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Challenges to Interorganizational Coordination in Integrated Coastal Management in the Developing World:

A case study from southwestern Madagascar

by Justin Kraus

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Department of Environmental and Geographical Science
University of Cape Town

ABSTRACT

This dissertation discusses the challenges to interorganizational collaboration in Integrated Coastal Management (ICM) projects in the developing world. After roughly 20 years of implementation, ICM is just beginning to systematically review its initiatives especially in the developing world. The early reviews of ICM initiatives that have been published note several challenges that are hindering the effectiveness of many ICM initiatives. One of these challenges is how to implement effective interorganizational coordination in ICM initiatives. The ICM literature, and consequently ICM initiatives, to date has not exhibited a very sophisticated understanding of how interorganizational relations function, and why they might fail. This dissertation seeks to provide to ICM implementers a more sophisticated understanding of interorganizational relations that has heretofore been lacking. It does this in several ways. First, this dissertation provides a review of the evolution of coastal management theory and practice from its inception to the present day with particular reference to how coastal managers in the developing world have handled the human dimension of coastal environments. Second, this dissertation reviews the work of several academics who have studied Interorganizational Relations (IOR). Most of these academics work in fields such as Economics, Administrative and Management Science, and even Sociology. None of the IOR literature deals specifically with coastal management issues and no ICM literature shows any recognition of IOR theory. Third, this dissertation, in order to investigate the relevancy of IOR theories and principles to interorganizational relations in ICM initiatives, undertook research on an ICM initiative in Southwestern Madagascar. The findings of this research suggest that IOR theories and principles are capable of giving useful explanations of, and insights about, the interorganizational relations that are occurring in ICM initiatives. Finally, this dissertation discusses IOR theory's insights in terms of the case study investigated and more generally in terms of what IOR theory states is important to fostering effective interorganizational coordination in ICM initiatives in the developing world. This dissertation concludes by suggesting that its own review of the IOR literature is by no means exhaustive and that further study of that literature may prove useful to ICM implementers.

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1. Introduction

1.1 Background and rationale

Integrated Coastal Management (ICM) is now roughly a 20 year old discipline. Formed in response to the overly technocratic, centralized, and sectoral, coastal management systems found in the developed world in the 1950s and 60s, ICM has sought to innovate and improve coastal management practice by introducing several new ideas. These ideas emphasize the linkages and dependencies that exist between ecological, socio-economic and governance systems.(Cicin-Sain and Knecht, 1998, Brown et al., 2002) . From an ecological perspective, ICM requires that the coastal environment must be understood holistically. The coast cannot be separated from the rivers that flow into it, or even from the ports that are built on it (Griffis 1996). Furthermore, ICM insists that coastal environments are dynamic and complex systems and must be managed accordingly. The attempts by the older technocratic systems to maintain a prescribed optimal or “natural” state have been abandoned. ICM recognizes that ecological systems are in a constant state of flux and that attempting to maintain any time-specific set of characteristics as “natural” is artificial and ultimately an impossible and ecological unsustainable management objective. From a social science perspective, ICM insists that people living in the coastal zone are as much a part of coastal environments as sand and salt water and management efforts must be participatory and considerate of human needs (Francis & Torrel, 2004). From a governance perspective, ICM states that for both practical and ideological reasons related to the above sociological and ecological understandings, every entity involved in coastal management must coordinate, or “integrate,” their plans, policies, and projects (Cicin-Sain et. al. 2000). These ecological, sociological, and governance ideas developed more or less in parallel with each other in their respective academic departments throughout the last forty years and it has been the work of coastal management theorists to synthesize them into a unified theory capable of dealing effectively with the challenges that coastal management practitioners must confront in their day to day activities. Admittedly this synthesizing process, now roughly 20 years old, is still ongoing. Indeed even referring to an ICM theory or ICM “theorists” is somewhat misleading in that ICM’s principles do not come from and explicit or unique foundational theory per se but are instead drawn from a variety of ecological, socio-political, and administrative/governance ideas.

Nevertheless the work of these ICM synthesizers has certainly provided a coastal management system, even if incomplete, that is far superior to that which dominated in the 1950s and 60s. At that time coastal managers placed a naïve faith in the ability of the scientific method to provide sufficient

guidance for the formulation of coastal management objectives. It was believed that the natural world and its ecological systems could be divided up into neat administrative units and that each of these units could be managed by a team of scientific experts whose job it was to maintain some scientifically derived “optimal state.” A good example of this strictly scientific approach in the field of Coastal Management has been the development of fisheries management controls such as the determination of Total Allowable Catches (TACs) for selected fisheries resources. This control measure seeks to fix the tonnage of a particular marine or coastal species that can be caught annually. It is based on a stock assessment which relies on data such as size of fish harvested, frequency of catch, length of fishing event and information on fishing gear. However, in the 40 years since their creation, TACs have proven to be an insufficient and even at times counter-productive, coastal management tool. (Healy & Hennessey 1998) Although TACs remain an important in the suite of tools employed to manage coastal and fishery systems, ICM’s very development was a response to the recognized failure of TACs, and the technocratic coastal management system of which they were a part.

Yet to date, ICM itself has also largely failed to achieve its goal of providing an effective alternative strategy to the above technocratic management system. In its 20 years of implementation, ICM has failed to sustainably manage the world’s coastal environments. (Belfiore 2003, Bille & Mermet 2002, Olsen *et al* 1998). Almost without exception the quality of coastal environments around the world are becoming more degraded (Millennium 2005). Admitting this failure, however, need not mean abandoning ICM’s prescriptions. For ICM is not simply concerned with the ecological sustainability of its management efforts but also with its social sustainability. And without question ICM’s management methods in this socio-political regard are far superior to the previous technocratic system. Yet any coastal management system that is incapable of producing sustainable management of both the ecological, socio-economical, and governance aspects of coastal environments cannot be considered complete. Therefore ICM proponents need to learn from their failures and develop more sophisticated understandings of what exactly they are calling for and what is required to effectively implement its policies.

This is particularly true when ICM is implemented in the developing, as opposed to the developed, world. Although seen by many as vehicle for social empowerment (Jentoft, 2005), ICM theory and practice is a product of western academics and coastal management practitioners whose own socio-economic, political, and cultural environments are vastly different from those in most developing countries. This has important ramifications for ICM proponents who seek to implement ICM projects in the developing world. Unfortunately to date ICM proponents have been slow to recognize, and mitigate for, the challenges to ICM projects that may arise because of the socio-economic, political,

and cultural discrepancies between developed and developing countries. Particularly because ICM itself highlights the need for a holistic approach to coastal management, it should be expected of ICM practitioners that they adopt a more sophisticated and holistic approach to project implementation in the developing world. To do this ICM practitioners need to come to better understandings of both the implications of their own ICM principles and the developing world environments in which they seek to implement that theory. One aspect of ICM to which this learning process is particularly important is ICM's call for greater interorganizational coordination. In a developing world context the organizations that ICM states must coordinate their actions are extremely diverse and relate to each other in rather unique ways because of this diversity and because of how organizations in the development arena are structured. These two factors create challenges to interorganizational coordination that have not been discussed in the academic ICM literature. Therefore this dissertation seeks to begin that discussion.

1.2 Aim of Dissertation

The overall aim of this dissertation is to contribute to the theoretical ideas underpinning ICM with respect to the notion of interorganizational coordination. This will be done by attempting to identify the challenges to such coordination in ICM initiatives specifically in the developing world. One of the hallmarks of an ICM approach is its insistence that effective and broadly inclusive interorganizational networks are crucial to creating sustainable coastal management efforts (Sowman & Hauck 2003, Jentoft 2005). Yet difficulties in achieving such effective networks on the ground is one of the most cited 'problem areas' identified by veteran ICM proponents (Bille & Mermet 2002). Simply stated people active in the coastal management arena are not working very well together and frustratingly they generally don't know why or how to improve their relations. This study thus seeks to find out why interorganizational coordination is so difficult to achieve and how it can be improved.

1.3 Structure and Objectives of Dissertation

First, this study will give a short history of coastal management evolution, theory and practice. Because this study is interested in interorganizational relations in coastal management, this section will give special attention to how social and political concerns have influenced, or failed to influence,

coastal management practice. In particular this literature review will focus on how and why ICM theorists have sought to legitimize the inclusion of social and political concerns into coastal management practice. Providing this background information will situate this study's objectives within the broader ICM academic literature and will also begin to point to why ICM might be having such 'people' problems in the first place.

Second, this study will examine the work of selected academic researchers who specialize in trying to understand how and why people work together. This field of research has been labeled by its investigators as Interorganizational Relations (IOR). Surprisingly, this literature has not been widely discussed by ICM theorists. Here is where this study seeks to make its greatest contribution to the ICM literature by investigating the applicability of IOR theory to ICM practice. A key question this study seeks to answer is whether IOR theories can be helpful to ICM proponents in developing more sophisticated understandings about the interorganizational relationship dynamics present in ICM initiatives. Can it assist ICM proponents to identify the challenges that are frustrating effective interorganizational coordination in ICM initiatives? And can IOR theories then give useful insights to ICM proponents on how to foster more effective interorganizational networks in those ICM initiatives?

Third, in order to answer the above questions this study will document and then attempt to interpret the interorganizational relations of a current ICM project in the Southwest of Madagascar through the lens of IOR theory. It is this study's hope that IOR theory will give ICM proponents a more sophisticated understanding of the IORs that are occurring in their ICM projects. In practice, this dissertation's interpretative process will not be one of data first, analysis second. One's theoretical understanding of a situation inevitably influences how one experiences it. Rather the approach to the study will be iterative. The IOR literature will be read and referred to contemporaneously with the collection of data. The potential challenges, conditions, or relationship dynamics that the IOR literature highlights as important, will also guide the data collection process.

Finally, this study will suggest that IOR theory's 'lenses' are useful in clarifying how and why the interorganizational relations are operating in this dissertation's case study, a Malagasy ICM initiative. Furthermore this study will identify those challenges frustrating the interorganizational relations in that ICM initiative and try to pull some insights from IOR theory on how those relations can be made more effective. It is this study's assumption that if the IOR literature is useful in explaining how and why interorganizational networks operate in ICM initiatives, then its recommendations should be equally useful to ICM practitioners in their efforts to improve those networks.

1.4 Methodology

The research conducted for this dissertation included a three-month field study from mid-November of 2007 through mid-February of 2008. During this time the author personally lived and worked with the employees of ReefDoctor, a small British marine conservation focused NGO, in the village of Ifaty in the Bay of Ranobe in Southwest Madagascar. This NGO is engaged in a long-term ICM initiative in Ranobe Bay that will henceforth for the sake of simplicity be referred to as the “Ranobe Project”. Living in the area for three months enabled the author to meet with a variety of people active in, and affected by, coastal management issues generally and specifically issues surrounding the ICM initiative in Ranobe Bay. The overarching goal of this research was not to *evaluate* the level or effectiveness of the interorganizational coordination in the ICM initiative. Rather, this study focused on documenting the character and extent of the interorganizational relations present in the ICM initiative and the conditions under which those relations were occurring. It is this data that the author will subject to analysis and interpretation using theories from the IOR literature.

Research methods included documenting personal observations of the Ranobe Project’s implementation in a journal, collecting and analyzing relevant published as well as gray literature, conducting both tape-recorded and “off-the-record” non-tape recorded semi-structured interviews with key stakeholders, and the formulation and administration of a questionnaire to collect information from local villagers. All the data collected should be considered strictly qualitative.

This author's personal general observations and documentation of conversations and events form an important information base for this study. A daily record of important events and conversations pertaining to the Ranobe project and generally to matters of coastal management in Ranobe Bay was compiled and updated regularly. The time-specific comments and impressions of involved individuals and their evolution over the three-month study period were noted down in order to keep track of the various issues that arose during the initial stages of the Ranobe project's implementation.

Second, a review of gray and published literature proved valuable in terms of gathering background information on Ranobe Bay and in terms of understanding the guideline documents which informed the working relationships amongst organizations involved in coastal management in the region. ReefDoctor in particular had a host of unpublished information that proved vital to this research. Relevant government legislation and regulations were also collected and reviewed. And finally materials published by The World Wildlife Fund (WWF) and other large multinational NGOs

and funders, such as the World Bank, and the Global Environment Fund (GEF) provided useful contextual information.

Third, tape-recorded one-on-one interviews were conducted with fourteen individuals connected to the Ranobe project, each lasting around one hour. A list of these individuals and their affiliations is available in the Appendix. In most instances it was also possible to have an additional non-tape recorded “off-the-record” interview with each of these individuals and indeed such interviews proved very fruitful in terms of providing additional, perhaps less filtered information. The interviews were conducted in order to gain an understanding of the attitudes, preferences, and knowledge that key stakeholders in the Ranobe Project had of ICM’s principles and with particular reference to ICM’s call for broad interorganizational coordination.

Finally, a questionnaire was formulated and conducted amongst local villagers in order to assess their level of understanding of coastal management, its issues, and in particular the extent to which they believed they were participants involved in 'co-managing' their coastal environment. This survey was conducted by a local Malagasy university student in the local language on this author's behalf. The responses to this questionnaire were subsequently translated into English by ReefDoctor staff in consultation with this study’s author.

1.5 Limitations to study

There were a number of limitations that constrained the type and quality of data collected. First, this author is not fluent in either of the two most dominantly spoken languages in Madagascar, Malagasy and French. In practice this was not much of a problem in conducting the one-on-one interviews as most of the interviewees, being people of some considerable standing and education, were conversant in English. Moreover for the interviews that were conducted with local villagers who were not conversant in English, ReefDoctor employees graciously provided their time to assist with translations. Nevertheless, the author's ability to personally interact with, and gain information from most of the local population, was limited. Second, the relatively short period of in-country research constrained both the amount of data collected and the time over which the author could observe the implementation of the project being investigated. Finally, simply living and researching in as remote a setting as the village of Ifaty entails dealing with a host of technical and practical limitations that curtailed even the most conservative expectations of this study’s author. Nevertheless, given all of these constraints, the information gathered was adequate for the analysis of interorganizational

relations operating in the Ranobe Project.

2. Coastal Management: Evolution, Theory and Recent Development

2.1 The Beginnings of Early Coastal Management Activities

Coastal Management, if defined broadly, has a very long history probably beginning sometime in the 15th or 16th centuries during the European Age of Exploration. The ships that sailed the oceans at that time in search of treasure generally found it in far off lands and started trying to bring it home. In order to make sure that all that treasure got home countries began signing agreements with each other and drew lines on maps in order to demarcate their bounty from that of their neighbors. These agreements and boundaries can be considered the first coastal management laws and regulations and it is important to note that they were made in order to maintain an economic flow from the New World and elsewhere to Europe and to promote peace by regulating power at sea. Economics and politics, not any modern notions such as environmental sustainability or even natural resources management, provided the impetus for the first attempts at a system of coastal management.

If we fast forward 450 years or so to post WWII 1945 and the advent of modern coastal management, the picture hasn't change all that much. Following an American declaration that it had exclusive economic rights over the North American continental shelf which extends some 200 miles beyond its terrestrial borders, an international scramble for the Earth's oceans ensued (Environmental 1998). Hoping to bring some order to this unruly situation, the United Nations began holding conferences at which all countries could negotiate with each other coastal management regulations and demarcate lines of territorial jurisdiction. The first of these many meetings occurred in 1958 and the last was held in 1994. Following that final meeting, the last iteration of the United Nations Convention on the Law of the Seas (UNCLOS) was agreed upon by most of the world's nations. This Convention sets down the basic ground rules for coastal management at an international level that is still valid today. It is important to note here that the impetus for these modern coastal management laws came not from any ecological concern for the coasts themselves (although sustainable use of marine resources was increasingly becoming an issue of concern) but because of economic, political, and social, considerations. Coastal management was only “coastal” by virtue of its location, not because it had any specific concern for the coasts as natural systems.

So in retrospect it may seem rather odd that after the politicians defined coastal boundaries at the UNCLOS conventions, they invariably turned over management of these areas to scientists whose

expertise was not politics or economics, or even social science, but natural science. In terms of this study it is not necessary to discuss why this occurred but it is important to note that it did. Seemingly, without notice, the practice of coastal management became dominated by experts from the so-called “hard sciences” of biology, chemistry and physics (Kennedy, 1991).

2.2 Early Modern Coastal Management

In some ways it should be not surprising then that these scientists learned quickly that they had been given a very difficult job for which they were ill equipped to handle. Ultimately after around thirty years of effort, the complexities of a technocratic approach to coastal management became overwhelming. Scientific coastal management in the 1950s and 60s was based upon the modernist idea that with adequate sound, scientifically derived information, people (usually scientists) would be able to, and choose to, make decisions that met their management objectives. In the case of coastal management under these natural scientists, those objectives were to protect the long-term sustainability of coastal and marine ecosystems and their resources. However, the simple logic that good data in the hands of rational people ensures proper management proved incredibly naive. There are many reasons for this but in terms of this study an exhaustive discussion is not necessary. A brief outline will suffice.

The first, and probably most demoralizing reason for scientists, was that arriving at "good science" in the coastal and marine realm was a lot more difficult than they first conceived. The formulation of a Total Allowable Catch (TAC), for example, which is the cornerstone of conventional fisheries management, based upon estimates of fish stock size, proved fiendishly difficult to calculate accurately due to a series of confounding complexities inherent to most aquatic species and to the fisheries industry (Healy & Hennessey 1998). Further discussion on the complexities of providing accurate scientific information are beyond the scope of this study, but the principle that accurate scientific data is not always attainable, is very pertinent to this study.

The second problem that confronted scientists, and the often very centralized governments that supported them, was that the one animal/species that they hadn't studied all that much was giving them the most trouble, namely the human fisher. Especially when it became increasingly known that scientific data might be up for debate, fishers, who already had a vested interest in discounting doomsday scientific reports from the likes of Ehrlich (1971) and other neo-Malthusian scientists, became increasingly disenchanted with what they saw as distant, technocratic, and elitist, coastal

management regimes (McCay, 1980). Furthermore because the coastal realm is so difficult to police these fishers became fairly adept at establishing their own coastal management rules (Pomeroy *et al.* 1997). In the academic literature this conflict between coastal resource users and coastal resource managers has been framed in two opposing, ways. Either economic and political forces, i.e. fishers, have successfully controlled coastal management policy despite the efforts of ecologically minded coastal managers (Ludwig *et al* 1993), or distant scientists and centralized governments have tried to impose undemocratic and elitist policies on fishers who are just trying to feed their families (Nichols 1999).

Finally, scientists were having trouble effectively managing the coasts because so many of the problems affecting them originated from outside of the coastal manager's area of jurisdiction. For example, coastal development in the form of industrial or tourist facilities often entails altering a shoreline's natural features. The development of jetties, marinas, and artificial beaches, impact on the dynamic relationship between land and water in the coastal zone and often have secondary impacts. In situations where the inland population is dense and the coastline crowded coastal managers have been in the unenviable position of dealing with these higher order impacts, usually in the form of coastal pollution over which they have limited control (Lee 1993). Coastal managers, from scientific backgrounds, are usually both disinclined, and professionally incapable of dealing with the social conflict that usually arises in these situations.

This brief overview of the evolution of early Coastal Management thinking and practice over the last 50 years has highlighted a few points that are important to keep in mind. First coastal management began and has been for the majority of its existence a tool to attain political, economic, and social goals, not ecological ones. Second, despite its origins, modern coastal management began when politicians gave control of coastal management to natural scientists in the 1950s. Third, these scientists were charged with sustainably managing coastal resources although the term "sustainability" was not yet in vogue. In the first 30 years, and arguably up to the present, they have failed to do this. Fourth, this is largely because the enlightenment era inspired modernist belief that underpinned scientific inquiries, that good science, scientifically applied, leads to good management, proved naive for many reasons. Such a philosophy led to a coastal management regime which expected too much of the scientific method (Maler, 2000), created greater tension between resource users and resource managers which exacerbated coastal degradation (Jentoft *et al.* 1998), and has been incapable of dealing with the coastal and marine realm in a holistic manner (Griffis 1996).

2.3 A Response to Failure: ICM develops.

The consequences of having adopted a technocratic, science-based approach to coastal management have been severe. In the fifty years since this approach's inception the integrity and biodiversity of coastal ecosystems have declined at an unprecedented rate. This is evident from data both in the developed and developing world. The Millennium Ecosystem Assessment (2005) states that biodiversity losses "due to human activities were more rapid in the past 50 years than at any time in human history." Even more damning, the report goes on to state that the drivers of this biodiversity loss "are either steady, show no evidence of declining over time, or are increasing in intensity" (2005). The irony is clear; at the same time that we have unprecedented knowledge about coastal and marine ecosystems, we also are destroying them at an equally unprecedented rate.

Fortunately, concerns regarding the increasing degradation of coastal ecosystems were recognized nearly 20 years ago. The reasons why good science in the hands of rational people does not automatically equal good management are generally well understood, at least in some parts of the academic world. From a social science perspective, more sophisticated understandings of management and decision-making in general, formulated by authors such as Popper, Faludi, and Habermas, have existed and been debated for over 50 years (Hill, 2004). In the environmental sciences new, more dynamic, and less hierarchical ways of conceptualizing ecological interactions have replaced the earlier more rigid and static conceptions of the natural world. The influence of both these trends on coastal management thought and practice has been considerable. In the early 1980s, academics interested in improving coastal management practices used these more sophisticated understandings of how management works, and how decisions get made, (along with many other emerging ideas) to develop a different approach to coastal management. This approach eventually became known as Integrated Coastal Management (ICM). In terms of this study the important developments that occurred during the creation of this new, integrated, approach to coastal management have to do with the re-inclusion of social and economic concerns as not only legitimate, but necessary elements to be considered in the formulation of any coastal management policy, program or plan. There are certainly many other aspects to ICM theory but they are rather beyond the scope of this study.

To begin, the development of ICM was part of a larger paradigm shift in environmental management in general. The notions of integrated environmental management (IEM), and ICM, have developed together and share many of the same theoretical and philosophical underpinnings. This study

will focus exclusively on ICM but some of the literature reviewed here has a more general focus on IEM. Integrated Coastal Management developed into a mature field of study in the later part of the 1980s and into the 90s. During the United Nations Conference on the Environment and Development Earth Summit (1992), ICM ideas were thoroughly discussed and recommendations for enhancing ICM efforts were included in Agenda 21. Following that summit, ICM gained international legitimacy and quickly became the "normative coastal development model" (Bille & Mermet, 2002). Since then, nearly 700 hundred ICM initiatives have been initiated throughout the world (Belfiore, 2003).

Many definitions exist for what constitutes ICM, all with similar content, but different emphases. Yet even with such a massive proliferation of ICM programs and projects, in many important respects, ICM is still a consciously developing field and debates and discussions about its underlying theoretical and philosophical underpinnings are ongoing even today (Endter *et al.* 1998). Nevertheless, a fairly standard working definition of ICM is given by Davos (1998), citing the World Coast Conference of 1993. ICM is a "continuous and evolutionary process for achieving sustainable development, involving the comprehensive assessment, setting of objectives, planning and management of coastal systems and resources, taking into account traditional, cultural, and historical perspectives and conflicting interests and uses." The hallmark of this model, as its name suggests, is a call for greater integration. However defining just what "integration" means is not an easy task as different authors imbue it with different meanings. Like the term "sustainability" such a nebulous definition of "integration" is both a strength and weakness of ICM theory. Nevertheless Cicin-Sain *et al.* (2000) have given a fairly comprehensive definition for integration by explaining it as having five "dimensions" or levels. If coastal management is to be effective, ICM authors argue, "integration" must occur at each level (Winsemius, 1995).

The first level is "transectoral integration." The coastal realm is a very large place in which many different actors work and play. In order for coastal management policies to be effective, ICM theory states that these "sectors" must work together, and "integrate" their plans. A coastal oil refinery cannot operate without regard for the fishery industry, nor can the tourist, in his/her desire for pristine beaches, ignore the needs of industry for seaside ports, nor can coastal developers ignore the requirements of coastal ecosystems for undisturbed sand dunes. Instead, these various sectors need to work together and develop coastal management plans that address their respective goals without destroying those of the other sectors. Some level of compromise will inevitably be required to achieve all stated goals.

The second level of integration called for is "intergovernmental integration." Here, ICM theory states that effective coastal management policy requires that each level of government, usually

provincial, regional, and national, must integrate their policies and regulations so that they work in harmony towards one unified coastal management vision.

The third level of integration required is "spatial integration." Here ICM theory states that early sectoral boundaries drawn for environmental management failed to take an "ecosystems" approach to coastal management (Griffis, 1996). Instead, geographical management boundaries were laid in a way that adhered more to administrative than ecological principles and processes. At a minimum, ICM calls for these administrative units to become more integrated, for more communication and coordination to occur between them. Ideally, however, ICM advocates that such administrative sectors should be wholly reorganized. An ecosystems based approach to coastal management would be one in which traditionally separate sectors, such fisheries management and riverine pollution management, were merged in a way that reflected the now recognized interdependencies between these two geographic regions (Sissenwine, 1996).

The fourth level of integration is concerned with "science-management integration." Here, ICM theory states that the different scientific disciplines such as marine biology, marine oceanography, and even engineering and social science need to work more closely together with management entities. Previously environmental management was divided not only by spatially determined sectors but also along lines of scientific discipline. Social scientists, engineers and natural scientists, each with their own discipline specific jargon, and at least perceived distinct roles in environmental management, did their jobs without regard for each other's expertise (Mangel *et al.* 1996).

The fifth and final level of integration called for is "international integration." Here ICM recognizes that environmental boundaries do not confine themselves to political boundaries. Therefore, countries must integrate their coastal management policies in order to effectively manage the global marine environment. At an even higher level ICM calls for multi-nation or even global level coastal management plans and policies such as those developed by the United Nations Conferences on the Laws of Sea (UNCLOS) and at other international conferences. Especially in light of global climate change, ICM theory states that international collaboration is essential.

2.4 Homo sapiens become part of the coastal environment...

Having provided a broad definition for Integrated Coastal Management, this section of the review will focus on the aspects of ICM that are most pertinent to this study. Integration, at any of the above levels, requires effective interorganizational coordination. Effective interorganizational

coordination, in turn, requires paying attention to the people and institutions through whom that coordination must occur. In recent years, ICM theorists have increasingly recognized this (Clark, 1997). Accordingly, they have argued for paying greater attention to social science data, and for greater social inclusivity, when formulating coastal management plans and policies. Depending upon the author, the rationale in defense of this argument is either normative or practical or both. Understanding explicitly these rationales is important in terms of this study because they form the basis for why interorganizational coordination is necessary in coastal management. This study will first look at the normative rationale for social inclusivity. Thereafter, the practical reasons why such inclusivity and social science data are essential components of any coastal management project will be examined.

In order to understand ICM theory's normative inclination for greater social inclusivity, it is necessary to briefly consider ICM's theoretical background. ICM theory, because of its transdisciplinary character, has developed in a very organic, almost haphazard manner over the past twenty years. It has not developed systematically from theory, to principles, to practice. Although certainly more than a mere critique of early modern coastal management, with a well-established set of principles and implementation guidance documents (Coastal 2000), ICM theory to this day is still developing in a very iterative and exploratory manner. Because of this, ICM theorists are still discovering the implications of many of the principles that they espouse and promote. This is especially true in terms of ICM's normative preference for social inclusivity in coastal management policy formulation and implementation. For, despite the many calls for such inclusion, and its enshrinement in indicator-based ICM evaluation methodology, (Hegarty, 1997; Chuenpagdee & Jentoft 2007; Bowen, 2003; Ehler 2003; Henocque 2003) few of these ICM theorists have critically investigated the rationale behind their calls for greater social inclusivity. Even when an author, such as Jentoft (2005), does engage in some normative reflection, it is done only to recruit greater support for social inclusivity, for example by citing "empowerment literature," rather than to understand why ICM theory has a normative preference for it in the first place.

Nevertheless, the existence of ICM theory's normative preference for social inclusivity, although poorly justified by ICM theorists in the literature, is certainly not difficult to understand. Clearly, ICM theory has not developed in a vacuum. It is the product of a western democratic and postmodern culture which is increasingly distrustful of expert technocrats and increasingly inclined, especially in its dealings with the "developing world," to promote social empowerment (Froger *et al.*, 2004). As Jentoft (2005) states, ICM theory is "all about...bringing previously excluded, disenfranchised, and sometimes alienated user groups and stakeholders into the management decision-

making process by reshuffling power and responsibility..." Yet, this rhetoric is not Jentoft's own, as he makes clear, nor is it even the product of other ICM theorists. Rather it has been borrowed uncritically from the broader western democratic culture of which ICM is a part. And at least within that culture, such rhetoric is so uncontroversial and self-evident that ICM theorists, it would seem, feel no need to justify it. For many, it is enough to simply state that social inclusivity is a normatively worthwhile, legitimacy-creating endeavor, and to depend upon the hegemony of western democratic culture to ensure that such statements will be convincing to their readers.

Even if such normative reasons are not enough, ICM theory also has several practical reasons for why social inclusivity and social science data are important components of any coastal management program. In general, coastal management practitioners have largely accepted these rationales as true. The ICM literature here does a much better job at explicitly justifying its practical rationales. It does this in two main ways.

First, by adding social science data into the models used to understand and manage coastal ecosystems, ICM theory argues that these models become more accurate representations from which to formulate coastal management plans. A more sophisticated understanding of the coastal realm should lead to coastal management policies that are better able to account for all of these various elements. In a sense this is merely a continuation of the modernist philosophy that good information leads to better policies. The key difference is that ICM theory recognizes a broader range of "good" information than did the previous technocratic approach.

The second way in which the inclusion of social science data is supposed to practically increase the effectiveness of coastal management policy and practice is by maximizing the legitimacy of those policies by recruiting the very user groups subject to them in their implementation and formulation (Portney, 1991). Termed "co-management" in the ICM literature, such an approach to coastal management purports to not only to be normatively preferable but also practically the only solution to effective management in an environment where enforcement of unpopular regulations is impossible both financially and technically (Hauck & Sowman 2003). This is especially true in the developing world where formal government capacity for coastal management is usually inadequate.

2.5 Social inclusivity is not a panacea to coastal management woes

However, despite efforts to take greater account of social science data and promote greater social inclusivity, these efforts have not led to more effective coastal management. Belfiore (2003)

states bluntly that "the promises of ICM are not being achieved." Bille & Mermet (2002) state that "the apparent failure of ICM in many efforts worldwide in ensuring the environmental health of coastal ecosystems while obtaining benefits from coastal development..." demands that ICM proponents do some serious evaluation and re-evaluation of their past projects. Olsen *et al.* (1997) state that there is "very little information that demonstrates the effectiveness of ICM efforts..." and even those successes that have occurred are "puny compared with the forces worldwide causing coastal degradation." The 2003 World Parks Congress in Durban, while calling for a significant increase in the number of Marine Protected Areas (MPAs) worldwide, also acknowledged that "the effectiveness of MPA management needs to substantially improve."

In terms of this study, the point of highlighting these remarks is not to argue against greater social inclusivity or the use of social science data in coastal management. The normative and practical reasons for doing so, as outlined above, remain convincing. Nevertheless, if ICM is to be successful in the future it needs to embrace these arguments with greater sophistication and with an understanding of their limitations.

The normative argument is limited by the fact that the dominant pillar of Western culture, namely that individuals have a right to influence the rules by which they live and that through democratic processes those rules gain legitimacy, is not a universally accepted belief. Especially in many parts of the developing world, different cultural norms and processes produce normative legitimacy. Therefore, it may be naive to assume that greater social inclusivity will either be accepted or practically useful in many parts of the world.

The practical argument is also limited. Conceptually, the emerging field of Complexity Theory (Cilliers, 2000) has taught us that complex systems, such as coastal environments, will not necessarily be better understood by acquiring more data. The accuracy of our understanding of coastal systems and our ability to better manage them may not practically improve by including social science data. A full discussion of Complexity theory is beyond the scope of this study but its arguments are not without cogency (Cilliers, 2000).

Second, it must be acknowledged that the validity of the above practical rationales is testable. Unfortunately, despite an impressive number of ICM programs and initiatives throughout the globe, monitoring, evaluating, and drawing lessons from those programs in a systematic manner has only just begun (Olsen *et al.*, 1997). Although conceptually convincing it is not prudent to accept the validity of falsifiable claims without putting them to the test.

2.6 The challenge of interorganizational collaboration

Moving closer to the focus of this thesis, it should not be surprising that, given the unsophisticated way in which social considerations have heretofore been espoused, interorganizational collaboration in ICM initiatives is often ineffective (Bille & Mermet 2002). Studies have shown that the character of the collaboration envisioned in ICM literature is often far from that which is actually occurring on the ground. Co-management efforts are often one-sided with minimal or reluctant government involvement (Sowman & Hauck 2003) or the organizations setup to facilitate interorganizational collaboration fail (Bille, Mermet 2002). The reasons for these failures have not been adequately discussed in the ICM literature. However, they have been thoroughly investigated elsewhere. Academics from fields such as organizational theory, administrative theory, and business and management science (Turner, 2000) have all devoted considerable attention to the challenges encountered in interorganizational relations. If ICM theory is to develop a better understanding of why interorganizational coordination is failing in ICM initiatives it may be fruitful to learn from the experiences and studies of these other disciplines.

3. Interorganizational Relations Theory: a Review of the Literature

The same industrialization and consequent economic growth that induced the original territorialization of the open seas in the 1950s that resulted in the UNCLOS (1994) also created a need to better understand how industries could secure diverse resources. Following WWII, the increasing complexity of industrial supply chains highlighted the interorganizational dependency of most modern economic, and even socio-political pursuits (Whetten, 1981). In order to maintain these economic supply chains or induce effective political or social change, people need sophisticated understandings of how different organizations can relate to each other and under what circumstances those relations occur. From this need, the academic field of Interorganizational Relations (IOR) was born (Galaskiewicz, 1985). Because of the breadth of its object of study IOR, like ICM, is by definition transdisciplinary. Academics from various fields such as administrative theory, management science, implementation theory, sociology and economics, have all made contributions to understanding how organizations relate to each other. Furthermore, because of its utilitarian origins much of the IOR literature is prescriptive, especially when undertaken by administrative or management theorists (Matland, 1995; Milne, 1970). Their discourse is specifically interested in how to improve IORs in

order to more efficiently produce some output, whether economic, social, or political. In terms of this study this orientation is particularly helpful in that it will assist in identifying how ICM can better establish effective IORs in its programs.

However before reviewing the IOR literature it is important to identify exactly the type of IORs that ICM theory states is required in order to achieve effective coastal management. Doing this is important because ICM's vision of IORs has served as the criteria for selecting the literature reviewed in this study. ICM theory is not simply advocating for more and improved IORs, but for more of a certain type of IORs. For this study, that type needs to be explicitly identified.

In agreement with the prescriptions of administrative and managerial theorists, ICM theory begins defining its demands for IORs by reiterating that the problems of the modern era, whether political, economic, or environmental, are too complex to be solved without effective interorganizational collaboration (Westley & Vredenburg, 1997). ICM calls for interorganizational collaboration at all levels, national, regional, and local, and in both civil and private sectors (Cicin-Sain *et al.*, 2000). However, ICM theory also places a specific emphasis on the desirability of what it terms co-management and the principle of subsidiarity (Hegarty, 1997). As discussed in the previous chapter, especially in a developing world context, ICM is seen by some as a vehicle for the “empowerment” of marginalized peoples (Jentoft, 2005). Co-management advocates argue for “bottom-up” management arrangements where local resource users are actively engaged in sustainably managing *their* resources (Hauck and Sowman, 2003). The principle of subsidiarity, oft cited by ICM theorists, states that management responsibility should rest at the lowest level possible (Noble, 2000). Most co-management theorists do not insist that local resource users have an equal footing as government in managing coastal resources, but they do argue for a greater role. Public interest groups, government, artisanal resource users, and larger private enterprise all need to work together towards what ICM says should be their shared interest in sustainable coastal management. The balance of power between these entities will vary depending upon local conditions but generically no stakeholder, or even group of stakeholders, should have a controlling influence over any other. ICM's ideal is that IORs in ICM initiatives be *coordinating efforts*. If there is one dominant call throughout the ICM literature, it is for more communication, coordination and collaboration. In terms of this study therefore the first point of discussion in the realm of IOR theory should be concerned with developing a sophisticated understanding of exactly what coordination means. Only with this in hand will it be possible to learn about the possible challenges to achieving such coordination.

3.1 Towards a better understanding of ICM coordination

In their article about natural resource management, Honadle and Cooper (1989) talk extensively about coordination. Here, they define coordination as the types of transactions that occur between “equals involved in some sort of voluntary endeavor.” They emphasize that such transactions “cannot be imposed” and that the organizations involved in them must at least theoretically have “alternatives” to entering into such transactions. They go on to discern three types of coordination.

The most basic type of coordination is “information sharing.” Here organizations simply communicate with each other about their operations. Information sharing can be formal or informal and is the most fundamental pathway towards coordination. The second, and a slightly more involved form of coordination, is “resource sharing.” Because resources cost money the level of trust and communication between organizations engaged in this activity is generally higher. The final, closest type, of coordination is “joint-action.” Here organizations jointly undertake a single operation sharing both resources and information.

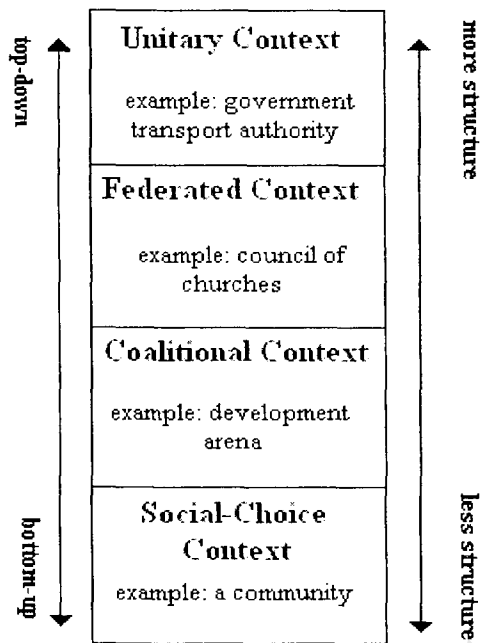
Besides the fact that most ICM theorists do not insist that all involved organizations be strictly “equal,” this three-tiered definition of coordination fits fairly well with that envisioned in the ICM literature. Accordingly, it will serve as the dominant paradigm through which this study understands the term. Taking the time to develop this basic typology is necessary in terms of this study because, as Honadle and Cooper state, the “three types of coordination are not equally difficult.” If we are to have a sophisticated understanding of the challenges to interorganizational coordination in ICM we must recognize that different types of coordination will require different degrees of effort and enabling conditions. Furthermore, particularly in the development arena, coordination is often a poorly defined “buzz word.” It means different things to different people and is sometimes inappropriately used to describe relations that even a cursory investigation would find devoid of any real communication. Consequently it is essential for this study to have an explicit definition of coordination that is compatible with ICM thinking in order to analyze the case study.

With such a definition in hand the IOR literature can be surveyed in order to see how it says IORs capable of the above coordination, can be nurtured. To begin, this study will start with two theorists. Neither academic deals directly with IORs themselves but rather with the contexts within which such relations occur. This is because both authors have recognized that the contexts largely determine the character of IORs. In terms of this study, understanding how different contexts can shape the character of IORs within them is important because it will help ICM theorists to develop a

sophisticated understanding of IORs.

3.2 Warren's structural contexts

Figure 1 Warren's Structural Contexts



Adapted from: Warren, 1967

First this study will discuss the idea's put forward by Roland Warren (1967). Working in the field of administrative theory, he developed a typology that identifies four different structural contexts in which IORs can occur (Warren 1967).

First, and most structured, is the "unitary" context. Here IORs occur within a context of structured hierarchy with a central, dominant, authority figure. The objectives of that central authority guide the actions of the subsidiary organizations in the hierarchy. The communication and coordination between these organizations is obligatory because they all must report to a single central authority. Furthermore, the individual departmental objectives are usually rationally dependent upon the success of the overarching objectives of the central authority.

Warren labels the second, slightly less structured context, "federated." Here, IOR's occur in a context where individual organizations voluntarily and individually decide to organize themselves into a larger federation. This arrangement is usually formally constituted by the creation of a coordinating committee that may have the authority to regulate federation membership and collective activities.

Often there is a set of principles which must be adhered to by all members of the federation and which guides inter-member relations.

The third, even less structured, type of IORs occurs within a “coalitional” context. In this context, autonomous organizations have seen it to their advantage to align themselves with other organizations to achieve a larger goal. Each unit has total operational autonomy and the collaboration requires no binding agreements, voluntarily given or otherwise. There may be *ad hoc* memorandum of understanding created and informal division of labor agreements made in order to more effectively accomplish the shared objective but such agreements are time and objective specific and usually require a minimum of intra-organizational restructuring. Nevertheless, the organizations operating in such contexts can develop fairly close relations with each other through multiple collaborative efforts.

Finally, the least structured context in which IORs occur is that of “social-choice.” Such contexts occur when organizations, in order to satisfy internal operational goals, seek out other organizations. These partner organizations may have no specific shared operational goals or even sympathies. The IORs that occur here are usually informal, time, and objective specific, and require little documentation or regulation. Organizational autonomy is never compromised in this context, and there is never any authority mandating, or even societal prescription advocating for collaboration.

This typology is particularly useful in terms of this study because it provides a starting point from which to begin analyzing the specific case study under review. Again, the context in which IORs occur is critical to understanding their character and how they function. IORs in a “federative” context will be very different to IORs in a “social-choice” context.” In terms of ICM theory, the community based co-management structures that ICM calls for are best suited to the middle two of Warren’s four structural contexts. A “Unitary Context” is too reminiscent of the old technocratic approach to coastal management, while the “Social-Choice Context” is probably too unstructured to be capable of implementing a reliable coastal management program. However, Warren’s contexts, at least initially, are found, not chosen, by potential ICM implementers. The contexts within which any given ICM project is operating may not be the ideally “federated” or “coalitional”, contexts. Therefore, being able to identify the structural context within which this dissertation’s case study is occurring will be an important first step in analyzing the IORs relevant to this context.

3.3 Matland's Policy Perspective

Figure 2

**Matland's
Ambiguity-Conflict Matrix**

		Conflict	
		Low	High
Ambiguity	Low	<i>Administrative Implementation</i> <i>Resources</i>	<i>Political Implementation</i> <i>Power</i>
	High	<i>Experimental Implementation</i> <i>Contextual Conditions</i>	<i>Symbolic Implementation</i> <i>Coalitional Strength</i>

Source: Matland, 1995

Moving from structural context to policy context, Matland (1995), an administrative theorist, also provides useful insights on the subject. Instead of taking as his starting point the structural context in which any given IOR may occur, Matland (1995) focuses his work on analyzing the policies or programs that provide the impetus for IORs in the first place. Matland (1995) states that the context in which IORs operate largely depend upon the character of the transactions or policies themselves. Situating his model within Implementation Studies, Matland tries to reconcile what he calls the long-standing debate between “top-downers” and “bottom-uppers” by focusing not on the process by which an objective is achieved but on the character of the objective itself. The debate to which Matland refers is simply the previously discussed trend in the West, clearly visible in coastal management policy, away from technically rational, hierarchal implementation systems to more decentralized, adaptive, and holistic implementation systems (Olsen 1970). Instead of picking sides in this debate, Matland (1995) recognizes that there are numerous ways to achieve a specified objective. Any debate that polarizes people into two positions is too simplistic. Furthermore, Matland argues that by focusing on a normative stand for one position or the other and arguing from there, theorists can easily miss a very important dynamic that occurs in every implementation process. For the issue with attaining any objective is rarely, and this is true particularly in the management arena, in discovering how to do it but

rather in determining the way to do it that is most acceptable to all parties involved. This is an important insight worth noting. Furthermore, Matland's model is important because it claims to predict the structural context that is likely to develop based upon the character of the objective that is to be implemented. This is useful because it tells ICM policymakers, who are seeking to sustainably manage coastal ecosystems in a "bottom-up" manner, to pay careful attention not just to the process by which their policies are formulated but to the policy content that comes out of such processes. For whatever the policy formulation process, the character of the policy created will determine the structural context needed for its successful implementation.

Matland's (1995) model, entitled the "Ambiguity-Conflict Model of Policy Implementation" states that the structure used to successfully implement any policy will be determined by the level of ambiguity and conflict inherent to that policy. Ambiguity here refers to the clarity of a policy's procedures, objectives and guiding principles. One might expect that any well-formulated policy would seek to maximize such clarity. However, the academic literature is full of examples where policy formulators have deliberately left vague certain elements of a policy or program, usually in an attempt to either increase its acceptability or ease its implementation. Conflict on the other hand refers to the amount of controversy a policy's procedures, objectives, or guiding principles are likely to create amongst the stakeholders affected by it. Unlike ambiguity, policymakers almost always seek to avoid controversy when formulating and implementing policy.

From these two variables Matland (1995) derives four different policy contexts. Each context has a different set of variables that are important if one wants to successfully implement the said policy's objectives. If we proceed roughly along Warren's contextual categories from most to least structured, Matland's first somewhat analogous policy type is one of low ambiguity and low conflict. Policies or programs that are neither ambiguous nor conflictual enjoy widespread acceptance. Implementation therefore is simply a matter of organization and resources. This policy context is amenable to what Matland calls "administrative implementation." Similar to Warren's "unitary context" administrative implementation is characterized by a central authority that delegates tasks to subsidiary organizations. What is interesting to note here is that Matland states that a unitary structure is the product of "good," or at least clear and popular policy, rather than an instrument through which "bad," or at least unpopular, policy is imposed. The administrative context is the "top-downers" ideal, clear policy derived from certain data both of which are accepted by the majority of a rational society.

Matland's second policy context is characterized by policies that are unambiguous and highly conflictual. Matland says that in these situations sufficient power, and who has it, is the most important factor determining whether or not a policy will be effectively implemented. Here,

Matland's typology diverges from Warren's quite strikingly. If a policy is highly conflictual and its objectives, means, and guiding principles are all very clear, then its successful implementation is simply a matter of having enough power to force all required organizations to perform their various tasks and keep opponents from interfering in those tasks. What is interesting here is that Matland does not seem to care very much about the origins of such power, perhaps recognizing that it can be derived from various ways in various contexts. This perspective is somewhat in tension with the negative picture usually painted about top-down implementation systems. At least from a bottom-up's view the use of dominating power is usually tied to a distant, mechanistic, and highly hierarchal, administration. However Matland's model, by focusing on policy contexts, doesn't allow for such a characterization. Rather administrative contexts are the product of "good" and "bad" policy, or again at least highly conflictual, policies create situations where raw power is needed to coerce or pay-off opposed parties. This power dominating dynamic works the same wherever the source of power may come from. Narrowly democratically derived policies can create such power, autocratic means can create such power, a grassroots participatory process can create such power, or a multitude of other factors can.

At least from this study's perspective, it is not clear whether this can be justifiably labeled to be part of a satisfactory synthesis of the "top-down" and "bottom-up" positions, as Matland hopes, but it does neatly shed a different perspective on the issues under discussion. Moreover, this insight is important because it potentially complicates both ICM's normative, and even its practical preference, for "bottom-up" approaches to coastal management. Unambiguous, but highly conflictual policies, even if derived from a "bottom-up" process, will still rely upon, if we embrace Matland's thinking, the use of dominating power for successful implementation. Not only is this arguably problematic from a normative standpoint, it is also, as has been discussed previously, practically difficult in the coastal realm. Contrary to ICM theory's hopes, Matland states that the process by which a policy is formulated may not change the dynamic by which it can be successfully implemented. More important from Matland's point of view, in terms of implementation, is the content of the policy itself rather than the process by which it was formulated.

Matland's third policy context refers to policies that are highly ambiguous and minimally conflictual. Matland states that implementation in this policy context will be highly experimental and dependent on other contextual issues. These issues may include local capacity, access to resources, how the policy objectives are interpreted by the various implementing organizations, and the ability of those organizations to innovate. Many development projects can be accurately placed in this category and in terms of this study understanding how organizations work within such policy contexts is

important. In such contexts, organizations must be able to effectively innovate and define solutions and means to achieve, in some sense, the stated, albeit amorphous, objectives. However, in this context, Matland also emphasizes the importance of institutional learning over achieving “success” in terms of some list of objectives. Matland states that it is dangerous to force such implementation processes to “deliver” concretely identifiable outcomes. The context within which the implementing organizations are working is too vague and compliance to such outcomes is likely to be superficial. On the other hand, Matland does caution that policy ambiguity can cause poor project accountability that in turn leads to the creation of “mini fiefdoms with [individual organization] leaders pursuing their own interests.” In this context, Matland argues that the “bottom-up description of the policy implementation process is superior to the top-down.” If one is interested in some sort of “successful” implementation here, then Matland argues that paying attention to “local-level actors,” their needs, desires, and capabilities is most necessary. Finally, interorganizational collaboration here is not going to be dependent on power utilization. Rather shared organizational sympathies and the ability of those organizations to cooperatively define distinct roles for themselves will be critical to effective interorganizational collaboration.

Matland’s fourth and final policy context is one of high ambiguity and high conflict. One might be tempted to dismiss any policy as hopelessly flawed that was both highly controversial and highly vague but just as ambiguity has its uses so do so-called “symbolic” policies. Citing Olsen (1970), Matland states that some policies are purposely designed to be conflictual and vague. Nevertheless, this policy context is not broadly applicable because implementation within it is hard to predict and liable to “getting out of control.” If “success” is to be achieved, Matland states that the most important factor here is coalitional strength. Because policy objectives are unclear individual organizations must be able to work together simply on the basis of principle rather than operational necessity. This requires a high level of normative sympathies amongst participating organizations. However, such sympathies are often strained in this context because policy ambiguity tends to create intra-coalitional conflict. Divergent individual interpretations of policy objectives by organizations with different expertise within the implementing coalition often cause this conflict. Because resources are finite each organization fights for its preferred method of implementation based upon its own interpretation of the policy’s specific goals. In terms of interorganizational collaboration, this is a very difficult policy context within which to operate. The challenges to effective ICM-style IORs are potentially numerous. Furthermore, Matland states that, without a change in policy content, the only solution to these challenges is “strength” namely the same dominating power dynamic that is at work in Matland’s second policy context. In terms of this study, we can expect that ICM policies that have

such characteristics will certainly foster conflict and be challenges to successful IORs.

These four policy contexts are useful not only because they provide a different model from Warren's structural contexts (1967) by which to categorize the contextual characteristics of this dissertation's case study, but also because, even at the theoretical level, they provide rationales for, and insights into, the challenges that may arise in it. Nevertheless, Matland's model does not seem to have provided a broadly accepted synthesis, and hence alternative to the "top-down" vs. "bottom-up" debate. Most of the other academic literature reviewed below continues to situate itself somewhere along the "bottom-up/top-down" continuum.

The above two contextual models are a good second step towards developing a sophisticated understanding of IORs for ICM. Context obviously matters. However, further analysis requires us to focus directly upon the IORs themselves. The next section reviews the ideas of Brinkerhoff (1996) who has developed a basic typology that identifies different types of challenges that occur in IORs.

3.4 Understanding Conflicts

Brinkerhoff (1996), a development practitioner and consultant, states that there are three kinds of threats to interorganizational collaboration. The first he calls the 'threat to autonomy.' This threat is probably the most fundamental and widely agreed upon assumption that permeates all IOR theory. Organizations almost instinctively seek to limit their interorganizational dependencies because they are perceived to impede operational efficiency (Brinkerhoff, 1996; Molnar and Rogers, 1979). Simply stated, it is the nature of organizations to be averse to interorganizational relationships. If an organization can accomplish its goals alone it will almost always do so. This inclination continues to exist despite the previously mentioned widespread recognition that the complexity of the modern world requires interorganizational coordination. Furthermore this instinct, to foreshadow the findings of this study, continues to exist even in realms where the academic literature refuting it is well developed such as in ICM initiatives. For coordination, even of the most minimal, information-sharing, variety entails extra efforts to be made by individual organizations. When time and resources are finite these extra efforts necessarily cause a reduction in the internal operational capacity of an organization. In order to make such a sacrifice worthwhile the overall operational capacity of an organization must be seen to be greater with coordination than without it. And although IOR literature forcefully argues that IORs do indeed expand overall organizational capacity, in practice the structural and operational conflicts that arise in IORs often seem to overwhelm this theoretical assertion (Bille and Mermet, 2002).

Organizations, while acknowledging the desirability of IORs, often nonetheless limit such transactions in practice, preferring internal expansion to increased external coordination. In terms of this study recognizing this tendency will be important.

The second reason that Brinkerhoff (1996) gives for interorganizational conflict is a lack of task consensus amongst the involved organizations. Lack of task consensus can be severe, over matters of principle, or less severe over matters of process (Molnar and Rogers, 1979). Brinkerhoff notes that in unitary, hierarchical contexts, conflict resulting from lack of task consensus can be resolved through command and control management styles. The dominant organization sets the objective and portions out the tasks to the supporting organizations. However, in federated and coalitional contexts there is no dominant organization to impose task consensus from the top-down, rather it must be built from the bottom-up. Such consensus-building processes take time, money and effort. This alone can be a problem in the developing world where resource scarcity is prevalent. Furthermore, consensus-building across different cultures, education levels, and between interest-groups is even more laborious. Recognizing this situation will be important in terms of this study.

Finally, Brinkerhoff (1996) states that conflicting vertical and horizontal requirements can be major threats to IORs. With reference to this point it is necessary to recognize that organizations, especially governmental ones, are never, sometimes despite their best efforts, completely operationally autonomous. On a conceptual level, Brinkerhoff (1996) states that vertical requirements are actions that an organization must do because of the hierarchy to which it belongs.. Hierarchy here does not only mean an explicit and acknowledged power structure in which organizations are arranged in some pyramidal fashion. It can also simply arise because power is not equally distributed between all involved entities. Horizontal requirements, on the other hand, are those actions that an organization needs to do in order to meet its operational goals. IORs are usually in this category.

Unfortunately, these two sets of requirements can conflict with each other. In the development arena this conflict can occur quite regularly in that a funder's requirements often restrict the ability of a funded organization to carry out their objectives as they see fit. At times this may be an obstacle to IORs in that funders seldom give funded organizations an incentive, or a disincentive, to work with other organizations and timelines imposed by funding agencies may preclude otherwise possible interorganizational coordination.

The above typology provides a list of possible challenges that this study will need to consider when analyzing its particular case study. The final issue that will be explored in this section deals with administration.

3.5 Administration and its Cultural Underpinnings

It was said earlier that there has been a strong trend in the West away from command and control, authoritarian, management structures to more egalitarian, bottom-up, so-called “flat” management structures (Chisholm, 1989). While this is true, it is important to note that this trend has been largely confined to the western developed world. In developing countries egalitarian sentiments in administration and management practice are rarely the norm (Brinkerhoff, 1996; Siffin, 1976)). Instead, strict hierarchy remains the dominant paradigm. Attempts to introduce different management structures based upon more egalitarian principles have generally been met with confusion and skepticism.

Despite colonialism’s demise over 50 years ago, egalitarian cultures, still remain immature throughout most of the developing world. Even the simple meaning of a term such as 'coordination' can be a source of confusion when employed in strictly hierarchal cultures. While in an egalitarian culture coordination usually implies communication, in non-egalitarian cultures it more often means control (Brinkerhoff 1996).

Couple this lack of understanding to the unsavory history of western exploitation in developing countries and it is not hard to see why a healthy amount of skepticism towards western attempts to change local administrative and management structures is widespread. Academics, however, have long noted the failure of development agencies to recognize the western cultural roots of the systems that they are promoting (Siffin, 1976). In other words, they have seen no reason why models and approaches that work in the USA and Germany may not work in Malawi or Papua New Guinea. The consequence of this cultural unsophistication is that western administrative proponents have been blind to the larger political and ethical consequences that may follow if their administrative systems are replicated in developing countries (Adams 1992).

Local leaders in developing countries, however, have rarely been unaware of these consequences and are almost unanimously opposed to any change in management or administrative structure that will modify the power relations by which they govern. This problem has been well documented in the academic literature that examines early attempts at installing western technically rational administrative systems in developing countries (Siffin, 1976; Adams, 1992; Korten, 1987). Although the authors disagree on whom to blame, there is almost unanimous agreement that such efforts failed largely for cultural reasons (Najjar, 1974).

However, the recent wave of more adaptive and less hierarchal management structures such as community-based management (CBM) that are being promoted by western development agencies, have

not been as harshly condemned. Indeed part of the impetus for these newer management systems has been the very recognition that those management systems were ill-suited to a developing world context (Korten 1987). However, there is still little evidence that ICM or other CBM efforts have been any more successful than their predecessors at narrowing the “culture gap” between the developing world and the west. Although not its primary aim, this study may be able to contribute some insights here. For now it is simply important to note that if ICM is unable to narrow or bridge this gap, it is almost certain that cross-cultural coordination, which is inevitably necessary in the developing world, will be exceedingly difficult. In terms of understanding possible challenges to interorganizational coordination, this is a very important point to recognize. Culture is critical in determining the character and effectiveness of managerial systems and so long as the management systems that are promoted in the developing world continue to be formulated by western academics and practitioners it may be naive to assume that they will ever be either understood or welcomed by societies with different cultural backgrounds (Milne, 1970).

3.6 Review

Figure 3

**Challenges to ICM style
Interorganizational Coordination**

Contextual Challenges

Structure

Too much hierarchy

Too little hierarchy

Policy

High Conflict

High Ambiguity

Brinkhoff's Challenges

Autonomy Seeking

Lack of Task Consensus

Vertical/Horizontal Conflict

Administrative/Culture Challenges

Lack of Educational Capacity/Sympathy

Lack of Financial Capacity

Normative non-democratic legitimacy

ICM theory calls for a rather specific kind interorganizational coordination in order for its coastal management initiatives to be effective. This review of a collection of work on IOR theory has revealed a series of challenges that may be encountered by ICM practitioners seeking to promote this “ICM style” of interorganizational coordination in the developing world. The key ideas that have emerged from this review of IOR theory are briefly summarized. First, Honadle and Cooper (1989) provided a useful definition of coordination from organizational theory that has relevance for ICM. Second, Warren’s (1967) work provided a contextual typology that suggested that such ICM style coordination could only occur within specific structural contexts. Therefore attempting to have ICM style coordination in unaccommodating structural contexts may be a major challenge. Third, Matland (1995) proposes that even those structural contexts are largely determined by underlying policy contexts. This suggests that ICM policies must be conducive to creating structural contexts in which ICM style coordination can take place. If they are not, there may be challenges ahead. Fourth, Brinkhoff’s typology categorized the conflicts or challenges that are liable to happen in IORs generally. A key issue highlighted by Brinkhoff as well as many other IOR theorists, was that organizations instinctively seek to limit IORs because they are seen as a threat to operational autonomy. Second, he stated that lack of task consensus amongst organizations often cripples effective IORs. Finally, Brinkerhoff (1997) showed that competing and conflicting vertical and horizontal requirements often hindered IORs. ICM style coordination may be susceptible to all of these challenges. Finally, this review of IORs looked at the issues surrounding the impact of culture on administration and cross-cultural communication in terms of the challenges it may present to ICM style coordination in the developing world. This above list of challenges to interorganizational coordination will provide the basis for the discussion of the case study investigated.

The following chapter will review the literature which discusses the history of coastal management in East Africa generally, Madagascar specifically, and then most specifically in the Tulear region of that country in which the case study is located.

4. Review of ICM in the East African Region, Madagascar and the Tulear Region

4.1 ICM in East Africa

For the purposes of this study, the history of relevant coastal management practice in East Africa began with the Nairobi Conference held in 1985. This meeting gathered representatives from

most eastern African nations including South Africa and Madagascar. Held under the auspices of the United Nations Environment Program's Regional Seas Program, the discussions at this conference culminated in the formulation of an East African Action Plan. This plan had a series of ambitious marine conservation and development goals. Unfortunately its implementation was greatly hindered by the failure of signatory countries to implement their financial commitments (Verlaan, 1996). Nevertheless the Nairobi Conference has served as an important reference point for subsequent marine and coastal management efforts.

Following this, the "Rio Earth Summit" and the subsequent development of the Convention on Biological Diversity (CBD) was held in 1992. As previously mentioned, it was at this summit that ICM became internationally accepted as the "normative coastal development model" (Bille & Mermet 2002). The Jakarta Mandate on Marine and Coastal Biological Diversity that emanated from this convention has served as the guiding document for international efforts to conserve the planet's marine and coastal ecosystems. The first, second, and third themes of the Jakarta Mandate focus on recommendations to improve and promote ICM, Marine Protected Areas, and the sustainable use of coastal and marine resources (Goote 1997). Signatories to this Mandate commit themselves to implementing the recommendations in it and to reporting their progress to the CBD on a regular basis. Madagascar is one of those signatories.

In the following year the Arusha Workshop and Conference on Integrated Coastal Zone Management in Eastern Africa, including the Island States was held Tanzania in April of 1993. This workshop was well attended by most East African nations including Madagascar and it is here that the educational process of introducing ICM policies to the East African region began. The major product of all this capacity building was a series of national level ICM plans. This workshop also called on scientists from all over the world to begin collecting the necessary data needed for such plans (Contracting, 2001).

Following this, a further conference of East African nations was held in 1996 in the Seychelles which assessed the progress of ICM implementation in the region since the Arusha conference. Following this conference it was decided that a regional organization was needed in East Africa in order to promote and coordinate national level ICM efforts. Ten countries signed up to form this organization, including Madagascar. Entitled SEACAM (Secretariat for Eastern African Coastal Area Management) this organization has been responsible for sponsoring a variety of training and coordinating workshops since 1997 including one in Madagascar in 1999 that focused on the potential of coastal tourism (Moffat 1999). In 2000, a report prepared for the fifth Conference of the parties to

the Convention on Biological Diversity made by the Contracting Parties of the Nairobi Convention on Eastern African progress towards meeting the goals of the Jakarta Mandate stated that ICM plans and strategies were largely in place and that the focus now needed to be on implementation (Wells 2001).

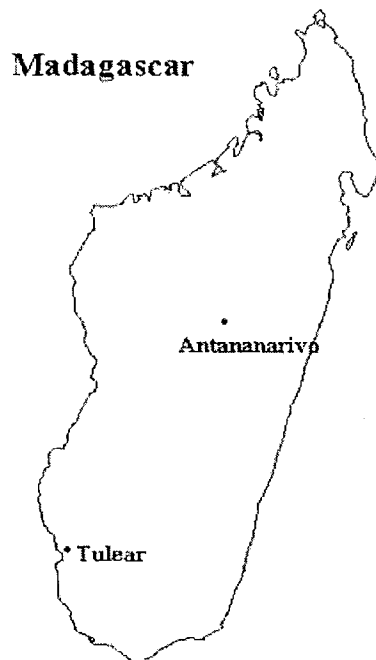
Finally, one of the most recent conferences with regional significance was the 5th World Parks Congress held in Durban South Africa in 2003. Marine conservation was a major topic of discussion at this conference and ultimately resulted in the Malagasy president proclaiming his so-called “Durban Vision.” Among other things this document commits Madagascar to placing 10% of its coastal and marine areas under formal protection by 2008 (MAP 2003).

Even this short overview of coastal management related activities in the East African Region indicates that there has been a widespread and long-standing recognition of the importance of sound marine and coastal management. Besides the multiplicity of regional conferences and workshops, numerous associations have also been formed by various parties in order to promote effective coastal and marine management in the East African region and the island states. SEACAM has already been mentioned but there are a host of others. The Western Indian Ocean Fisheries Sub-Commission, the Intergovernmental Oceanographic Commission’s Regional Committee for the Cooperative Investigation of the North and Central Western Indian Ocean (IOCINCWIO), the Marine Science Program supported by SAREC, and the Western Indian Ocean Marine Science Association (WIOMSA) are also all active in the region.

However, what is also clear from the literature is that despite the establishment of these policies, projects, and organizations promoting ICM, the capacity for implementing effective ICM programs in most East African nations still remains low. A review of individual country assessments in a 2001 report to the CBD showed that most East African countries still exhibit both a lack of ICZM programs and a lack of capacity for developing such programs (Wells 2001).

4.2 ICM in Madagascar

Figure 4



Madagascar is no exception to the above judgement. The same 2001 report to the CBD stated that Madagascar had “insufficient capacity for managing ICZM programs” and a “critical lack of human capacity...to develop and manage MPAs.” To understand this we need to take a detailed look at Madagascar's coastal management history.

To begin, it is important to note the importance of fisheries to the Malagasy economy. As of 2001, shrimp fishing alone was Madagascar's 3rd largest export earner (Contracting, 2001) while over the past 20 years the number of fishers has doubled (Bille & Mermet 2002). Most of this increase is attributable to two factors. First, the natural population growth rate is relatively high at 3.2% per year. Lack of education and a natural inclination amongst fishers to pass down their trade ensures that fishing activities will continue to increase. Second, because inland areas are becoming increasingly degraded due to heavy deforestation, many Malagasy are moving to the coasts in order to find alternative livelihoods, usually as small-scale fishers or in some fishing related industry such as boat building, fish trading, or transportation. Therefore, although large-scale commercial fishing is a major component of Madagascar's total fisheries production it is also important to note that increasingly many of those who are putting pressure on Madagascar's coasts are small-scale artisanal fishers who have little capacity for seeking alternative livelihoods. This situation, which is not uncommon in the developing

world, has presented major challenges to environmental managers.

In general, in order to meet these challenges the Malagasy government in consultation with the World Bank and several other international donors, developed a National Environmental Action Plan (NEAP) to guide its environmental management efforts in 1989 (Razafindralambo & Gaylord 2007). Implemented in 1990, it was originally envisioned to be comprised of three five-year phases. However in practice, for a variety of reasons, these five year phases have been extended to seven or eight years. Phase One ran from 1990 to approximately 1996 while Phase Two ran from 1996 until approximately 2003 or 2004 and Phase Three only commenced in 2006. In general terms, each phase was envisioned to introduce and implement principles of sustainable environmental management, first at the national level during Phase One, at the regional level during Phase Two and finally at the local level during Phase Three (Lindemann 2004).

A coastal management component to the NEAP was introduced in Phase Two and is supposed to be expanded upon in Phase Three. This component, known as the EMC (Marine and Coastal Environment), is supposed to act as a cross-sectoral coordinating organization that facilitates and promotes ICM at all levels of the government. At its inception it focused its work in two pilot areas in the Northeast and Southwest regions of Madagascar. Besides the NEAP, Madagascar does not have any specific piece of legislation mandating and giving regulatory support to ICM management principles. However it did enact in 2002 a “Policy for sustainable development of coastal and marine zones”(PSDMCZ). With the NEAP, this policy statement has served as the main legal framework through which ICM initiatives have been attempted. Additionally, there are several laws which although not explicitly connected to the PSDMCZ, may support its goals.

The first of these is the so-called GELSOE, (Gestion Locale Sécurisée) law (No. 96025) enacted in 1996. It empowers local communities to manage their natural resources through a system of traditional customary law known as “Dina.” If enacted through the proper channels these “Dina” are, at least theoretically, enforceable legal documents, which the communities themselves have executive power over. This law potentially gives a legal avenue for implementing the ICM principle of co-management or community-based management.

Furthermore Law, 93-022 contains a series of fisheries related regulations. There are size restrictions on many marine species, permits mandated for certain activities, the harvesting of certain species is restricted to specific 'seasons' while other marine species, including all sea turtles and marine mammals, are completely protected from fishing activity (Bille &Mermet, 2002). Finally, that same

law allows marine protect areas to be established by decree of the responsible authority of an area. The Malagasy National Protected Areas Management Association (ANGAP) has drafted a law, the Code des Aires Protégées (COAP), which will provide regulations for these protected areas.

Finally, following the highly contested election of Marc Ravalomanana as President of Madagascar in 2002, the government produced a new vision statement called the Madagascar Action Plan (MAP). Its environmental component recommitted the Malagasy government to developing its environmental resources in a “sustainable” manner and reaffirmed its commitment to the “Durban Vision” by increasing the number and size of protected areas to include 10% of its national coastal zone (MAP 2003). However, the manner in which the MAP and the older NEAP will interact in the future is unclear. Though certainly not a replacement of the NEAP, which has secure international funding and is continuing its efforts in its Phase Three, the MAP is envisioned to be the dominant vision statement for Malagasy national development in all sectors, including the environment. The NEAP was developed under the old socialist regime of Ratsiraka and the new government under Marc Ravalomanana is quite open about its desire to correct the perceived mistakes of the old regime.

Beyond the government's efforts to establish laws and regulations for coastal management, international conservation organizations have also been active at the national level in capacity building workshops and have provided support, both financial and technical, to ICM related projects in Madagascar (Arico & Rakotoary 1997). In 1998, WWF and the UNESCO sponsored a workshop that considered four sites as potential marine biosphere reserves. In 1999, WWF sponsored a workshop that aimed at assisting the coastal management component of the NEAP to promote MPA creation as an effective strategy towards more sustainable ICM-style coastal management. The Indian Ocean Commission (IOC) sponsored a program that aimed at setting up a national network to monitor the health of Madagascar's coral reefs at five different sights around the country. And finally, The Wildlife Conservation Society (WCS) has been active in promoting MPA initiatives especially in the Masola Peninsula in Northeast Madagascar (Andrianarivo, date unknown).

The results of all of these projects cannot be easily summarized or collectively judged, however the statements at the beginning of this overview of Madagascar's national level coastal management efforts bears repeating, namely that despite all of the above efforts, Madagascar has a “critical lack of human capacity” for coastal management (Contracting, 2001). Furthermore, often there is either “no enforcement” (Resolution 1993) of the above laws or it is “extremely scarce whereas violation of the law is common place” (Bille & Mermet 2002).

4.3 ICM in the Southwest Tulear Region of Madagascar

The Southwest region of Madagascar is both the poorest region in Madagascar and the most heavily fished. Most villagers outside the regional capital survive on more or less a dollar day (Development 2002). Nearly 50% of all Malagasy fishers live and fish in the coastal waters of this region (Laroche 1995). Most of the fishing is artisanal and conducted through non-intensive, non-technical, means. The only international exporter of fish products active in the region is a French-owned company, Copefrito, based out of the regional capital, Tulear. It is a major buyer of coastal products, mostly octopus, from artisanal fishers along the coast and once was a large supplier of fishing materials to these communities (pers comm.).

The ecological health of the coasts in the Southwest region varies from fairly pristine to heavily degraded (Ranaivoson 1998). The Grand Recif, a large coral reef which lies in the coastal waters just outside of the regional capital of Tulear suffers from most of the problems typical of this region. It is overfished, polluted by a city of 300,000 people which is completely devoid of any waste water sanitation system, has high sediment levels due to a variety of human induced activities, and has suffered high levels of bleaching for reasons that are less clear but thought to be tied to increasing sea temperatures (Guibert; Salm et al. 1998).

In terms of the academic coastal management literature interested in this area there are only a few author's works that are relevant to the study and will be reviewed. Of most relevance are the studies undertaken by two Frenchmen, Raphael Bille and Laurent Mermet. These researchers studied the southwestern pilot project of the previously mentioned coastal and marine component (EMC) of the second phase of the Madagascar's NEAP. In two articles, both published in 2002, the authors came to some interesting conclusions. To summarize their findings, they found that the EMC was largely incapable of achieving its mandate to be a facilitator and promoter of ICM in the Southwest region. Based in the regional capital of Tulear, it suffered from lack of funding and resources, lack of authority and hierarchal standing amongst the organizations it was supposed to coordinate, lack of educational and institutional capacity, and from political and social contexts that were not sympathetic to its actions. Instead of serving as a coordinator for the previously existing coastal management institutions and resource user groups it became 'sectoralized' into simply another promoter of an amorphously understood environmental agenda. However, in one of its few success stories the EMC was able to support the creation of a community-run marine reserve some 20km south of Tulear centered around a village called Anakao. Additionally the EMC later proved itself an effective

mediator when various disputes arose amongst the resource users of that reserve.

Besides the above study, most academic work on coastal related matters in the Southwest Region of Madagascar, with a few exceptions, focus on "hard" science topics, rather than on matters of a more social science orientation. Studies on microbial pollution in the coastal zone, the effects of increased sedimentation, and basic baseline benthic and marine biodiversity surveys of the region, have all recently been conducted. Much of this work has been done in consultation with a local marine research institute, based in Tulcar called the Marine Sciences and Fisheries Institute (IHSM) which is connected to the University of Tulcar.

4.4 Ranobe Bay

Map of Ranobe Bay and surrounding villages

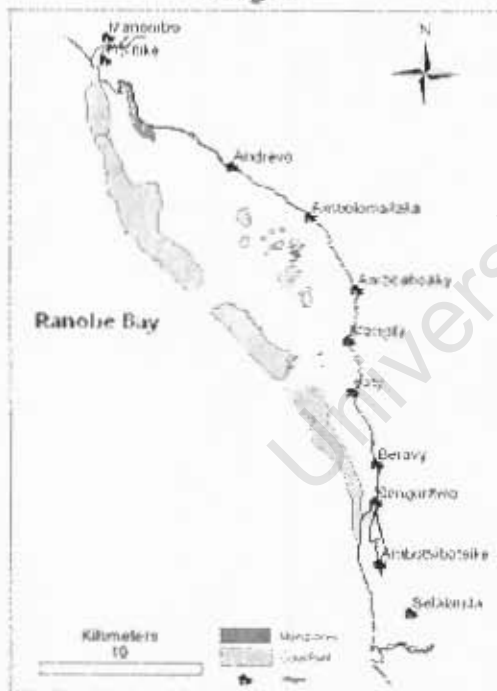


Figure 5

Ranobe Bay is located just north of Tulcar (refer map). There is very limited published academic literature that deals with this Bay. Some ecological survey work was undertaken and published in the 1970s but otherwise this author's research has uncovered only a single published article that discusses coastal management related issues. Published recently in 2006, it's authors,

Rakotoson and Tanner, studied the development of a marine resource user's association in Mangily, a coastal village in Ranobe Bay. Similar to the previously mentioned community based-association set up by the EMC in Anakao, the association in Mangily, called FIMIMIRA (roughly translated as the Association for the Protection of Big Water) was formed to act as a local management authority. However, in their assessment of the association the authors stated that it was “crippled by the strong involvement of the hotel owners in comparison to the weak involvement of villagers in the process.” Furthermore, the authors stated that because villagers did not feel that their interests were represented sufficiently in the decisions of the association they were uncooperative in enforcing the local “Dina” formulated by it. Attempts by FIMIMIRA to curb illegal and destructive fishing practices and to establish marine protected areas were seen by villagers to be just another attempt by foreign hands to limit their access to natural resources which, in their minds, they were fully within their rights to exploit. The authors recommended that if FIMIMIRA was to become an effective and truly representative local management authority in Ranobe Bay then the villagers must be empowered to play a more influential role in its operations. More about this association and its efforts will be discussed later from this study’s own research as FIMIMIRA's creation was in many ways a precursor to this report's case study. However, beyond this single article no published academic work has been undertaken on coastal management issues in the Bay of Ranobe. Accordingly, the description of the case study provided below has been written almost entirely from this author's own findings.

4.5 Coastal Management History in the Case Study Area

Ranobe Bay located at 23°00’S 43°30’E, 23°18’S and 43°38’E, begins approximately 20 kilometers north of Tulear (refer map). It is largely enclosed by a 32 kilometer long reef that at its furthest point is around 6 kilometers from the coast. Almost no point inside the bay is deeper than 20 meters and the average depth is between 5 and 10 meters. Coral outcroppings, extensive sea grass beds near the coastline, and expansive sandy floors are the dominant topographical features. The bay is populated predominantly by the Vezo people. They are almost entirely fishers, the name “vezo” means “to paddle” in the local dialect, and in the not so distant past they were a nomadic people. However in the past 100 years most have settled themselves into around 18 villages on the shores of Ranobe Bay (Astuti, 1995). The majority of these villages have 1000 inhabitants or less while the three largest villages, Ifaty, Mangily, and Manombo all have more or less 3000 inhabitants. In addition to the villagers there are approximately 20 medium sized hotels in the bay, the vast majority of which are

clustered around Mangily and to a lesser extent around Ifaty

The socio-economic and governance situation in the bay is very poor. There are no government offices of any kind in the bay area, no police stations, no equipped medical facilities, and no access to electricity except through expensive private generators, nor any sanitation or waste disposal systems. The 30 kilometer journey from Mangily to Tulear takes approximately two hours because of poor road conditions and during the rainy season is often entirely impassable. Most villagers live on approximately one US dollar a day. Their fishing is almost entirely artisanal. Dugout canoes, home-made nets, harpoons, lines, the occasional spear gun and diving mask are the fishing equipment employed. Most of the fish is sold either to the hotels, sent to Tulear, sold within the villages themselves, with the remainder being consumed directly by the fisher's families. As far as can be ascertained, yields are generally small, less than 10 kilograms per day, but vary erratically depending upon the time of year, and the luck or skill of the fisher (Razafimandimby 2006).

The ecological conditions in Ranobe Bay are no less dire. Most scientific and local authorities familiar with the bay agree that the biological productivity of the bay has been declining at least for the last 20 years. The reasons for this decline are fairly well understood although their relative importance is less clear. First, two rivers bring high levels of sedimentation into the bay. This sediment comes from inland deforestation and ecologically insensitive agricultural practices. Sedimentation damages the marine ecosystems in the bay by smothering corals and changing the chemical composition of the seawater. Second, overfishing and ecologically destructive fishing practices have had serious impacts. Fishers regularly walk on the reef flats searching for octopus or other marine life, smash coral outcroppings in order to scare fish into the open ocean, and practice beach seining in the seagrass beds. Third, human waste pollution from the local villages and hotels may also be impacting the bay. The population has been, and is continuing to increase rapidly in Ranobe Bay. The village of Mangily alone has grown from a mere 200 inhabitants 15 years ago to more than 3000 today. Finally massive coral bleaching occurred in the bay around 2002. It is thought that the high sedimentation levels and the heavy fishing pressure have contributed to the slow recovery of the reefs since that event.

Map of Tulean Region

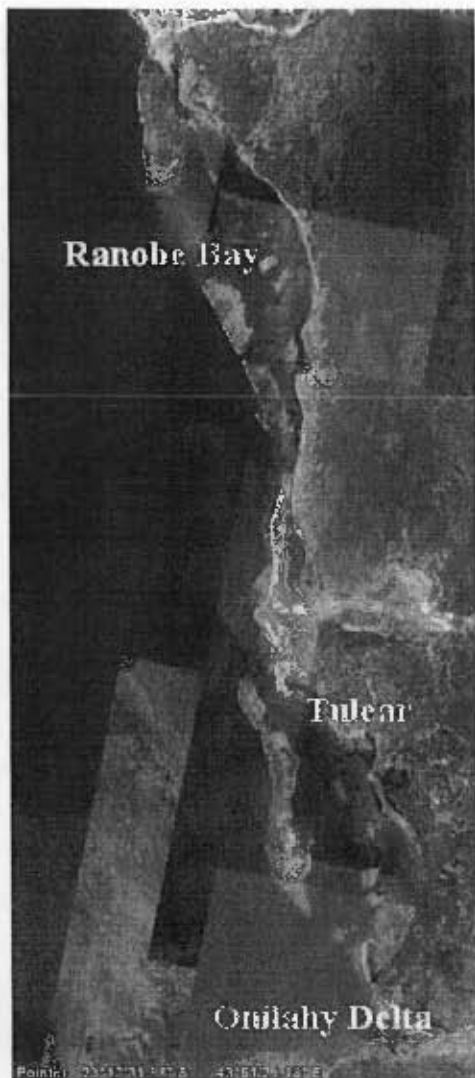


Figure 6

Unfortunately, government and international organization activity to deal with these coastal management issues in Ranobe Bay has been and continues to be quite limited. Government fisheries and coastal management agencies have little capacity for monitoring, regulating or policing activities in the bay. SAGE (Service d'Appui la Gestion de l'Environnement), a government agency largely funded through IFP3 and concerned with rural and environmental development, has had sporadic contact with the village 'fokontany' mayors concerning fishing regulations but its limited presence has constrained its influence. The previously mentioned IHSM has an unstaffed 'research station' just north of Ifaty, that in reality is nothing more than a 30 year old concrete building with no scientific facilities, electricity, or even plumbing. Various larger international NGOs such as the Wildlife Conservation Society (WCS), Conservation International (CI), the World Wildlife Fund (WWF), usually in

collaboration with larger regional marine conservation initiatives such as the previously mentioned Marine Biosphere project, have earmarked certain areas in the bay as good candidates for a coastal management project but none of these initiatives have any current status within the bay.

Only one small foreign NGO, ReefDoctor, has had any permanent presence in the Bay. It became established in Ifaty in 2001, and since then has implemented various marine conservation projects including those concerned with coral reef restoration, community management, and environmental education, primarily in the village of Ifaty. One of the main achievements of this NGO has been to support the creation of a marine resource users association for the entire Ranobe Bay area. This association was established in late 2006 and entitled FIMIHARA (Fikambanana Miaro sy Hanasoany Ranomasina, roughly translated as the Association to Protect and Enhance the Marine Environment). In many ways it is the successor to the previously discussed FIMIMIRA in Mangily (pers comm.). Representatives from all the villages in the Ranobe area, hotel owners, and all scuba diving shop owners have been invited to join the association. Various office bearers, including village presidents, were elected and “Dina” created. The association is legally recognized and empowered to regulate coastal and marine activities in the Bay although the government has not provided any financial support to the association for this management. In practice, few hotel owners or dive shops owners, with a couple exceptions, have taken any active role in the association’s activities. Following the association's establishment, ReefDoctor supported FIMIHARA in creating a small marine protected area within Ranobe Bay entitled the “Massif de Roses” or in English the “Rose Garden”. Although only 400 square meters in extent, and surrounding a large dominantly foliose coral outcropping, it is the first government recognized MPA ever established in Ranobe Bay. FIMIHARA employs a guardian to protect the site daily and to collect tickets costing approximately one US dollar from any tourists interested in snorkeling or diving in the reserve. The hotels, and to a lesser extent the pirogue-owners, who organize the tours to the Rose Garden, have largely recognized the authority of FIMIHARA and comply with paying the entrance fee. Nevertheless, the project has encountered some problems. The ticket collection process has run into a fair measure of non-compliance and issues concerning the guardian have been numerous. These issues will be discussed in more detail in the findings section of this dissertation. Nevertheless, the Rose Garden has been largely successful in so far as it is making money for the association, and is therefore economically sustainable, and to the extent that some observers familiar with the site and its history, have seen at least an anecdotal improvement in level of fish diversity and abundance within the MPA. Most recently, ReefDoctor has been successful in supporting FIMIHARA to secure a UNDP funded small grants allocation in order to start several

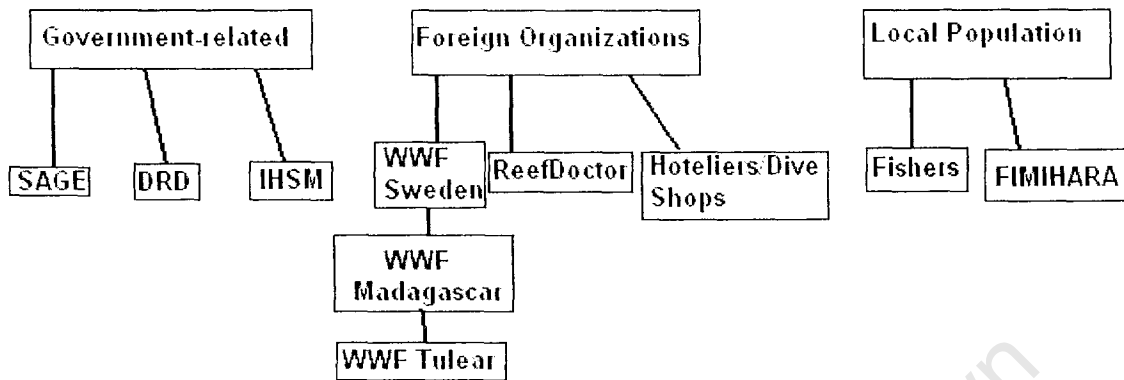
coastal management and development related activities in Ranobe Bay.

4.6 The Case Study

The coastal management project that has served as the case study for this dissertation began its formulation process in early 2007. Entitled the “Toliara Land and Seascape Conservation Program for the Ranobe Complex and Lower Onilahy River Valley and Delta” the proposal was written by WWF Madagascar and submitted to WWF Sweden and Norway as potential funders. Very broadly this program seeks to “initiate implementation of a long-term vision and planning(sic) for the conservation of these unique landscapes[Ranobe and Onilahy] that includes catalyzing important regional programs for addressing the macro-economic root causes for biodiversity loss and a related increase in rural poverty.”(Proposal, 2007) The research for this study has focused solely on the “Ranobe Complex” portion of this WWF project and will henceforth, for the sake of simplicity, be called the “Ranobe Project”. In the proposal for this marine conservation project, there are a series of time specific plans. The first outlines very generally what it hopes the project will achieve in fifteen years, then in five years, and then in three years. In terms of marine conservation in Ranobe Bay the proposal outlines a series of objectives ranging from completing coastal environmental management plans (CEMPs), to conducting educational workshops, to completing marine surveys of the bay. All of these efforts are focused around promoting the creation of marine protected areas in Ranobe Bay. Indeed, the proposal states that the first expected result from the first year of activities is having obtained “Temporary Protected Area status for the Ranobe Complex...” In order to implement these objectives in the bay the WWF proposal identifies various local partner/stakeholder organizations that will need to play a role in project implementation.

Figure 7

Stakeholders in the Ranobe Project



The chief partner named in terms of the Ranobe Bay portion of the project is the NGO, ReefDoctor. Although not explicitly stated in the proposal, discussions with the proposal writer suggest that ReefDoctor is the “lead” project implementer with WWF providing a supporting and supervisory role.

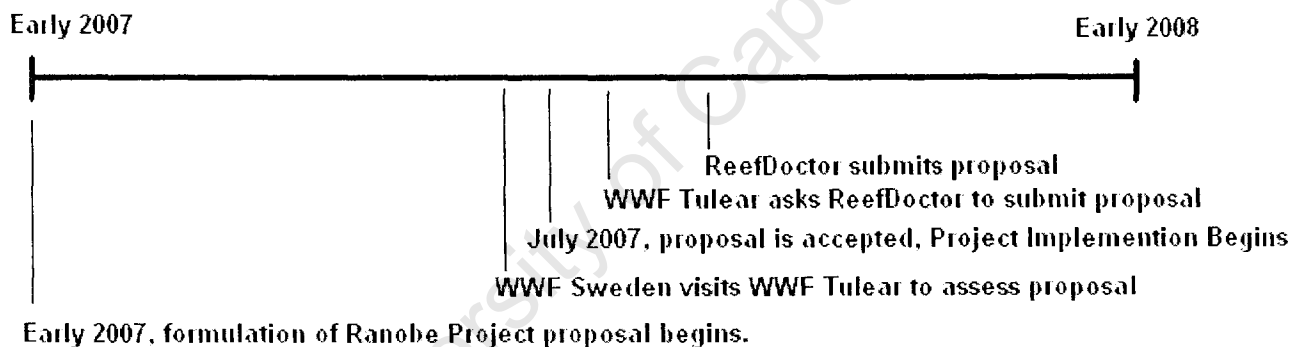
4.7 Ranobe Project Formulation and Implementation Process

The following brief overview of the Ranobe Project will cover a time period of roughly one year from early 2007 until early 2008. This year can be divided into two parts. From early 2007 until approximately June of the same year, the proposal for the initial funding of the project was being formulated by WWF Tulear and was submitted to WWF Sweden and Norway. Following that from July 2007 until early 2008, the project was in the early stages of implementation. According to the proposal writer, the impetus for the formulation the WWF Ranobe project came from a variety of sources. First, it was responding to the increasing international call for more MPAs worldwide and the writer knew of a donor, namely WWF Sweden, that was interested in supporting a marine conservation initiative and which had extra funds to allocate to such a project. Second, WWF Madagascar had two terrestrial-based projects nearly adjacent to Ranobe Bay that were running out of funding. Third, the proposal writer had a personal interest in starting a community managed marine protected area south of Tulear (in the Onilahy Delta) and knew that ReefDoctor had recently had, in his opinion, some success in Ranobe Bay by establishing a community-based fisher's association, FIMIHARA, and the Rose Garden MPA. In the opinion of the proposal writer combining all of these

initiatives into a “land and seascape” project seemed to be an ideal solution. The proposal was submitted to WWF Sweden in June and a representative from Sweden was sent to Madagascar shortly thereafter in order to obtain first-hand knowledge of the situation. ReefDoctor and the Tulear Office of WWF Madagascar met with this representative and ultimately the proposal for the Ranobe Project was approved. It is important to note that although ReefDoctor, at least from the viewpoint of the proposal writer, is the lead implementer of the Ranobe Project, all of the funding from WWF Sweden and Norway will be given to WWF Madagascar who will then allocate it during project implementation as they see fit. Why this arrangement has occurred and its consequences will be discussed in depth in the following sections of the dissertation.

Figure 8

Ranobe Project Timeline



The Ranobe Project’s implementation phase started in approximately July of 2007. At this time, WWF Madagascar requested that ReefDoctor submit a budget proposal to them in order to carry out two of the objectives outlined in the Ranobe Project proposal. The first objective was to conduct scientific baseline marine surveys on coral reefs in several areas proposed as likely candidates for MPA status. The second objective was to capacitate villages by sending representatives from villages surrounding Ranobe Bay on several 'study trips' to another coastal village in the north which already had an established community marine conservation program sponsored by the Wildlife Conservation Society (WCS) and Blue Ventures, another small foreign marine conservation NGO. This study trip was envisioned as a capacity building exercise, and the expectation was that villagers from Ranobe Bay would learn and be inspired by the experiences of this community-run marine conservation program.

Based on interviews with the writer of the proposal, the process of finalizing the proposal and

budget has been a protracted affair. The proposal has undergone several iterations. There are several reasons for this. First, a new marine program coordinator at WWF's Tulear office was employed in December 2007 and had to be 'brought up to speed' on the details of ReefDoctor's proposal. Second, WWF's head office in the capital of Antananarivo was dissatisfied with the proposal and requested that it be revised. Furthermore, ReefDoctor's own head Scientific Officer completed his contract at the end of January 2008 and a new Head Science Officer had not been appointed by mid-February. Because of this, although it was originally envisioned that the study trips and collection of survey data would both be completed before the end of 2007, neither objective was completed even at the end this dissertation's research period in mid February of 2008. In addition, Reef Doctor's proposal writer and chief negotiator with WWF in Tulear left Madagascar in February 2008 with a plan to return after a couple of months.

Before presenting the findings of this study, it is important to note what is missing in the above description and timeline of the Ranobe Project. First, counter to ICM's prescriptions, the Ranobe Project's proposal formulation phase was not participatory, nor was there any stakeholder consultation in its formulation. Furthermore beyond the Ranobe Project proposal, no further implementation-guiding document for the entire project has been formulated and there are no future plans to devise such a document in a participatory manner or otherwise. The reasons for these omissions and their consequences will be discussed in detail below.

5. Findings

As stated in the Introduction to this dissertation, the research was conducted in order to learn about the issues relating to the character of interorganizational coordination that occurred, or did not occur, during the formulation and early implementation of the Ranobe Project. It should be stressed here again, that this study was not conducted in order to evaluate the 'success' or 'failure' of the project and its implementation in terms of the degree to which there was coordination, or not, as judged by some set of 'best practice' criteria. The author formulated no such criteria and an evaluation of this project, at this an early stage in its implementation, would be severely premature. The *quality* of the interorganizational coordination that has occurred to date in the Ranobe Project, although relevant to this research, was not its focus. Rather, the research aimed at providing data about the contexts, institutions, stakeholders, and the dynamics between the relevant entities, which were involved in determining the *character*, as opposed to the *quality*, of interorganizational coordination that has

occurred to date in the Ranobe Project. This enhanced understanding of IORs occurring in the Ranobe Project was largely informed by a review of the relevant literature, participant observations as well as in-depth interviews with key informants. With this data, the author hoped to discover whether or not the IOR literature could contribute to an improved understanding regarding the interorganizational relations that occur in ICM initiatives, such as the Ranobe Project.

However, as stated in the Introduction, this research process was significantly guided by the author's knowledge of IOR theory. Accordingly, the findings will be related thematically around issues that the IOR literature states are critical to understanding how interorganizational coordination networks function.

First, the findings will focus on the issues of communication and participation that arose in the Ranobe Project. Second, the issues of capacity in all of its various forms and levels are examined. Third, the issue of trust that arose amongst the involved organizations is discussed. Fourth, the issues surrounding the goals and expectations held by each organization in relation to the Ranobe Project are discussed. Finally, the importance of individuals, versus organizations or institutions, in the interorganizational coordination network that existed in the Ranobe Project, are explored and discussed.

5.1 Key Issues

5.1.1 Communication and Participation

The first step in any coordination effort is communication and making sure that everyone who should be involved is involved, in other words that there is an appropriate level of participation. ICM theory calls for a diverse set of stakeholders to be involved in the formulation and implementation of any coastal management project. However, this clearly did not happen in the formulation or early implementation of the Ranobe project. Based on the research it is evident that the level of interorganizational coordination was very limited. The proposal writer, a veteran of numerous conservation efforts in Madagascar for nearly twenty years, was able, based upon his intimate knowledge of the country, to almost single-handedly develop the vision and objectives of the proposal. Neither local leaders within Ranobe Bay, government officials, nor local research institutions such as the IHSM, or even ReefDoctor were consulted. Only once the proposal had been submitted did some limited coordination occur between WWF Madagascar and ReefDoctor. WWF Madagascar asked

ReefDoctor to prepare some presentations to show the representative from WWF Sweden. Following that, as already stated, the coordination between ReefDoctor and WWF Madagascar continued in the form of a protracted process in which ReefDoctor was asked to submit a funding and project proposal and budget for certain aspects of the Ranobe Project.

There are many possible reasons for this limited coordination, some of which are clear as they were stated explicitly in interviews conducted during the research process and others of which are more speculative. First, information gleaned from an interview with the writer of the proposal indicated that in his opinion such broad-based participation at the formulation stage was simply unnecessary or perhaps premature. Additionally, the funds from WWF Sweden may have been time-sensitive (pers. communication), so even if the proposal writer had desired to have a lengthy participatory proposal formulation process, the need to secure funding proved paramount. Nevertheless, it should be stated that the writer of the proposal and the proposal itself stress the importance of broad-based participation during project implementation (Proposal 2007).

Interviews conducted with key stakeholders in the Ranobe Project indicate that at least in its early stages, participation was not occurring. Following the proposal's acceptance, no further guiding project document was formulated. Instead, the project's implementors, at this time only ReefDoctor and WWF Madagascar, simply used the proposal's own schedule and objectives to guide their actions. By February 2008, interviews conducted with representatives from FIMIHARA, the IHSM and the Director of Rural Development for the Southwest Region, showed that none of them had any knowledge of the WWF Ranobe Project's existence, let alone its objectives. Here, the constraints to the level of interorganizational coordination may have been of a more logistical and technical nature. For although the proposal clearly advocates a participatory process and all of the above parties interviewed clearly stated a desire for coordination, communication in southwest Madagascar is extremely difficult and rudimentary. Cellphone reception is limited and unreliable, the internet is slow and unreliable, roads are poor, electricity provision is unreliable, and even the postal service does not extend much beyond the regional capital. Furthermore, the high staff turnover in both WWF and ReefDoctor meant that much of the institutional information that had been gathered and circulated, was lost when employees left, and the process of getting the new employees "up to speed" takes time, delaying the possibility for coordinated action.

Finally, the geographic distances between the organizations normatively involved in the WWF Ranobe project proved an obstacle to communication and hence possible coordination. The offices of WWF and all government agencies are in Tulear while FIMIHARA, ReefDoctor, the hoteliers, and dive shop owners are all based at various places around the Bay. Neither ReefDoctor nor FIMIHARA own

any means of personal transport and public transport around the bay and to Tulear is infrequent and unreliable. Given this environment, it is not surprising that the normatively involved organizations, even with the best of intentions, struggled to simply understand and keep track of each other's activities, let alone coordinate those activities.

5.1.2 Lack of Capacity and Resources

In addition to the above technical challenges to coordination imposed on the implementers of the Ranobe Project, the organizations themselves often lack the institutional capacity to coordinate their activities.

Financially none of the normatively involved organizations, with the possible exception of WWF, have the resources to fully communicate or coordinate their activities. Ultimately coordination and communication requires organizations to employ people in order to perform those functions and to provide them with the resources to do so effectively. However, neither ReefDoctor, FIMIHARA, nor any of the government agencies involved in the project have the budgets to competitively employ adequate staff and to equip that staff with vehicles, fuel, maintenance budgets, cellphones, a call credit allowance, office space, computers, and internet access. If for no other reason, this lack of capacity and resources makes it understandable that no members of FIMIHARA or government agencies were party to any of the negotiations and discussions during the early implementation stages of the WWF Ranobe project.

In addition to a lack of financial resources for coordination efforts, most of the involved organizations also lack the financial means to carry out scientific work, both for the Ranobe Project and otherwise. As the head science officer of ReefDoctor pointed out, collaboration depends upon there being something to collaborate on. Yet if organizations are unable to perform their individual functions they cannot come to the 'coordinating table' with very much to offer. The IHSM lacks basic scientific laboratory equipment and testing facilities, has no scuba diving equipment, and usually lacks a fuel budget in order to utilize their boat. With only 10 percent of its budget supplied by the government, ninety percent of the IHSM's budget, and hence its work, depends on, and is guided by, the interests of the foreign collaborators that they can attract.

ReefDoctor is in a slightly better position in this regard but they are still too small to finance much scientific work beyond the collection of basic survey data. To date they have no laboratory facilities. WWF is the only organization with potentially enough financial resources to fund scientific

work but even they have no facilities or in-house experts to carry out such scientific work. Consequently, they too must contract out such services at high expense.

However, even with better facilities and equipment it is doubtful that greater coordination could have been achieved. In addition to inadequate financial resources, most of the involved organizations also lacked qualified staff. Although WWF have a long history of terrestrial conservation in Madagascar, this organization has very little institutional experience in marine conservation. All of their current marine conservation initiatives in the country are less than five years old and the managers of those projects are equally inexperienced.

The local government agencies have little experience in marine conservation and do not have the funds to hire outside consultants or fund local people to undergo foreign training. ReefDoctor is in a similar position. Although certainly the veteran marine conservation organization in terms of the Ranobe Project, it suffers from poor institutional continuity because its staff rarely stay beyond their initial one year contracts. Additionally its financial resources make it impossible to offer competitive salaries that would attract highly experienced and qualified employees. Local educational institutions, such as the IHSM, have some indigenous educational capacity. However, their critical lack of financial resources constrains their research capacity and hence the indigenous institutional knowledge that they can create and maintain.

Finally, the members of FIMIHARA and its leadership, lack the education to undertake an ICM-type program. The president and most of its members have had limited schooling of any kind, speak only their native Malagasy tongue, and have no access or ability to work with technology such as computers which are needed at the very least to write up proposals. In addition, they have limited understanding of policies, statutes, regulations and a host of other legal and formal documents integral to the effective functioning of any ICM project. The life-long poverty of its members means that institutionally FIMIHARA has little capacity for managing a budget or even opening a savings account without outside assistance. And even this outside assistance is severely limited. Academically trained coastal management experts with experience in Madagascar are rare, and even when opportunities arise, because of limited educational and institutional capacity, FIMIHARA on its own is incapable of recognizing and capitalizing upon those opportunities.

Furthermore much of the indigenous knowledge and capacity that the local fishers do have is at odds with some of the most basic tenants of any (western) management system, ICM included. To give a few of the most obvious examples in the case of the Ranobe Project, the local Vezo culture in Ranobe Bay teaches that the Bay is normatively an open access resource. The very concept of managed access is foreign. This is largely because the Vezo, by and large, believe that the ocean's

capacity for production is inexhaustible, i.e. that there “will always be fish” (questionnaire response). And finally, the Vezo believe that not only is the beach the most appropriate place for human waste disposal, but that it is even taboo to defecate in any enclosed or purpose built structure such as a pit toilet. The strength with which this belief is held was demonstrated during the research process when a Vezo ReefDoctor staff member attempted to defecate in the front yard of the personal home of ReefDoctor’s Director and refused to use the inside toilet even when offered it. Such indigenous beliefs and cultural practices heavily influence how the members of FIMIHARA, who are overwhelmingly Vezo, define that organization’s purpose and should not be trivialized, dismissed in disbelief as bizarre, nor underestimated. More about the difficulties that this 'alternate' education made for the Ranobe Project, particularly in terms of administration, will be discussed later on.

5.1.3 Lack of Trust

In addition to difficulties with communication and capacity, the Ranobe Project also experienced difficulties in building interorganizational trust. This hampered every organization's ability to coordinate their activities with every other organization involved in the project. For the sake of brevity this study will only look at three of these relationships here. First it will discuss the issues of trust generally between the indigenous peoples of Ranobe Bay and foreign organizations involved in the Ranobe project. Second, the relationship between ReefDoctor and WWF Madagascar will be discussed, and third the relationship between ReefDoctor and FIMIHARA will be discussed.

The relationships between foreign organizations and indigenous organizations in Madagascar, as in much of the developing world, are complicated by the tragic history of colonization, and deep cultural differences that exist between the foreign and local stakeholders. These issues surfaced in the Ranobe Project. The Vezo people of Ranobe Bay are by nature culturally traditional, independent-minded, and wary of “outsiders.” They are fiercely proud of their lifestyle and generally not interested in changing it. Fishing is not so much an occupation to the Vezo as a way of life (Astuti 1995). The Vezo's experience of foreigners has generally been either through foreign academics coming to Ranobe Bay to do research, or foreign investors wishing to establish businesses such as hotels in the area. Neither activity is of much interest to the Vezo, except for the limited financial gain they might receive from selling them fish or by acting as local guides. To the Vezo, foreigners, although certainly capable of bringing resources into the Bay are, are seen to be at best harmlessly self-interested or at worst a potential threat to their way of life.

Foreign organizations have responded to this skepticism in a variety of ways depending upon their interests. Although it is dangerous to generalize, foreign-owned hoteliers and dive centers in the Bay have tended to minimize their business and personal activities with the Vezo. The efforts at engagement that have occurred, such as the formation of FIMINANA (as opposed to FIMIHARA), have usually ended with great frustration and pessimism. Malagasy hotel employees are usually brought in from villages outside of Ranobe Bay as the Vezo are generally considered poor workers. With some exceptions, the hoteliers in Ranobe Bay are disinterested in engaging with the Vezo in some sort of co-management arrangement and some are even hostile to such efforts. In terms of the Ranobe project, none of those interviewed during the research had even heard of the project, but most expressed skepticism when told about it.

ReefDoctor, on the other hand, has of course tried vigorously to persuade the Vezo that it is an organization dedicated to their education and development. In order to do this, it has found that engaging in social development projects such as sponsoring sporting activities, a women's association, and running a weekend 'kids club' have helped engender some good will amongst the Vezo. However, this research found that many still regard ReefDoctor, because of its known interest in marine conservation, as a threat to their way of life. Furthermore, information gained from this study's survey of local villagers found that, despite ReefDoctor's six year presence in the Bay, many were still unaware of its very presence or able to state what it was doing in the Bay.

In the case of the Ranobe Project, WWF Madagascar has responded to this general skepticism by relying on ReefDoctor to act as a link between themselves and the Vezo. Instead of building their own relationships with FIMIHARA and the Vezo of Ranobe Bay, WWF has for a variety reasons, found it more advantageous to capitalize on the pre-existing trust between ReefDoctor and the Vezo. In practice, this has had the consequence that the Vezo and FIMIHARA have little or no knowledge of, let alone trust in, WWF as a partner in the coastal management of Ranobe Bay.

The dominant interorganizational relationship in the Ranobe project is that between WWF Madagascar and ReefDoctor. Both organizations stated repeatedly their commitment to interorganizational coordination. However, issues of trust from both organizations have slowed the ability of either organization to coordinate their activities.

First, it is important to note that WWF Madagascar has several offices, each with its own institutional character. Its head office is in the capital, Antananarivo, and branch offices are scattered across the country, one of which is in Tulear. These branch offices are responsible for implementing projects in their region. However, their ability to allocate funding, particularly to outside organizations, is very limited. All such financial decisions must go through the head office in

Antananarivo. Therefore, organizations wishing to coordinate their actions with WWF Madagascar actually have to build relationships with WWF representatives in two locations. For small organizations like ReefDoctor, and even more so FIMIHARA, this can be a laborious exercise. Furthermore, according to its own employees, WWF Madagascar, because it is such a large and relatively well-funded organization, and for a variety of other reasons that will be discussed later, has a tendency to “go it alone” instead of working with local, and usually smaller, partner organizations. Finally, WWF Madagascar has recently had a poor experience working with a smaller NGO in the area on some terrestrial projects and so is cautious about working with another similar organization like ReefDoctor with whom at least WWF's head office has had little experience.

ReefDoctor's engagement with WWF Madagascar, as well, has not been without reservations. ReefDoctor is almost entirely funded through a private trust and therefore has historically not relied upon grants or any other type of outside funding. The Ranobe Project is the first time in its six year history that it has attempted to collaborate with another organization on such a large scale. Moreover, the experiences of another small marine conservation NGO that has recently collaborated with a larger conservation NGO, with less than satisfactory results, has influenced ReefDoctor's outlook on its potential relationship with WWF. In particular, ReefDoctor is sensitive to ensuring that the collaboration between itself and WWF is conducted on a level playing field. It has done this by emphasizing that it is an organization with its own programs and projects and not a consultant to be hired by WWF in order to carry out WWF's project objectives. ReefDoctor's attitude is that trust, coordination, and operational flexibility will be eagerly given, but only as much as it is received.

In practice, the above attitudes to interorganizational coordination have resulted in a very slow implementation process. Nevertheless, it should be stated that both organizations are cautiously optimistic about the possibility for future collaborative efforts.

Finally, issues of trust have heavily influenced the relationships between local government institutions, including the IHSM, and foreign organizations in the Ranobe project.

First, all the foreign organizations involved in the Ranobe Project, WWF, ReefDoctor, and the foreign hoteliers agree that government institutions are woefully ill-equipped to perform their various functions and therefore can rarely be trusted to do them effectively. Moreover, beyond issues of capacity, perceived corruption further curtails the amount of trust foreign institutions put in government agencies. Nevertheless foreign organizations also recognize the necessity for working with local government agencies in terms of national capacity building and simply in order to be allowed to work within the country. Furthermore, foreign organizations have noted that in terms of mitigating the effects of corruption it is often useful to maintain at least some level of communication and

coordination with relevant government agencies.

Government agencies on the other hand, were adamant that foreign organizations should not work with complete operational autonomy within their jurisdictions. Projects must be done in consultation with government agencies and in such a way that their own intuition's representatives are employed. All scientific researchers in the country are required to hire local collaborators and of course all projects that have any legal components, such as the Ranobe Project, must go through the proper government agencies. With foreign and local interorganizational collaboration legally mandated issues of trust are somewhat moot except to the extent that such collaboration often becomes superficial and formalistic. In the Ranobe Project although the proposal lists many government agencies as partner organizations, in reality and in practice none of them have had any influence on the activities occurring during the early stages of implementation.

5.1.4 Divergent Objectives

Finally after issues of communication, capacity, and trust, the presence of divergent *intraorganizational* objectives played an important role in shaping the character of the interorganizational relationships in the Ranobe Project. The involved organizations, depending upon a variety of contextual factors, developed different ideas of what the Ranobe Project should look like and what the project should work towards. The different objectives and institutional contexts that are informing their positions will now be discussed.

First is the Ranobe Bay Project as envisioned by WWF Madagascar. In accordance with the Third Phase of the NEAP, the Durban Vision, and the MAP, WWF sees the Ranobe Project as a means of creating additional marine protected areas in Madagascar. As a wildlife conservation organization, WWF's primary *raison d'entre* for any of its projects is the preservation of the earth's ecosystems and especially those under threat due to human factors. In Madagascar, WWF believes MPAs are essential to conserving Madagascar's unique coastal biodiversity. Furthermore, WWF recognizes that in order for these MPAs to be effective, the local communities must manage them. This requires WWF to involve, capacitate, and empower local communities with the tools necessary for such management. In order to do this, WWF, in collaboration with ReefDoctor and another marine conservation NGO, Blue Ventures, is organizing the previously mentioned 'study trips' during which representatives from Ranobe Bay, largely from FIMIHARA, will visit a village further up the coast in order to learn about a MPA management project that is occurring under the guidance of Blue Ventures.

ReefDoctor's goals for the Ranobe Project on the other hand, although not necessarily in conflict with WWF's, are slightly different. Because of ReefDoctor's relatively long presence in Ranobe Bay it is perhaps more aware of the local conditions than WWF. From ReefDoctor's perspective, MPAs are not the answer to creating effective coastal management and development in Ranobe Bay. Instead, ReefDoctor sees the Ranobe Project as an opportunity to recruit support for its previously existing programs (environmental education, marine surveys, a women's association), both financially and in terms of the institutional experience and resources that a large organization like WWF can bring to any project. ReefDoctor is well aware that on its own it lacks the capacity to effectively promote integrated coastal management in the entire Ranobe Bay area. FIMIHARA in particular needs more support than ReefDoctor can provide if it is to truly become an organization capable of managing the entire Bay (the long term vision on which that organization was founded). ReefDoctor is also aware of the benefits that could flow from being affiliated with such a well-known organization as WWF in terms of strengthening its own organizational legitimacy and that of its projects.

On the other hand ReefDoctor also feels that the Ranobe Project, if not managed correctly, has the potential to upset a lot of the progress that ReefDoctor has made in the Bay in terms of building trust with the local communities and in terms of ensuring that FIMIHARA grows in capacity and embraces responsibilities at a pace that is commensurate with its own initiative and abilities rather than that of outside organizations. By collaborating with WWF, ReefDoctor is hopeful that it can mitigate against these potential challenges.

FIMIHARA's expectations of the Ranobe Project have not been articulated, as the association is still completely unaware of the project's existence. However during interviews with several key members of that association, including its president, it is clear that their greatest desire from any foreign aid project is not for a system of MPAs. Even the establishment of the Rose Garden, a small MPA of only 16,000 square meters, was not established without concerns being expressed by many fishers who claimed that it was "too big". One local village leader said that with enough education and incentives, favorable community sentiment might make another MPA possible in six or seven years, but not before then. Even now, it is believed by many in the Vezo community that the Rose Garden is still fished on a fairly regular basis, albeit secretly. There is generally widespread skepticism amongst the community that similar coastal management efforts will lead to a healthier bay in terms of fish diversity and numbers.

On the other hand, what the members of FIMIHARA and the Vezo community in general desire from foreign aid, is more fishing equipment. In particular, fishing equipment that will allow them to

better exploit the fishing grounds just outside of the reef wall that encloses Ranobe Bay is wanted. According to the findings of the survey, the community is of the opinion that the productivity of fish within the Bay has been declining for the past several decades. However, their solution to this problem is not to declare an MPA system, but rather to begin focusing their fishing efforts outside the bay. There are two reasons given for this approach. First, they believe that the fish will be more abundant there, and second, they believe that by concentrating their fishing efforts outside of the Bay they will be giving the interior of the Bay, a chance to recover naturally.

As with FIMIYARA, the specific objectives that the local government institutions, including the IHSM, would have for the Ranobe Project are not known as they are unaware of the project's existence. However, based on interviews with members of this group, two important general points can be made here concerning how these institutions envision the objectives of any coastal management project. First, coastal management, as conceived by local governance institutions including the IHSM, is a matter of science and law enforcement. The goals of any proper coastal management project should be determined through scientific data collection on the ecological conditions of the marine area and these should be supported by regulations that are aimed at maintaining a certain scientifically derived acceptable level of fish diversity and abundance. Effective coastal management then is simply a matter of acquiring good scientific data and ensuring that enforcement of the regulations based upon that data is carried out consistently. Both of these objectives in turn require sufficient capacity, both technical and financial, from implementing agencies. It is here, in the developing world, that local governments generally turn to foreign agencies to provide such financial and technical capacity. This approach to coastal management is very reminiscent of the technically rational methods first practiced in much of the developed world in the 1950s and 60s. Efforts to engage local communities, implement education campaigns and co-management arrangements, or even community run MPAs, are at best seen as only a small part of coastal management and at worst as illegitimate replacements for it. Interviews with leaders of the IHSM and the Department of Rural Development expressed little confidence in community based management efforts and instead seemed to be focused on devising methods to attract the type of large-scale funding that they believed necessary in order to implement a 'real' coastal management program in the area.

The above findings show that interorganizational coordination in the Ranobe Project occurred, but on a very limited scale. Limited communication and participation, for both technical and ideological reasons, frustrated the relevant organization's ability to coordinate their activities. A widespread lack of capacity, both financial and educational, made coordination difficult. Poor levels of trust made organizations reluctant to coordinate their activities. And finally, divergent ideas about

the goals of the Ranobe Project constrained the range of potential coordinated action.

5.1.5 Networks of Individuals, Not Organizations

Finally, this research found that the interorganizational coordination network in the Ranobe Project was actually much more about personal relationships than organizational ones. The interviews particularly made clear that coordination in the Ranobe Project was not necessarily occurring because the organizations involved in the Ranobe Project were ideologically dedicated to ICM's principal of interorganizational coordination (this is not to say that they were not), but because certain individuals within those organizations had formed personal and professional relationships. For example, the Director of ReefDoctor was introduced to the proposal writer at WWF through the Director of Blue Ventures. In turn, the proposal writer knew of the possibility of funding from WWF Sweden through a personal contact at that office. More generally, personal relationships between ReefDoctor staff and hotelier/dive shop owners dictated who was, and who was not, involved in ReefDoctor's coastal management plans and projects. In the Ranobe Project trust at an interorganizational level did not seem to exist, or at least seemed only to be fostered once trust at an interpersonal level, between individuals within those organizations, had been established. Hence, WWF Tulear as an organization trusted ReefDoctor as an organization, partly because its proposal writer had established a relationship with ReefDoctor's Director. WWF Antannarivo, on the other hand, whose staff had no such relationships with ReefDoctor staff, seemed not to trust ReefDoctor as an organization.

Furthermore, individuals in the Ranobe Project were not only critical to forming interorganizational trust, they were also critical to project implementation. In the case of FIMIHARA, the personal networks of certain socially high status individuals, namely the mayors of the villages surrounding Ranobe Bay, despite their having rather low hieratically assigned *intraorganizational* status within FIMIHARA, in practice determined the character of FIMIHARA's interorganizational coordination. In terms of involving FIMIHARA in the Ranobe Project's implementation it was to these high status individuals that ReefDoctor was planning to communicate with most frequently in order to mobilize local interest and action. This finding may be somewhat anecdotally intuitive to those with some coastal management experience, but it has not been much discussed in either the ICM literature or even in the IOR literature. In the Ranobe Project, individuals and their personal and professional networks clearly influenced the character of its interorganizational coordination network, so much so that it might be more accurate to characterize the coordination that did occur in the Ranobe Project as

interpersonal rather than interorganizational.

6. Discussion

This dissertation began by showing that ICM theory, and consequently its programs, have to date had a very poor understanding of interorganizational relations. Although its theorists have advocated for improved IORs, their programs and policies do not reflect a sophisticated understanding of how IORs are formed, function, and why they might fail. Consequently, ICM program implementers, as the above findings show, although intellectually convinced of the benefits that could arise from interorganizational coordination, are at an almost complete loss of how to achieve such coordination. The goal of this research has therefore been to give ICM theorists a better understanding of IORs by drawing insights and lessons from the case study, Ranobe Project, investigated in southwestern Madagascar. Below we will apply the IOR literature to the above findings and outline some insights that the IOR literature has for turning the ICM ideal of interorganizational collaboration into a reality. This research found that no IOR theorist had looked specifically at coastal management issues, nor had any ICM theorist specifically looked at IOR theory. However, the IOR literature proved very powerful in its ability to predict and explain the events that occurred in this case study. The insights provided below from the IOR literature have wide application for ICM theory and practice.

The following discussion will proceed in roughly the same order that the IOR literature was previously reviewed in chapter 3. First, definitional issues concerning coordination will be discussed. The IOR literature has some important insights concerning the productivity that ICM can reasonably expect from interorganizational coordination networks in a developing world context. Next, issues of context, both policy and structural, and the insights that the IOR literature has regarding how institutions and their policies can better foster ICM appropriate IORs will be discussed. Finally, the discussion looks at issues surrounding culture and management style, and examines what the IOR literature says can be done to ease coordination between diverse organizations.

6.1 Coordination; what is it?

Defining what is, and what is not, coordination cannot simply be an academic exercise. If we

believe that interorganizational coordination, in principle, is important to successful coastal management then we must be able to define it before we can implement it. Honadle and Cooper (1998) provide a clear definition that has guided this research. Interorganizational coordination is communication, resource sharing, and joint action, between organizations that for largely ideological, rather than hierarchal reasons, are convinced that their coordinated action is needed to achieve a stated objective (Honadle & Cooper, 1989). Unfortunately, the organization's involved in the Ranobe project, as the above findings show, do not share a common understanding of what coordination means and why it is important.

Malagasy government officials and the IHSM tend to view coordination, and this has been noted elsewhere in the country (Brinkerhoff 1993), not as a process of collaboration between equal, or at least non-hierarchically related organizations, but as a process through which power can be regulated. Therefore, their pursuit of coordination is not solely guided by a conviction that it is necessarily programmatically required, as ICM theory contends, but because it is a way to control the actions of non-governmental organizations (NGOs), both foreign and local, usually to ensure that they are not excluded from such actions.

Even amongst the NGOs involved in the Ranobe Project, the research found that each organization had a different understanding of what coordination means. One of ReefDoctor's primary concerns in this regard is ensuring that its relationship with WWF is conducted in such a manner that ReefDoctor is considered a partner in the project's implementation and not a mere consultant to WWF. The interview with ReefDoctor's Director highlighted recent experiences where a small NGO in Madagascar had been sidelined by a larger NGO that unfairly (from the point of view of the smaller organization) took the lion's share of the credit for a marine conservation project. This experience has made ReefDoctor as an organization sensitive to its own position vis-à-vis WWF in the Ranobe Project. Nor is this a trivial consideration. For in the development arena, building organizational legitimacy, and hence securing future funding, depends heavily on an organization's project implementation history.

This research showed that WWF's understanding of its relationship with ReefDoctor, on the other hand, is quite complex. On the one hand the proposal's author at WWF Tulear sees ReefDoctor as a full partner in, and indeed the lead implementor of, the Ranobe Project. At this level, both organizations's understanding of what coordination entails is roughly similar, and accordingly, both sides describe their relationship fairly positively. However, it is important to note that WWF Tulear has a very limited ability to independently enter into Honadle and Cooper's (1989) highest level of coordination, that of joint action with outside organizations, because it lacks the authority to allocate

funding. On the other hand, WWF's head office in Antananarivo (WWF Tana), which does have such authority, seems to be defining coordination with ReefDoctor along different lines. Instead of viewing the relationship between ReefDoctor and itself as a collaboration between equal parties, WWF Tana, by its repeated insistence that ReefDoctor revise its project proposal to meet its requirements, seems to view ReefDoctor more as a consultant to be hired than as a partner to work along side. This has been a major source of frustration to ReefDoctor. As Honadle and Cooper (1989) predicted, lower levels of coordination, such as are occurring between WWF Tulear and ReefDoctor are much easier to achieve than the higher levels of coordination that WWF Tana and ReefDoctor are attempting to engage in. Unfortunately WWF Tulear, who trust ReefDoctor, has no power to authorize joint action, while WWF Tana, who do not seem to trust ReefDoctor, hold all the power. The result has been a much delayed implementation process.

The IOR literature has a few insights to offer concerning these issues. First, generically the IOR literature makes clear that all organization's within an interorganizational network need to share a common understanding of how they are to relate to each other and why it is important to do so (Fong *et. al.* 2007). In terms of interorganizational coordination in ICM programs it is necessary that all involved organizations share a common definition of coordination. The expectations that arise from this common definition should also be explicitly defined, jointly agreed upon, and verifiable. In a developing world context, it is important that these expectations take into account the potential technical, linguistic, cultural and other barriers that may constrain the amount of feasible coordination. Unrealistic expectations lead to failures that in turn erode interorganizational trust.

Second, the IOR literature makes clear that coordination of any kind is a laborious, and time and resource consuming process (Honadle & Cooper 1989). This is doubly true of ICM-style coordination because of ICM's insistence that a large number of parties be included in its coastal management projects and because it insists that those parties should not be forced into some hierarchically arranged structure. Furthermore, especially in the developing world it must be recognized that many of the normatively involved parties in ICM programs lack the capacity to engage in such coordinating processes and so must be empowered to do so by the more capacitated members. This means that ICM projects must budget for coordination and not simply expect it to happen even if all parties are ideologically committed to it. Transportation costs, material costs for cellphones, computers, and other equipment, translators, and the educational resources needed by those without the capacity to exploit such technologies, all need to be explicitly budgeted for in any ICM program proposal or plan.

Finally, the IOR literature makes clear that interorganizational coordination only happens

effectively when it is tangibly clear to all involved organizations that it is indispensable to achieving their project goals. In the private sector, profit realization provides this proof. However, in the development arena where market forces are absent, the incentives for coordinated action are almost entirely ideologically based. This has proven insufficient. The IOR literature makes it clear that it is a “myth that exhortations for more coordination will overcome organizational inertia and resource scarcity” (Honadle & Cooper 1993). The IOR literature does not quibble with ICM’s call for greater coordination or ICM’s insistence that such coordination will eventually lead to more effective coastal management. However, it does say that the benefits of coordinated action must be immediately apparent to the involved organizations. Unfortunately, most indicators of effective coastal management are rarely so immediate. Therefore greater coordination in ICM may need to be promoted by structuring donor funding for ICM projects in such a way that it makes verifiable coordinated action, or detailed plans for it, a pre-requisite to receiving donor funding. As previously stated, this would make it all the more important that the expectations concerning coordination in any ICM project be explicit and jointly agreed upon during the formulation phase of any project.

6.2 Context Matters

Having discussed the importance of a common understanding of coordination, the IOR literature also makes clear that the character of interorganizational coordination in any project will depend largely upon the structural contexts within which it is operating. Because ICM theory is specific about the type of IORs that are needed for successful project implementation, ensuring that the 'right' contexts exist is of critical importance. In Warren's (1967) typology, as outlined in the literature review, these contexts were identified as "federated" or "coalitional". In both contexts the IORs occur within networks that have no dominant authority capable of coercing any other member in the network. Coordination is voluntarily pursued, based upon each member organization's recognition that they have mutual dependencies, common ideals, and common goals. This makes for a 'flat' rather than 'pyramidal' interorganizational coordination network.

Unfortunately, the organizations involved in the Ranobe Project struggled to form such a "flat" network through which to implement their coastal management plans. One reason for this may be that none of the Ranobe Project organizations internally have such flat intraorganizational coordination structures and so have little capacity for implementing such a coordination network at a interorganizational level.

The Malagasy government, following the administrative style of its former French colonizers, has a very hierarchically arranged management structure (Brinkerhoff 1993). Regional offices for rural development, such as the one in Tulear, often lack the authority to authorize joint action with NGOs and in any case rarely have the finances to implement such action. Large-scale funding from the UNDP and GEF for the third phase of the NEAP, is tightly and centrally controlled by head offices in Antananarivo. The IHSM, a nominally government-funded organization, in practice relies heavily upon its own ability to attract foreign funding precisely because it is aware that government funding is unreliable, meager, and entirely centrally controlled in Antananarivo.

Nor are the local communities in Ranobe Bay any more familiar with 'flat' coordination networks. Vezo culture is traditional and hierarchically arranged (Astuti, 1995). Family affiliation, wealth, and history, determine one's status and power in a community and although village governments are popularly elected, the idea that one's authority to govern comes from, and is curtailed by, the will of the people is still very tenuously understood or accepted by local leaders. Therefore this research found that FIMIHARA's leadership, which is dominated by local village leaders, is uninterested in expanding its membership base because it already believes that it knows the will of the people and doesn't necessarily feel that expanding FIMIHARA's membership will increase their legitimacy or authority to manage the Ranobe Bay area.

Nor is the relationship between the Vezo people and the foreign residents in Ranobe Bay based upon modern egalitarian principles. Colonial history, huge wealth disparities, and cultural differences complicate this relationship. These discrepancies have in general created an environment in which both sides are skeptical of the ability of the other to be capable of engaging in cross-cultural relationships of mutual respect and trust. This skepticism can be very severe as exhibited by some of the hotelier's in Ranobe or mild as exhibited by the fact that ReefDoctor continues to employ foreign staff in most of its top level positions despite having employed for several years Malagasy staff who all possess postgraduate degrees from local institutions in marine sciences and have vast experience working with the Malagasy people. The point of these statements is not to cast critical judgments on any of the above organizations or groups but rather to simply point out that each of them does not view the other as a partner with whom they can engage in an egalitarian relationship. Yet, it is precisely these ideals that underpin ICM theory's call for 'flatter' coordination networks and management structures.

Finally, this research found that inter and intraorganizational relations amongst and within NGOs are often far from 'flat'. The centralization of WWF in Madagascar has just been discussed. Moreover, the development arena, although rarely intentionally hierarchal, is in practice very hierarchal

simply because the vast majority of funding is held by a very small number of development agencies such as the UN development agencies, World Bank and IMF. Because most smaller NGOs in turn rely on these larger agencies for funding their priorities tend to mirror those of their patrons. This certainly creates a *de facto*, if not a *de jure*, hierarchy amongst development organizations. The Ranobe Project is certainly a product of this hierarchy in action. WWF Madagascar has recognized the need for greater marine conservation in Madagascar for several years but until recently has not pursued such projects because the larger agencies were not funding such projects. However, it is interesting to note that ReefDoctor is not a typical small NGO because it is almost entirely funded by a private trust managed by its founder and his family. Because of this, it has escaped the usual *de facto* hierarchy of the development arena. Its priorities need not be, and in practice are not, as directly influenced by those of the larger agencies precisely because it does not rely on them for project funding. The Ranobe Project is ReefDoctor's first large scale collaborative effort with a large NGO and its insistence on being considered an equal partner is all the more understandable if one recognizes its past independence from the usual developmental hierarchy.

The above contextual realities that surround the Ranobe Project have certainly in practice severely inhibited the quality and quantity of its IORs. It is difficult to expect ICM-style interorganizational coordination to arise from such contexts and indeed the Ranobe Project has struggled in this regard. The IOR literature has a few insights to offer. First because IOR literature states that context is so important, it follows that successful ICM projects will not occur in places with such ill-suited contextual circumstances as those that exist in the Ranobe Project. The lack of egalitarian cultural norms, a relatively low level of technological ability in the local population, broad based resource scarcity and the low levels of trust found in the Ranobe Project are all contextual circumstances that inhibit the creation of an effective interorganizational coordination network. This does not necessarily mean that ICM programs should be restricted to only areas that are already contextually suitable. Rather it simply requires ICM programs to more consciously recognize that if the contextual conditions are not in place then the program must spend a considerable amount of effort on addressing these constraints. As already discussed, some ICM proponents such as Jentoft (2005) have recognized that ICM not only requires contexts in which egalitarian principles have been internalized, but can, and should, also be an instrument to promoting such ideals. However, in order to do this effectively, ICM projects must be aware, accept, and explicitly plan for being part of that larger enterprise of inculcating egalitarian principles into the societies in which they seek to operate. The member organizations in the Ranobe Project, although aware of the ill-suited contexts, have made little provision for changing them in the project's proposal.

Furthermore, part of engaging in this larger enterprise means that the organizations promoting such flat management structures should themselves be operating according to such principles. Not only does this set a good example, but more practically, it gives ICM promoting organizations institutional experience on how to effectively operate in such 'flat' organizational environments. Only with this experience in hand can they go on to teach others. The Ranobe Project certainly demonstrates that organizations that do not "practice what they preach" will not be effective at implementing their gospel as it were.

6.3 Policy Matters

Once partner organizations have a mutual understanding of coordination, and are operating in a federated or coalitional context, IOR literature says that they then need to focus on the policies or plans that will guide implementation of their objectives. As discussed in Chapter 2, ICM theory is rather specific about the kinds of policies that lead to effective coastal management. The Ranobe Project's proposal, which is serving as its policy document, broadly reflects an understanding of ICM's prescriptions. However, it was not formulated in a participatory manner and the early stages of its implementation have not involved all the local actors that ICM theory states is preferable.

IOR literature can assist with understanding this situation and offer some insights. First, returning to Matland's (1995) policy contexts, the policies and goals of the Ranobe Project are problematic if one is intent on conducting coastal management according to ICM theory, for those policies and goals are both highly conflictual and vague. As previously discussed, many of the Vezo are hostile to the idea of creating more MPAs, some local hotelier's are hostile to the creation of any community-based management structure, the Malagasy government is skeptical of the effectiveness of such structures, and even the NGOs implementing the project have different understandings of the project's objectives. Although there is international, and even national agreement amongst the Malagasy government that MPAs are vital to the conservation of marine resources, as required by the NEAP, Durban Vision, and MAP goals, implementing such schemes are highly controversial at the local level. The IOR literature states that there are only two ways of dealing with such controversy. The first is by resorting to power, which ICM theory rejects, and the second is by changing the policy through consensus building, which ICM endorses. Unfortunately, the Ranobe Project seems to have no future plans to devise a formal project policy document. This precludes any possibility for further participatory action at least at the policy formulation level. Had the proposal's formulation process

been more participatory it is likely that its objectives would have been more broadly acceptable to all the parties involved.

However, in a developing world context, it is also quite probable that those objectives would not have been able to garner the international funding that this proposal did. This seems to be poorly recognized by the ICM literature. Donor agencies are unlikely to fund fishing equipment for the Vezo especially if it may result in further overfishing, or cater for the desires of foreign hotelier's for "proper" command and control style western coastal management. ICM proponents have not sufficiently resolved this tension between the immediate goals of ICM, that of sustainable ecological coastal management, and its insistence that local concerns and local involvement are both normatively and practically essential to any coastal management effort. The assumption that by adopting participatory governance approaches that involve capacity building, interested and affected parties will be more inclined or more able to sustainably use coastal resources may be naive, or at least ineffectual, in a developing world context. Although it is important to remain mindful of the potential utility of local ecological knowledge and customary rules, it is naïve to believe that those rules and knowledge are sufficient for effective coastal management today. Yet, the findings of this study suggest that in the Ranobe Project most of the involved parties are not inclined to participate in such 'education' or 'capacity building' exercises. The research found that many of the Vezo are skeptical of any coastal management efforts, especially of projects or programs that involve 'outside' entities. Information about the finite nature of Ranobe Bay's resources and the need for sound "management" in the bay is regarded with skepticism. On the other side, the vast majority of the hoteliers, although invited to participate, have taken no interest in being part of FIMIHARA. Although they are aware of the ecological problems in Ranobe Bay they are equally skeptical of the ability of a community-based management effort to successfully resolve those problems. Furthermore, such educational processes, even when welcomed, are practically difficult to implement and immensely time consuming. As stated earlier, even the rare villager sympathetic to MPAs stated that it would take at least another six or seven years before the local Vezo population would accept the establishment of a second MPA in Ranobe Bay. This would not be a problem but for the fact that the Bay, from an ecological perspective, may not survive that long. ReefDoctor's science staff, the IHSM research staff, and a recent preliminary impact assessment undertaken in the Bay (Toliara 2006), all agree that the possibility of a total ecosystem collapse in Ranobe Bay is a real danger. Furthermore, international donors are rarely interested in funding projects that take six years or more to establish one small MPA.

The second problem with the Ranobe Project's policy document in terms of interorganizational coordination is its vagueness. The details of the three-year project, as outlined in the proposal (which is

again the Ranobe Project's only policy document) are limited. The proposal is less than 10 pages in length. Matland (1995) states that policy ambiguity stifles interorganizational coordination because it allows the involved parties to form different understandings of the project goals and gives no guidance as to how such organizations are to define their individual roles. The Ranobe Project's policies are ambiguous, even WWF and ReefDoctor, the only two organizations privy to the proposal have different understandings of the project's objectives and their respective roles. For the other organizations normatively involved in the Ranobe Project, its objectives are either completely unknown, or only vaguely understood. In experimental contexts, IOR theory states that such policy ambiguity may be unavoidable and actually useful. Many involved in the Ranobe Project would agree with this sentiment. For as just stated, it is doubtful that the Ranobe Project would have received any funding at all, had the policy document more clearly reflected the objectives of all relevant parties. Too much clarity may expose conflict that hinders project implementation. Moreover, ICM theory itself endorses a certain amount of policy ambiguity in so far as it may assist in increasing project adaptability. Called 'adaptive management' this thinking in the ICM literature states that experimentation and flexible goal setting is important to effective coastal management. In terms of the Ranobe Project, this lack of clarity provides a justification for the lack of a detailed policy document.

However, Matland (1995) also states that goal achievement in experimental contexts may not be a realistic expectation. This is certainly a problem for the Ranobe Project and ICM theory generally, because ICM proponents claim that ICM is not simply a process of institutional learning, but a system that can achieve the goal of ensuring sustainable coastal resource use. Here again, IOR theory seems to be challenging some of the basic tenants of ICM theory. The experimental policy contexts that ICM seems to promote, are not capable of producing the results that ICM theory needs to justify its claim to being an effective means of sustainable coastal management. The IOR literature states that interorganizational coordination capable of effective goal achievement requires clarity and low-conflict and yet ICM theory, and the contexts within which it is working, especially in the developing world, as evidenced by the particulars of the Ranobe Bay Project, promote neither of these characteristics sufficiently. This may require ICM theorists to do a major rethinking of their priorities.

6.4 Brinkerhoff's Threats

In the literature review, following an examination of contexts this study discussed a series of individual challenges, or threats, to interorganizational coordination. Brinkerhoff (1996) categorized

these challenges into threats arising from autonomy maintenance, lack of task consensus, and vertical/horizontal conflicts. The Ranobe Project suffered from all of these threats. The lack of task consensus amongst ReefDoctor, WWF, FIMIHARA, the Malagasy government, as well as the foreign businesses in Ranobe Bay, has already been discussed. In terms of autonomy, ReefDoctor, WWF, and the hotelier's, all have clear temptations to act autonomously rather than cooperatively. Both WWF and ReefDoctor, although at vastly different scales, are financially self-supporting. Therefore "going it alone," as one interviewee stated, is always a temptation even in the face of ICM's prescriptions and their own experience that such efforts usually fail. For hoteliers as well, cooperative action is usually too frustrating and seldom yields positive results. Many would rather simply rely on their financial and historical dominance in Ranobe Bay to secure favorable operating conditions. Finally, in terms of vertical/ horizontal conflicts, the conflict between international and even national demands for timely and publishable achievements often conflicts with the ability of local institutions to implement projects with meaningful local impact and long-term sustainability. The Ranobe Project is clearly a victim of this in so far as the international and national call to increase the number of MPAs in the country, is conflicting with the ability of ReefDoctor to institute a grassroots development amongst the Vezo population that is sympathetic to such marine conservation initiatives.

To help alleviate these threats, Brinkhoff (1996) and the IOR literature in general have several recommendations. First, as already mentioned, they focus on the importance of organizations knowing explicitly "the rules of the game"(Brinkerhoff 1996) by which they are to operate with each other. This does not necessarily imply the existence of a dominant rule creator and enforcer as exists in a hierarchy. Rules can be cooperatively formulated, but they must be explicit and followed. This has not yet happened in the Ranobe Project. The formulation of a formal policy document in a participatory manner would be an opportunity for such cooperative rule making.

Second, IOR theory states that interorganizational coordination requires that organizations see the benefits of committing to such action. This requires context-producing agencies, such as governments and larger NGOs, to create operating environments that reward organizations for interorganizational coordination and penalizes its absence. To date, the Malagasy government, although it attempted to create such an atmosphere through its EMC in phase two of the NEAP, has accomplished very little in this regard. Nor does it seem that WWF Sweden, the largest funding agency in terms of the Ranobe Project, has any system in place to monitor the level of interorganizational coordination occurring in the Ranobe Project.

Third, IOR literature states that demanding too high a level of interorganizational coordination may lead to excessive interdependency. Networks in which every organization must coordinate all its

activities with every other organization are not always necessary or desirable. Interorganizational coordination is important but if pursued too zealously, tends slow down implementation and cause unnecessary interorganizational friction that in turn causes organizations to seek greater autonomy. In terms of the Ranobe Project, this dynamic has not occurred because of the limited amount of interorganizational coordination and mandated dependency. However, in this regard it is interesting to note that WWF is consciously working through ReefDoctor in Ranobe Bay rather than making its own efforts to establish a relationship with the local Vezo. The practical wisdom of this decision is still unclear, but it does potentially follow IOR theory's prescriptions by streamlining the Ranobe Project's interorganizational network.

Fourth, IOR literature states that rather than producing long-term policy visions, interorganizational coordination is better fostered when plans are short and detailed (Brinkerhoff 1996). Such plans not only provide sufficient guidance for the involved organizations but they also allow for long-term project adaptability and give opportunities for frequent interorganizational consultation. In practice, the Ranobe Project is actually doing this in so far as ReefDoctor's funding proposal to WWF is for two very specific projects that are situated in the rather vague, and therefore potentially very adaptable, proposal document.

Finally, IOR literature states that building effective interorganizational coordination networks should take time. Organizations must become familiar with each other in order to develop the crucial trust needed for interorganizational coordination. Attempting to rush this trust-building process or relying on interorganizational coordination early in a project's implementation, is a "ticket to frustration and failure" (Brinkerhoff, 1996). In many ways, the Ranobe Project is taking this advice. Interorganizational coordination thus far is limited, and to expect it to be anything more so early in the project's implementation cycle is not only unrealistic but, according to the IOR literature, dangerous in so far as it can create expectations that will inevitably not be met which in turn will create interorganizational frustration that further jeopardizes project implementation. IOR literature stresses that in experimental contexts, a project's organizational capacity building may be the only realistic objective for any project and certainly states that project goals will only be achieved once this educational process is complete. It should be expected then, that the Ranobe Project will not achieve its project objectives until sufficient levels of interorganizational trust and intraorganizational capacity are achieved. The organizations in the Ranobe Project are presently under-capacitated and lack interorganizational trust. For now, the IOR literature states that these organizations should concentrate on addressing these two issues. Whether or not ICM can afford to take the time to do this while continuing to claim for itself the ability to act as an effective coastal management system, is

unclear.

6.5 Administration

The final issue discussed in the literature review was concerned with the barriers to interorganizational coordination that exist because of differing administrative styles amongst member organizations. These differing styles arise largely from the differing cultures from which each organization comes. The organizations in the Ranobe Project certainly exhibited a variety of different administrative styles. The centralization of WWF Madagascar and the Malagasy government as well as the traditional administrative culture of FIMIHARA have already been discussed. However, administrative differences between member organizations in any interorganizational network can go much deeper than differences on how they distribute power. Culture, the foundation stone upon which administrative systems are built, can influence a variety of factors that shape the character of administrative systems. Culture can determine with whom people associate, and more importantly with whom they will not associate. Culture can determine norms of etiquette, attitudes toward time, and a host of other factors. In terms of interorganizational coordination, recognizing that these differences exist is important because they affect greatly the amount of trust that can reasonably be expected to exist between the various organizations involved in a project. In the Ranobe Project, differences in administrative style, which were closely correlated to cultural background, certainly limited the amount of interorganizational trust and hence coordination amongst the member organizations. The WWF Tana office is dominantly comprised of ethnic Merina, as is most of the Malagasy government bureaucracy. The proposal writer at WWF Tulear is a western expatriate. Western expatriates also dominate ReefDoctor's senior staff, while FIMIHARA is comprised primarily of the local Vezo ethnic group. Finally, hotelier's and dive shop owners are primarily French expatriates. Interaction between these cultural groups, though existent, is usually limited to an "as needed" basis. Moreover, each cultural group is usually reluctant to engage too heavily in the dealings of another, for each understands that the other has "their own way of doing things" and "meddling" is usually both unappreciated and ineffective. Such attitudes in practice limit cross-cultural administrative learning. This certainly was the case in the Ranobe Project. Most expatriate ReefDoctor staff readily admit that it is usually more effective for their indigenous staff to engage with the Vezo precisely because they understand Vezo administration and culture so much better. A Vezo village leader also stated that Malagasy government officials in practice gave preferential treatment to organizations from their own administrative/cultural group.

The IOR literature has some advice to offer in this regard. First, it states that when an interorganizational network is populated by organizations with diverse administrative styles and cultures it is crucial to ensure that the methods by which interorganizational communication is being conducted are universally understood. Sometimes called "boundary objects" in the literature, these methods of interorganizational communication, be they emails, telephones, documents, or simply conversations, must be accessible, usable, and mutually understandable by all the parties normatively involved in any given project (Fong *et al* 2007). In terms of ICM, this means that culturally defined jargon such as 'sustainability' or 'integration' or even 'coordination' may be inappropriate in interorganizational communication or at the very least may need to be collaboratively defined by all member organizations at the outset of any ICM project. Furthermore, organizations that lack the capacity to communicate using these various methods either need to be capacitated to do so, or all communication should be translated into forms that are intelligible and accessible to all organizations. To date, this has not happened in the Ranobe Project. At a most basic level its "boundary objects" are not universal in that the WWF proposal is written only in English, while Malagasy law is written primarily in French, and most Vezo speak only Malagasy.

7. Conclusion

This study began with the hope that the IOR literature could give ICM theorists a more sophisticated understanding of why interorganizational coordination has proven so difficult to achieve in ICM projects in the developing world. Our brief history of coastal management showed that although regulating human action, largely for economic and political reasons, provided the initial impetus for the first coastal management regimes its early implementers largely failed to recognize and account for the role of humans in coastal environments. Modern scientific coastal management, although more focused on regulating human action for environmental reasons, largely continued to ignore the human dimension. With the advent of ICM however, coastal managers have started to become more interested in human behavior in the coastal environment. Nevertheless the discipline as a whole still exhibits a woefully shallow understanding of humans and how they relate to each other. One aspect of human behavior in particular that ICM needs to develop a better understanding of is Interorganizational Relations. Fortunately, other academics over the past fifty years have not been so disinterested in humans and have a wealth of knowledge about Interorganizational Relations. The Ranobe Project was used as a case study to investigate whether or not this IOR literature and its

insights could be applied to ICM planning and implementation. The author of this study spent three months living and researching with the implementers of the Ranobe Project in order to document and analyze the interorganizational relations occurring there. The research from that study trip suggests that IOR theory is very powerful in giving conceptual explanations for many of the circumstances that were present in the Ranobe Project. Accordingly the insights that IOR literature has for ICM, as related in the above discussion should be helpful to ICM implementers. Also, the challenges that IOR theory has for ICM theory should cause its proponents to do some serious, constructive, rethinking. To conclude this report a succinct review of those challenges and insights is helpful.

As discussed in chapter 3, IOR theory states, and the Ranobe Project showed, that the contexts (structural, policy, administrative, and “individual”) within which IORs occur will heavily influence the kind of interorganizational coordination possible in any ICM project. Yet to date ICM theory and implementation has not placed enough attention or physical resources into learning how to improve these contextual factors. The structural, policy, and individual “contexts” in which any ICM project is to be initiated must be explicitly understood before project formulation and implementation. If there is ever to be a hope that ICM style interorganizational coordination on the ground will match what is envisioned in the ICM literature implementers must start paying more attention to this work. This will inevitably mean that ICM proponents, usually ecologically focused environmentalists, will have to get out of their comfort zones and start promoting the democratic and egalitarian ideals that ICM theory is based on. Only then will the kinds of interorganizational networks that ICM theory says are so critical to effective ecological management ever be possible.

On the other hand, the IOR literature also makes a clear distinction between IORs that are capable of producing institutional learning and IORs that are capable of successfully implementing a set of objectives. Therefore the social empowerment and institutional capacity building that ICM promotes, even if effectively implemented, alone should not, according to IOR theory, be conflated as effective coastal management. Such institution building must be seen as only the first step in any coastal management plan capable of effectively maintaining the ecological systems in a coastal environment. Whether or not the world’s already degraded coastal environments can afford to wait for such institutions to be built, at least to this author, is a difficult question.

Next IOR theory states that ambiguity frustrates interorganizational collaboration and so must be minimized. In an environment where the normatively involved organizations have highly conflictual agendas and attitudes, as is common in the developing world (and probably everywhere), the temptation to retreat into ambiguous project goals is a recipe for disaster in terms of interorganizational coordination. Such ambiguous goals simply submerge the interorganizational

conflict in the policy formulation stage of the project without providing any mechanism for resolving it later on. As the Ranobe Project shows, in implementation, these conflicts will inevitably reappear.

The converse of ambiguity is clarity and IOR theory states that this is essential to effective interorganizational coordination. In a highly conflictual environment, such as that of the Ranobe Project, high clarity may mean that project goals will be more modest, but their explicitness and low conflict will stand a much better chance of fostering the interorganizational coordination and cooperation that ICM is calling for.

Next, much of the impetus for ICM's development arose from a general western cultural dissatisfaction with centralized and hierarchal management structures. Co-management and Adaptive management, two important strains in ICM theory, should have the effect of limiting hierarchy in coastal management in terms of power centralization and legitimacy creation. Unfortunately IOR theory states that a certain amount of hierarchy may be necessary to ensure interorganizational coordination capable of producing more than just institutional learning. Because organizations naturally have such a strong preference for independent action, relying on ideological conviction and benefits that are not immediately quantifiable in financial or other terms, such as the tangible benefits of effective ecosystem management, to provide sufficient motivation for interorganizational coordination is naive. A certain amount of command and control, from governments and large donor agencies, mandating interorganizational coordination through financial and legal mechanisms may be necessary. In the Ranobe Project, although all stakeholders expressed a desire for coordinated action, in reality little had occurred and there was no overseeing organization capable of mandating or monitoring such coordination.

Finally, IOR theory problematizes ICM's assertion that effective interorganizational coordination, especially in the developing world, will lead to sustainable ecological ecosystem management. It does this in two ways. First, because contextually conducive environments for ICM style interorganizational coordination are rarely present, as the Ranobe Project showed, ICM projects must, to restate the above recommendation, engage in a host of activities normally understood to be beyond the purvey of coastal manager's concerns. This author at least is unsure if coastal managers are either willing or capable of 'picking up this cross' as it were. Second even if ICM proponents are willing, again it is unclear whether the coastal environments that they are seeking to manage can wait while such contextually conducive environments for ICM-style management are built. Without proper management many of the inhabitants of Ranobe Bay are convinced that it will soon reach a tipping point of total ecosystem collapse from which there can be no return. Furthermore this study's research suggests that there is some amount of resistance in the local communities, both Vezo and

foreign, to any “outside” efforts that would have the effect of disturbing the existent status-quo traditional socio-political system.

To conclude, this research makes clear the utility of IOR theory to ICM proponents. However it only begins to explore the extent of that utility. Clearly the insights that IOR theory has for ICM proponents needs more study. The bibliography of this report contains many IOR articles which have not been thoroughly discussed in this paper purely for a lack space. Their relevancy to ICM still needs more investigation. Some of what the IOR theory says may not make ICM proponent’s jobs any easier but its insights cannot be ignored. This study was not undertaken to challenge ICM's tenants or goals, but to help it implement them more effectively. This author is convinced that the above insights, if integrated into ICM discourses, can contribute to improving ICM practice to a point where it can no longer be labeled “puny” (Olsen *et. al.* 1998) or having “failed...to ensure the environmental health of coastal ecosystems.” (Bille & Mermet 2002)

University of Cape Town

8. Appendix

List of Interviewees and dates of interview

Roderick Stein-Rostang- Director and Founder, ReefDoctor. January 21, 2008

Shawn Peabody- Project Coordinator, ReefDoctor, January 25, 2008

Brice Remy-Zephir- Head Science Officer, ReefDoctor, December 18, 2007

Manwai –Director, Marine Sciences and Fisheries Institute (IHSM) January 18, 2008

Fred-PhD Student at the IHSM, employee of ReefDoctor, February 5, 2008

Nome-PhD Student at the IHSM, employee of ReefDoctor February 6, 2008

Mark Fenn-advisor to ANGAP, proposal writer of *WWF Ranobe Project*, January 18, 2008

Vola Ramanahira-Marine Program Coordinator, WWF Tulear Office, January 7, 2008

Charlie-advisor to WWF December 8, 2007

Dr. Eddaly-Director, Malagasy Department of Rural Development, January 29, 2008

Richard –Dive Shop Owner in Ranobe Bay, January 15, 2008

Paul -Former President of Ranobe Bay Hotel Association, January 10, 2008

Immanuel-President, FIMIHARA, February 8, 2008

Bruno-President, Ifaty Village, member of FIMIHARA, February 9, 2008

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University of Cape Town