managers could use this money to visit Samule in Mbuke, where they would be able to directly observe the Mbuke project. In addition, my findings suggest that managers are more likely to learn about field sites and the attitudes and behavior of project staff and local communities when they spend longer periods of time at the project site, ask project staff questions and remain open to observations that may contradict prior understandings or assumptions.

Third, my findings show how senior staff often made strategic project decisions without involving field staff, which resulted in field staff who felt excluded from such decision-making processes. Field staff expressed their frustration about then having to implement plans that they had not contributed to or commented upon. Consequently, I propose that conservation organizations involve all levels of staff in strategic planning exercises to ensure that field level perspectives are incorporated in strategic plans and project workplans. Further, in light of my findings on the ways in which senior and junior staff, expat and national staff and others may communicate and share opinions in different ways, I suggest mangers and staff also need to remain attune to such differences to help minimize communication challenges.

Fourth, I highlight how staff expressed varying senses of connection to the organization. Given the nature of conservation work, governance-at-a-distance management strategies will likely persist and some staff will always be located far from headquarter or national offices. Still, conservation organizations can minimize the social distance experienced by these staff by taking steps to include them, make them feel valued as part of the organization, and ensure they understand the broader goals of the organization. Similarly, individuals, particularly those located in more remote offices, expressed varying understandings of how they as individuals contribute to the overall work of the organization. By communicating with field level staff about

the overall organizational goals and how particular project activities contribute to this vision, managers can help to ensure that staff understand how they contribute to the organization. Conversely, when supervisors do not communicate or emphasize the organization's main objectives or positions to their staff, employees are less likely to understand or contribute to advancing the overall goals of the organization.

Conservation organizations could also take even bolder steps by re-considering the role of local, field-based staff and promoting training or professional development options that would contribute to the types of capacity building opportunities that Thomas McDermott, WCO's former Country Director, described when he coined a "make myself redundant" management strategy. In describing this management strategy, Thomas suggested that his goal was to make his own role in WCO PNG's office redundant by building the capacity of Papua New Guineans to do his job. Another step could be to consider staff rotations among the different levels of WCO, similar to the types of international training programs that private companies run in which staff who show leadership potential and initiative participate in courses that involve spending time at the corporation's multiple offices and levels, with the goal of ensuring that these staff understand the multiple levels of the company and how it operates and can then return to their home office with an improved understanding of how the company works. Similarly, while senior staff are likely to have field experience, some may not or may need a "refresher." Rotations of senior staff at field offices could similarly provide updated or improved understandings of current conservation challenges at the local levels.

My findings also show how conservation organizations may experience "geographic inertia," a situation in which an organization has been based in an area for a long period of time and is likely to continue working in the area, even if it no longer makes strategic sense for the organization's objectives. Further, my findings highlight how the interests of an organization and a community may diverge over time, which can result in a field site that no longer represents an ideal location to implement the organization's activities. These findings underscore the importance of conservation organizations defining exit strategies and of continuing to evaluate whether a particular site is an appropriate location to achieve its objectives.

These recommendations represent a few of the suggestions that emerged from my examination of the inner workings of a large conservation organization implementing marine conservation projects in PNG, which I suggest are broadly applicable to other conservation

organizations. Again, although they may seem obvious or simple, my experience suggests that managers often do not implement such recommendations—either because they become too wrapped up in their day to day work, being "busy being busy," or perhaps because they have other motivations than seeking to ensure conservation works well. At the same time, some of the challenges identified in this dissertation can not be easily solved, underscoring how disjunctures between intentions and achievements are likely to persist. West reaches a similar conclusion in her analysis, writing "to achieve conservation as conservation practitioners see it, one cannot have development as Gimi see it" (2006: 217), a point which emphasizes that some gaps cannot be bridged through simple recommendations or even recognition of challenges. Therefore, while this section includes some suggestions for conservation professionals to improve conservation practice, it is also important to recognize the complexity of conservation practice and to understand places and situations in which such suggestions will not work. Finally, as the title of my dissertation suggests, the anomalous is ubiquitous—even if organizations or managers implement these recommendations, gaps between intentions and achievements are always likely to persist.

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