

**ENHANCING LOCAL LIVELIHOOD OPTIONS: CAPACITY
DEVELOPMENT AND PARTICIPATORY PROJECT MONITORING
IN CARIBBEAN NICARAGUA**

MARK HOSTETLER

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**Enhancing Local Livelihood Options: Capacity
Development and Participatory Project Monitoring
in Caribbean Nicaragua**

By Mark Hostetler

a dissertation submitted to the Faculty of Graduate Studies of
York University in partial fulfillment of the requirements for the
degree of

DOCTOR OF PHILOSOPHY

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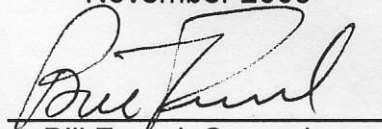
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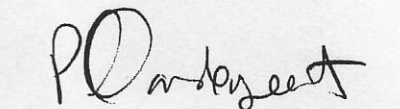
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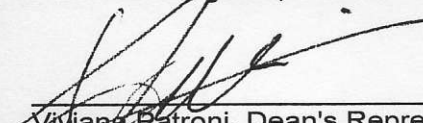
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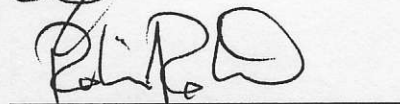
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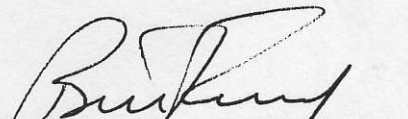

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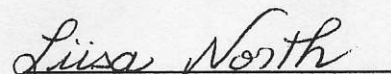

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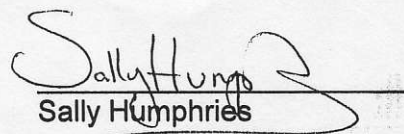

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Abstract

My dissertation examines the experience of a development research project in Caribbean Nicaragua, based on my participation in the project between June of 2000 and May of 2003 as both a researcher and project participant. Using a sustainable livelihoods framework that is theoretically rooted in political ecology, assets and livelihoods, and participatory action research (PAR) scholarship, I argue that small projects and academics can effectively contribute to the intangible livelihood assets (social capital, human capacity, and agency) available to local communities. These contributions in turn strengthen the ability of these communities to engage effectively in the co-production of development with powerful entities such as government, business, and NGOs, contributing to a greater degree of local influence over the direction of development efforts and their effectiveness in local terms. Methodologically my work experiments with the Outcome Mapping (OM) approach to monitoring and evaluation developed by the International Development Research Center (IDRC). The use of this methodology serves as a source of data to support the core argument of this dissertation, and it also provides a case study of OM's use at the project level. My conclusions in regard to OM are limited by the short time frame of its use. Nevertheless, the methodology demonstrates promise both as a tool for project learning and self improvement and as a source of data for project accountability

purposes.

Dedication

For my grandparents:

Eileen & William Hawkins and Marjorie & Earl Hostetler

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This dissertation would not have been possible without the support and assistance from many people. First and foremost I want to thank my family, my partner Cathy and my son Cameron, for enduring the writing process and field work schedule, and my parents Gary and Deb who have supported my education from the beginning.

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Glossary of Acronyms

ADPESCA	The National Administration for Fisheries and Aquaculture
AMC	Christian Medical Action
APN	Norwegian Peoples Aid
ASDI	Swedish International Development Agency
BICU	Bluefields Indian and Caribbean University
CACRC	Central American and Caribbean Research Council
CAMP-Lab	Coastal Areas Monitoring Project and Laboratory
CBA	Atlantic Biological Corridor
CERLAC	Center for Research in Latin America and the Caribbean
CIDCA	The Center for the Investigation and Documentation of the Atlantic Coast
CONPES	The National Council for Social and Economic Planning
CPUE	Catch Per Unit Effort
DANIDA	Danish International Development Agency
DIPAL	Project for Integral Development of the Artisanal fishery in the South Atlantic Autonomous Region of Nicaragua
FADCANIC	Foundation for Autonomy and the Development of the Atlantic Coast of Nicaragua
FAO	United Nations Food and Agriculture Organization
FSC	Forest Stewardship Council
GDI	Gross Domestic Income
IDRC	International Development Research Centre
IFI	International Financial Institutions
INEC	National Institute for Statistics and Census
IUCN	International Union for the Conservation of Nature
LFA	Logical Framework Analysis
M&E	Monitoring and Evaluation
MARENA	Ministry of the Environment and Natural Resources
MIFIC	Ministry of Industry and Commerce

MNC	Multi National Corporation
NGO	Non Governmental Organization
OM	Outcome Mapping
PAR	Participatory Action Research
PPP	Peoples Participation Program
PM&E	Participatory Monitoring and Evaluation
RAAN	North Atlantic Autonomous Region
RAAS	South Atlantic Autonomous Region
RBM	Results Based Management
SWOT	Strength Weakness Opportunity Threat
UNDP	United Nations Development Program
UCA	University of Central America
URACCAN	University of the Autonomous Regions of the Caribbean Coast of Nicaragua

Introduction

Overview

Central Research Questions

Focused on the efforts of a small development research project in Caribbean Nicaragua, my dissertation considers questions about the appropriateness and usefulness of small scale development efforts and the potential for academics and development practitioners to play a productive role within them. My normative and methodological starting point for development practice is rooted theoretically in political ecology literature that stresses the need to construct alternatives to the status quo that: are rooted in social, political, and economic reality; deal with short term development challenges in pragmatic and realistic ways; and build toward futures that represent the long term desires and aspirations of local people (Bryant 1997; Bryant and Bailey 1997; Bebbington 1996).

I recognize the serious and well documented problems with the development discourse, with mainstream approaches to development practice, and with the theoretical, epistemological, and practical difficulties in creating legitimately alternative and local approaches to development. At the same time, I accept as a given the inevitable persistence of “development” in the Third World.

This persistence is due, on the one hand, to the agendas and actions of powerful external forces like national governments, International Financial Institutions (IFI), Non Governmental Organizations (NGO), and Multi National Corporations (MNC) and, on the other hand, to the desires and demands of people in the third world for access to the benefits of development as they understand them.

If development in some form is inevitable in the Third World, then efforts to influence and improve development practice – no matter how flawed – are a worthwhile and necessary part of improving people's lives. My work identifies one potentially productive avenue for alternative development efforts, namely, supporting and fostering intangible livelihood assets (social capital, human capacity, and agency) at the local level. In addition, I argue that outside academics and development practitioners can play a valuable role that contributes to the recognition and enhancement of these intangible livelihood assets.

Specifically, I argue that supporting and fostering intangible assets at the local level is a useful way to maintain and support improvements in the livelihood options of people in the Third World. This approach is useful since it can help local people protect their existing resources, channel new resources from mainstream development activities towards their priorities, and increase local capacity to modify and resist development activities that run counter to their interests. My research identifies three productive roles for external academics

and development practitioners in support of intangible assets development, as follows: 1) contributions to local ability to access, generate, and disseminate information relevant to their livelihoods situation; 2) assistance with the development of local skills for the analysis and use of this information to influence agents of development, globalization, and modernization; and 3) aid in the development and implementation of monitoring and evaluation methods that contribute to ongoing project learning and which document alternative approaches to development. This final role is closely linked to the International Development Research Center's (IDRC) goal for development research of "closing the loop", which emphasizes the importance of increasing the relevance and utilization of development research outputs (IDRC 2002).

The CAMP-Lab Project Context

The Coastal Area Monitoring Project and Laboratory (CAMP-Lab), the case study for this dissertation, is centered in the village of Haulover, just south of Pearl Lagoon Town, Nicaragua. The project works regularly with eight communities surrounding Pearl Lagoon through CAMP-Lab Committees (community groups) and occasionally collaborates with individuals and groups in another five Pearl Lagoon communities in response to individual or group interest in specific activities and on the availability of financial resources to facilitate their participation.

The CAMP-Lab project was initiated in Pearl Lagoon in 1993 through the efforts of Patrick Christie, a MSc. student from the University of Michigan, and Roberto Rigby, a local marine biologist working at a marine laboratory located in Haulover. These researchers used traditional Participatory Action Research (PAR) methods, such as community mapping, in the village of Haulover to identify issues of importance to the community. This process ultimately led to the identification of the need for a management plan for the natural resources of the area – resources on which most people in the Pearl Lagoon communities depend for their livelihoods. Based on this pilot activity, Patrick and Roberto developed a proposal for further work, which was funded by the IDRC. I worked with the project in 1997 as part of my MA research and became the Project Manager for a subsequent IDRC funded phase of the project, which ran from June 2000 to May 2003 (see Appendix A).

From this beginning, CAMP-Lab has had PAR as the core of its research methodology. In practice, the use of PAR for CAMP-Lab has meant a focus on efforts to collectively produce and interpret knowledge about the local environment with groups of interested people in the community. At various times in the project history local environmental knowledge has been generated through participatory forest and water monitoring activities that have included the monitoring of transects in both pine and rainforest forest, testing of freshwater sources for fecal coli form and “catch per unit effort” (CPUE) monitoring in the

lagoon. Often these activities were integrated with CAMP-Lab's environmental education activities that were conducted in a number of schools in the Pearl Lagoon Basin. Ideally, this environmental knowledge then provides a basis for local people to have an increased voice in determining how natural resources are used and managed (Christie et al. 2000).

CAMP-Lab's core effort focused on working with the people of the Pearl Lagoon communities to establish and implement a management plan for the natural resources of the Pearl Lagoon Basin rooted in their own interpretations and understanding of resource problems and general needs. As part of this effort, CAMP-Lab worked to increase the local communities' capacity to: 1) conduct research and gather information relevant to resource management in the area; 2) better analyze their situation; and 3) engage with business and various levels of government in meaningful dialogue about the future of their communities and natural resource base. In its final two years, CAMP-Lab utilized popular communication methods, including a community-run radio program and a Creole language newsletter that focus on local environmental issues (Hostetler 2002). In addition, CAMP-Lab adopted the use of Outcome Mapping (OM) as a tool to focus, improve, and document its efforts (Earl, Carden, and Smutylo 2001).

The project's third phase (from June 2000 – May 2003), funded by the IDRC, was an institutional partnership between the University of Central

America's Center for the Investigation and Documentation of the Atlantic Coast (CIDCA-UCA) in Nicaragua and York University's Centre for Research in Latin America and the Caribbean (CERLAC). York University's commitment to the project included participation by graduate students and faculty to assist with various activities, and to provide skills and expertise that complement the abilities and efforts of Nicaraguan CAMP-Lab staff and local people (Found and Hostetler 2002; Found and Hostetler 2001; Bradford et al 2000).

Geographic and Historical Context

The geographic setting of the CAMP-Lab project is Pearl Lagoon, located about 55 km north of Bluefields in the South Atlantic Autonomous Region (RAAS) (Figure 1). The watershed of Pearl Lagoon measures 5,200 square kilometers and contains a rich and diverse endowment of natural resources. Approximately 10,300 people live in fourteen communities surrounding the lagoon, with populations ranging from approximately 50 to 2,500 per community (Gonzalez forthcoming). The population is culturally diverse and includes four ethnic groups -- the Miskitu, Creole, Garifuna, and Mestizo -- who speak three languages -- Creole English, Miskitu, and Spanish. Economically the inhabitants are largely dependent on natural resource extraction, including a mixture of fishing, agriculture, and forestry, with some additional income from remittances and an opportunistic drug trade. The ecosystems of the region are diverse and include

lowland rainforest, swamp forest, pine savanna, and mangrove, as well as rivers and the lagoon.

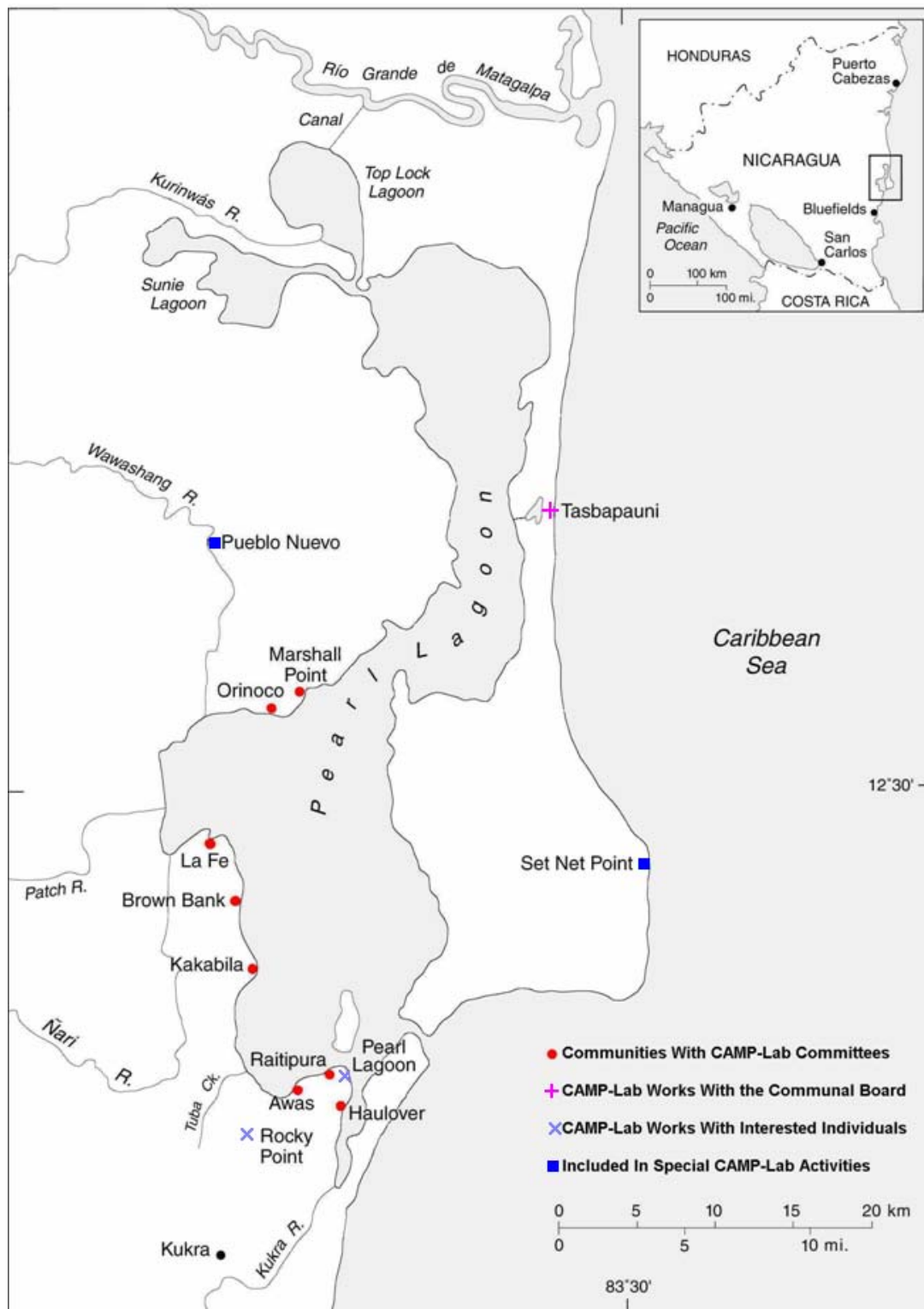


Figure 1: Map of CAMP-Lab Communities

The Caribbean Coast of Nicaragua, including Pearl Lagoon, has perpetually existed on the margins of Nicaraguan society. Throughout its history, the multi-ethnic communities of the area have resisted - with varying degrees of success - domination by the predominantly Spanish speaking Mestizo governments in Managua. The region has historically had strong ties to Great Britain through its colonial and military presence from 1687-1783 and from 1821-1860 when the region was a protectorate used by the British to harass the Spanish in Central America, and later to the United States which intervened in the region through military occupation and a series of extractive Multi National Corporations (MNC's). These corporations have focused on single resources such as lumber, gold, bananas, and green turtle, and have tended to operate in a succession of boom and bust economies (Vernooy 2000; Vilas 1989; Dozier 1985).

The recent national and international trend toward economic liberalization and privatization has led to a situation in Pearl Lagoon wherein the ecosystems on which local people have traditionally been dependent are being eroded by increased extractive activities for international markets. Local mechanisms for controlling resource use in the area have either been reduced or have been unable to keep up with the pace of change in resource use patterns. While the regional government has some interest in protecting the ecosystems of the coast, it suffers from a lack of resources and legal uncertainty about its exact mandate. In addition, national-level institutions with responsibility in these areas have their

agendas set by national and international policy priorities that stress the importance of securing foreign exchange that can be earned through the exploitation of resources (Bradford et al. 2000; Hostetler 1998). Nevertheless, Pearl Lagoon continues at this time to have: a viable artisanal fishery that includes various species of shrimp, lobster, and a variety of scale fish; significant tracts of rainforest, mangrove, and pine savannah; and reasonably good quality land of various types suitable for mixed subsistence agriculture. Combined, this natural resource base, either directly or indirectly, provides a large part of the livelihoods for most people in these communities.

Methods and Sources of Data

I conducted this research as an active participant in the CAMP-Lab project. Beyond my role as a doctoral student researcher, I also served as the project manager at York University. In this capacity, I played a central role in coordinating collaboration between CAMP-Lab in Nicaragua and York University student and faculty contributors; I also assisted with a broad range of project activities in Nicaragua, whenever and however possible (see Appendix A).

Ultimately, this research is focused on the influence of CAMP-Lab -- including all of its components and participants -- on the intangible livelihood assets available to people in the Pearl Lagoon communities. In exploring these influences, I draw on a wide range of material associated with CAMP-Lab's

activities. Data used are drawn from various sources including interviews; outcome mapping; participant observation; strength weakness opportunities threat (SWOT) exercises (Found 1999); project documents, including correspondence, reports, publications, and meeting notes; and the academic work of other project participants. The research includes, in one form or another, information drawn from the efforts of Nicaraguan CAMP-Lab staff, including Bertha Simmons, Eduardo Tinkam, Oswaldo Morales, Ray Garth, and Bonifacio Gonzales; and York University project participants Christine McKenzie, Monica Schuegraf, Bernice Kozak, Deborah Barndt, and Bill Found.

Contributions to Theory, Practice, and Policy of Development Alternatives

This dissertation contributes in three ways to the theory, practice, and policy of development alternatives: by focusing on sustainable livelihoods -- the way people protect, enhance, control, and utilize the assets available to them to make a sustainable living; by enhancing methodology for project learning and accountability (Bebbington 1999); and through policy trespass -- efforts to encourage the penetration of lessons from alternative development research into the policies of development organizations (Bebbington 2002). Efforts to operationalize these different contributions draw on the range of methodologies and data sources outlined earlier. The following section outlines the logic and

methods of each of these contributions. The overall dissertation project is displayed in chart form in Figure 2.

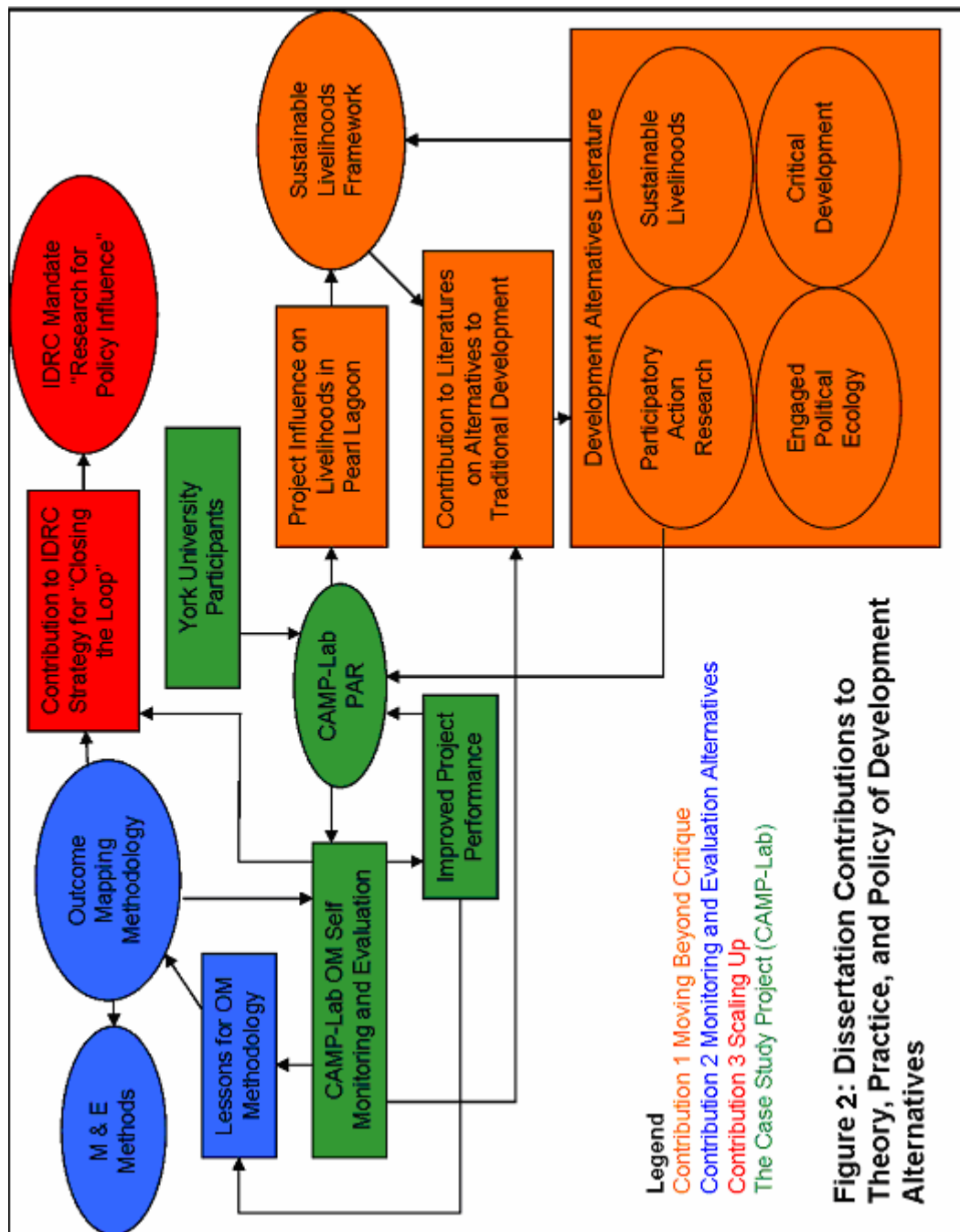


Figure 2: Dissertation Contributions to Theory, Practice, and Policy of Development Alternatives

Moving Beyond Critique: Theorizing and Promoting Sustainable Livelihood Development

My dissertation's primary contribution to development theory is focused on the potential for small projects to contribute to emancipatory change in the Third World. I take, as a starting point, a critical development perspective on traditional approaches to development (Ferguson 1994 and Brosius 1999). I then critique and build on the limited alternative strategies this perspective offers for active engagement with the problems of the Third World.

In an effort to contribute to development alternatives, I focus on the concept of sustainable livelihoods and propose a framework for analysis that is rooted in: political ecology, especially engaged political ecology; work focused on various types of livelihood assets; and PAR. I then use this sustainable livelihood framework as a lens for analyzing the implications of the CAMP-Lab project on livelihoods in Pearl Lagoon, Nicaragua. Theoretically, I embrace and incorporate a critical development perspective on the traditional development paradigm. At the same time, I recognize the inevitability of externally induced change in the Third World; as well as the value of efforts to influence its direction and moderate its impacts. From this starting point, I draw on lessons that the sustainable livelihoods, political ecology, and PAR literature offer -- about the value and means of supporting improved local level influence on the development process -

- to argue that supporting the development of intangible assets at the local level is a potentially powerful contribution to emancipatory processes in the Third World.

While I am mindful of the various problems and pitfalls identified by critics of participatory approaches to development, I argue that these can be mitigated by integrating these concerns into project design and ongoing critical reflection. While there is validity in the critique that, as originators of a participatory process, external persons and institutions are “colonizing social change” (Mohan 2001), I argue that this fact is relatively unimportant. As academics – with some understanding of global processes and access to a wide range of information -- we have something to offer to people living in remote Third World locations who are working to protect and improve their livelihoods in an increasingly (and inevitably) globalized environment. This vision is encapsulated nicely by what Peet and Hartwick label the critical modernist credo “Criticize everything, convert critique into proposal, criticize the proposal, but still do something” (1999: 198). To clarify, I am not suggesting that we, as academics, should dictate (or even direct) livelihood strategies for people in the Third World; however, we can contribute information and capacity development that will improve the ability of local people to analyze their livelihood situations and act more effectively on this analysis.

In support of this argument, my dissertation examines the way in which CAMP-Lab and its York University partners contributed to intangible livelihood assets available to people in Pearl Lagoon and ultimately to their ability to influence their livelihood context. I conduct this analysis by using the lens of a sustainable livelihood framework. The analysis is focused on six components of the CAMP-Lab project and, to reiterate, draws on evidence from a variety of sources, including interviews, the results of the outcome mapping monitoring, project documents, participant observation, and the academic contributions of other project participants.

The six components of CAMP-Lab in this analysis include: 1) its management plan efforts, 2) the CAMP-Lab Committees, 3) its radio program, 4) its environmental educational efforts, 5) the shrimp farming information seminar that it organized in October 2002, and 6) the project's overall influence on the Pearl Lagoon communities. These activities are examined in terms of their influence on agency, social capital, and human capabilities in Pearl Lagoon (see Figure 3).

Monitoring and Evaluation Alternatives: Enhancing Methodology for Project Learning and Accountability

The second contribution of my dissertation is the development and improvement of monitoring and evaluation methodologies that function as tools

for project learning, self improvement, and accountability. This contribution is based on the premise that the development and enhancement of appropriate monitoring and evaluation methods, capable of both improving and justifying development projects aimed at intangible assets, has significant value.

In particular, my work contributes to the development of Outcome Mapping monitoring and evaluation methodology by providing a case study of its implementation. The analysis reveals OM's strengths and weaknesses, and it explores avenues for its enhancement. While there may be limits to the generalizability of the lessons from this case study, it will provide some methodological and theoretical insights that have value beyond CAMP-Lab, especially when applied in similar circumstances.

The Outcome Mapping experience of CAMP-Lab is examined in terms of its effects on project learning and on its ability to provide useful data for accountability purposes. Analysis of the project learning influence of OM is based on participant observation within the process and interviews with project staff about their experience with the method. Analysis of the accountability function of OM is based on its ability to adequately capture the key influences of CAMP-Lab. This is achieved in two ways: 1) through an analysis of the influences identified by using the OM method with those identified by a variety of other methods employed in this research; and 2) through an analysis of the functional and

structural limitations and benefits of OM that I and other monitoring participants identified both during and after its use in the CAMP-Lab project.

Scaling Up: Supporting Policy “Trespass”

The third contribution of my dissertation is to efforts to “scale up” the influence of alternative approaches to development, in the sense advocated by Uvin, Jane, and Brown (2000), by contributing to the IDRC’s mission of research for policy influence and its strategy for closing the loop¹. My research contributes to this process by: 1) contributing to the development of alternative approaches for emancipatory change through the development of a sustainable livelihoods framework and contributions to the development of OM as a tool for project improvement; and 2) by contributing to overcoming institutional deafness through the development of OM as a tool for project accountability that can be used to highlight project influence on intangible assets.

Supporting the process of research for policy influences is a guiding principle for my work. Ideally, my work’s focus on sustainable livelihoods, use of and contribution to project evaluation methodologies, and the feeding of the results and findings of my work into the broader IDRC program of research for policy influence will serve to contribute to this overarching goal.

¹ Defined by the IDRC as “an approach to programming and projects that seeks to ensure the awareness, understanding, and ownership of research outputs by decision-makers at all levels” (IDRC 2002).

Summary of Conclusions

In the end, this dissertation demonstrates the important influence that the CAMP-Lab project had on the intangible assets base in Pearl Lagoon. It outlines the project's modest but important contribution to social capital, human capabilities, and agency in Pearl Lagoon as a result of its integration of a strong, local, knowledgeable, and respected project staff augmented by research, organization, and communications skills from York University graduate students and faculty working together on locally requested research and activities.

These contributions have already yielded results in terms of increased local control over livelihood assets and more potent avenues for local people to participate in and influence decisions related to the environment. The CAMP-Lab management plan, radio program, and shrimp farming seminar are illustrative examples of increases in local control over livelihood assets. It is also necessary to stress that many of the most important long term influences of CAMP-Lab in Pearl Lagoon are likely to come from the down stream impact of human capacity development contributing to local agency.

One fairly immediate contribution in this regard was human capacity development among local CAMP-Lab staff, while the project's encouragement – either directly or as a result of increased awareness generated by the project's activities -- of local young people to obtain post secondary education related to

the environment is likely to yield longer term benefits. The overall result of these CAMP-Lab influences will likely be manifested in: 1) more local people attaining increasingly important and influential NGO or government positions, and; 2) better educated and informed local leaders with improved capacity and the prestige needed to negotiate with and influence important decision makers. These down stream or anticipated impacts related to the education of local young people have just begun to be realized and should ultimately result in strengthened local agency.

The experience of CAMP-Lab also highlighted the impact of deficits in geographic capital as an intervening variable in efforts to promote sustainable livelihoods (Bird and Shepherd 2003). The remoteness of the region, in particular, impacted negatively on the financial and human resources required and available to optimally carry out CAMP-Lab activities in Pearl Lagoon. The geographic isolation also had a significant impact on the project's ability to take full advantage of existing partnerships and to nurture new ones, limiting the monetary resources and outside support available to CAMP-Lab and its overall ability to contribute to change in Pearl Lagoon. The influence of these types of space time factors on the success of project implementation is identified by Found (1999).

CAMP-Lab's experience with OM demonstrated the method's usefulness as a tool for project learning, contributing significantly and demonstrably to the

project's effectiveness. It also proved to be a "user friendly" methodology from the perspective of local staff who valued it as a component of the project's self review and planning process. OM also represents a distinctly pro-politics approach to monitoring and evaluation that places the authority for developing the criteria against which the project will be judged in the hands of local people and project staff, minimizing the imposition of external priorities through this process. CAMP-Lab staff expressed their preference for OM over their previous experiences with external evaluation. In terms of its project accountability role, OM was able to generate useful numeric data based on progress indicators that could be summarized concisely to illustrate the project's progress over time. At the same time, the value of the numeric data was limited without contextual information from the OM strategy and performance data explaining the reason for change (or lack thereof) and CAMP-Lab's role in supporting that change. The data generated by OM also present a challenge in terms of comparability across projects and potential usefulness for donors as a result of the locally subjective nature of indicators and their measurement. In addition, some aspects of the project, such as the shrimp farming seminar, benefited from a more detailed examination than what the OM process could provide.

CAMP-Lab's ability to contribute to "closing the loop" in Nicaragua was fairly limited by the lack of human capacity among the CAMP-Lab and CIDCA staff with the time and/or skills to influence Nicaraguan policy or decision makers. This

capacity was somewhat improved by the end of the project as the CAMP-Lab staff's ability to contribute to closing the loop increased and CIDCA dedicated more time to this aspect of the project's activities. In a broader sense, York University participants played a role in closing the loop by assisting with project communications and networking activities as well as collaborating in a variety of conference presentation and publication efforts with the project staff. Many of these opportunities were made possible by the IDRC, and they were useful avenues for articulating and communicating CAMP-Lab project experience and learning (see Appendix B).

Outline of the Dissertation

This dissertation proceeds in eight chapters. Chapter one provides contextual background for the dissertation, including relevant historical, geographic, political, cultural, and economic information about Pearl Lagoon and the Caribbean Regions of Nicaragua. Chapter two provides a contextual background of the CAMP-Lab project that is the empirical focus of the dissertation. Chapters three, four, and five review relevant development-related literature, including recent work linked to: development and sustainable livelihoods (chapter three); monitoring and evaluation (chapter four); and supporting policy trespass in development institutions (chapter five). Chapter six

reviews the various methodologies used in this dissertation including, most notably, outcome mapping, strategic interviews, as well as participant observation and discusses the implications of my double role as both project manager and academic researcher. Chapters seven and eight draw out the intellectual contributions of this research with respect to sustainable livelihoods and alternative development (chapter seven), and for OM and monitoring and evaluation generally (chapter eight). Chapter nine reviews the general conclusions of the dissertation, focusing particularly on the overall lesson from CAMP-Lab's experience with the challenges and potential for "closing the loop" and scaling up the influence of this type of research. Finally, to note briefly, local sources are quoted in the text and identified with pseudonyms to provide them anonymity.

Chapter 1: The Pearl Lagoon Region History, People, and Environment

History of the Region

Colonialism

Regular trade between Europeans and the early residents of the Caribbean Coast of Nicaragua began in 1630 with the establishment of a British settlement on the island of Providence (now part of Columbia) from which the British traded with the indigenous peoples of the mainland. The indigenous people traded meat, fish, turtle shell, and their labour in exchange for metal tools, firearms, and other manufactured goods (Hale and Gordon 1987). This early trading relationship combined with intermarriage among the indigenous peoples, former African slaves, and Europeans contributed to the creation of the Miskitu as a distinct indigenous group, which quickly became dominant on the Caribbean Coast of Central America from Belize to Costa Rica (Freeland 1988).

England strengthened its alliance with the Miskitu on the coast in 1687 by crowning a Miskitu king in Jamaica. The Miskitu Kingdom that developed from this reign became the key to British indirect rule until 1787 when the British official presence in the area ended as part of the treaty of Versailles (Hale 1994). During the period between 1790 -1820, the Miskitu Kings had a high degree of

political autonomy while the positions of commercial intermediaries and advisors to the king were filled by a Creole population who identified themselves as British subjects. As a result, Creoles became the most influential group on the coast during this period (Hale 1994; Sollis 1989).

Regardless of their official departure from the area, British commercial and geopolitical interests on the coast continued and were heightened in the 1840s when Britain's official presence in the area was reestablished (Hale 1994). That official presence ended with the Treaty of Managua in 1860, under pressure from the United States which had become a rival power in the area. This agreement recognized Nicaraguan sovereignty over the coast and established the Miskitu reserve that gave some rights of self-government to the coastal population.

In 1894, the government of Nicaragua attempted to assert real control over the coast, resulting in a great deal of resistance from the local population that included appeals to Britain to intervene on their behalf. In an attempt to rid themselves of the problems of the coast, Britain ratified the Harrison-Altamirano Treaty in 1906. It gave sovereignty over the Caribbean Coast to Nicaragua and established procedures for legal recognition of lands in the area by guaranteeing each family title to certain amounts of land. Progress toward fulfilling the obligations of this treaty was slow; as a result, the British eventually intervened again to help settle the land issue. The British diplomat in charge of this effort decided that the granting of individual property titles was too complicated and

therefore convinced communities to present their land demands as communities (Hale 1994). This eventually led to the granting of thirty collective land titles that guaranteed the "lands of all Indians who lived inside the boundaries of the old Mosquito Reserve" (Hale 1994). Among these titles were four claims for people in Pearl Lagoon: 2076 ha. for the Miskitu and Creoles of Haulover and Raitipura; 1007 ha. for the Miskitu of Kakabila; 2054 ha. for the Miskitu and Creoles of Tasbapauni; and 2999 ha. for the Creoles of Pearl Lagoon Town (Christie 1999).

By 1890, U.S. companies controlled 90 per cent of the commercial activity taking place on the coast (Hale 1994). Early U.S. economic power (from 1880-1929) established itself in the form of an enclave-dominated economy focused on mining, lumber, and banana enterprises that extracted both products and profits from the region with no consideration for long-term development (Vernooy 1992).

The period of enclave economy ended with the world depression that started in 1929, and the resulting economic downturn in the region persisted until after the Second World War. As well, this time period saw the beginning of the Somoza family's dictatorship in Nicaragua, which began in 1934 and lasted until the Sandinista revolution in 1979. The post World War II period on the coast was marked by uneven development based on a model of modernization that was the focus of central government policies and was further encouraged by the U.S.. These policies stressed export agriculture and led to the immigration of large numbers of displaced peasants from the Pacific side of Nicaragua into the

coastal region (Vernooy 1992; Vilas 1989). The local economy was focused again around exports such as minerals, lumber products, and shellfish, including a period of intense exploitation of the green turtle between 1969 and 1977. During this period, the Somoza government required no concessions in terms of reforestation, restocking, environmental protection, or infrastructure creation from foreign companies engaged in extractive activities on the coast. Unemployment remained high and the area received little long-term and limited short term benefit from this exploitation (Sollis 1989).

The historic pattern of Caribbean Nicaragua's articulation with the broader world economy is wage labour, which allowed local people to access money for the purchase of foreign goods which then gradually became cultural necessities (Helms 1969). This pattern of employment fit well with U.S. companies' demands for local labour in a series of extractive industries that required an inexpensive and flexible labour pool (Vilas 1989).

British and (in later years) American companies exploited coastal resources by using local populations as wage-labourers and extracting resources from the area only as long as international markets and ready access to these resources made them profitable. As a result, the economy of the area went through rapid "boom-and-bust" cycles that included periods of unemployment. These boom-and-bust cycles, combined with the fact that companies employed almost exclusively male workers - leaving women and children to take care of village

agriculture - meant that traditional village structures were largely maintained. The survival of the village gave men the option of returning home and resuming subsistence activities at the end of seasonal employment or in economic downturns (Garcia 1996; Vilas 1989; Davidson 1976; Helms 1969). For many people, the resulting economic situation on the Caribbean Coast of Nicaragua was an oscillation between market and subsistence economies. As market economies flourished, subsistence economies declined, and vice versa.

MacDonald (1988) suggests that this pattern of economic activity and extraction never threatened local peoples' subsistence security in the non-cash economy and met their needs in the cash economy. As a result, despite intense expropriation of resources from the region (largely for the benefit of outsiders), there was little evidence of strong feelings of exploitation among the local populations. Local concerns about outside exploitation have grown as key elements of the subsistence economy, such as green turtle and fish, have shifted to the cash economy and are less available for local consumption (Hostetler 1998; Weiss 1980; Cattle 1976; Nietschmann 1973). In addition, there is a growing awareness of the limits of local resources such as lumber and farm land, and the issue of conservation has taken on more urgency for local people as the agricultural frontier advances into community lands (Christie 1999; Hostetler 1998; Nietschmann 1973; Cattle 1976).

The Caribbean Coast's historical, political, and economic links to the British and Americans rather than to the Spanish has had significant implications on its patterns of economic development and political relationship with the rest of Nicaragua. While Spain typically sought to colonize areas and use indigenous populations as a labour force, England's early involvement on the Atlantic Coast was designed to establish trade and to provide an ally as well as a base to attack the Spanish in the region (MacDonald 1988). As a result, the local population developed its main commercial and political ties with England, and later with the U.S.. The results of this historic position have been 1) a tendency toward mutual distrust and animosity with the Nicaraguan central government; 2) a tendency to be outward looking in their economic activities, primarily toward the Caribbean and U.S., rather than inward looking toward the rest of Nicaragua, and; 3) a continuing inability of the central government to assert effective control over the Caribbean region (Helms 1971).

The Sandinistas and Beyond

The Nicaraguan government-condoned U.S. presence on the Atlantic Coast ended with the Sandinista revolution of 1979. The Sandinistas were initially met with cautious optimism by the people of the Atlantic Coast. However, the Sandinistas' assumption that social and economic policy created for the Pacific was transferable to the Atlantic Coast proved to be problematic (Sollis 1989). The initial policies of the Sandinistas for the coast were based on the mistaken belief

that ethnic issues could be resolved through economic growth and redistribution alone. These policies ignored the unique culture and colonial history of the Atlantic Coast and the population's general distrust of policies originating in the central government. In addition, the Sandinistas assigned to work in the region in the early years of the revolution lacked cultural and racial sensitivity, effectively increasing these tensions. As a result, early Sandinista policies that failed to engage in significant consultation with the local populations met with stiff resistance and eventually violence. This violence was escalated by overt and covert U.S. anti-Sandinista activities in the region.

In February 1981, Sandinista relations with the coast and MISURASATA (Miskitos, Sumus, Ramas, Sandinistas Working Together), the organization with which the Sandinistas were negotiating the future of the coast, broke down for a complex series of reasons. The break-down culminated in the arrest and eventual release of the organization's leaders and their subsequent flight to Honduras with a number of followers, where with the help of the CIA, they played a major part in anti-Sandinista Contra activity. The result was an armed conflict between some segments of the coastal population and the Sandinista government until its electoral defeat in 1990 (Butler 1997).

The Sandinista government shifted its policy towards the coast in 1984, recognizing autonomy for the coast as a legitimate goal (Butler 1997). This resulted in a long series of negotiations that included broad participation by the

population and culminated with the passing of the Autonomy Law # 28 in September 1987.

Both the Autonomy Law and the Nicaraguan Constitution, which was ratified earlier in 1987, give important legal rights to the population of the Atlantic Coast. Articles 90 and 180 of the constitution guarantee the right to communal property as well as enjoyment of and benefit from the coast's natural resources (Mijesk 1991). These rights are further codified in the Autonomy Statute. Article 8, sub-section 4 guarantees the right "to promote the rational use and enjoyment of these communal waters, forests, and lands and the defense of the ecological system." Article 11 entrenches the right to communal forms of property, as well as the right to enjoy the use and benefit of these communal resources (Cook 1997).

After a democratic election in 1990, the Sandinistas relinquished power to the UNO (National Opposition Union) lead by Violeta Barrios de Chamorro. The electoral defeat of the Sandinistas can, at least in part, be attributed to the population's fears of continued violence from U.S.-supported insurgents if the Sandinistas remained in power. As well, the U.S. played a direct role in organizing and supporting the UNO's electoral efforts to defeat the Sandinistas in the election.

Unfortunately, just as the Sandinistas were becoming more responsive to the needs of the coast, as evidenced by the constitution and autonomy law discussed above, and government structures that would have lead to greater functional autonomy and local self determination were being developed, the progress was stalled by their electoral defeat. Ironically the Sandinista defeat was, at least in part, precipitated by significant opposition from within the Atlantic autonomous regions. When the UNO took power in 1990, one of its first decisions regarding the Atlantic Coast was to set up INDERA (Institute for the Development of the Autonomous Regions). This organization was used by the Chamorro government to avoid dealing with the regional assemblies (Gabriel 1996). Butler (1997) argues that the Chamorro government consistently attempted to undermine autonomy for fear of losing control over the coast's resources.

In response to external pressures to restructure its economy along neo-liberal lines, the central government proceeded to unilaterally negotiate resource concessions with foreign companies. Regional governments were left out of the negotiations and denied a share in the revenue. Of particular interest, one concession involved the privatization of the state fishing company to a joint Dutch and Nicaraguan venture. The result was the loss of 540 fisheries jobs (reduced from 600 to 60). Moreover, this concession was favored over a local plan that

would have involved the employment of more local people in boat construction and also would have been subject to strict environmental controls (Gabriel 1996).

The result of the Chamorro government's fishing concessions was an increase in seafood exports from \$10 million US in 1990 to \$80 million US in 1995 (Elizondo 1997). During this period, the amount of shrimp and fish caught rose from 1,751,400 pounds to 11,946,800 pounds, and from 1,429,000 pounds to 12,661,200 pounds respectively (Banco Central de Nicaragua 1997). The ecological impact of these significant increases has not been measured. The Ministry of Economic Development (MEDE), responsible for monitoring, declared that Nicaragua's marine resources are "under exploited and inexhaustible", while many other analysts argued that the rate of exploitation was unsustainable (Elizondo 1997). It should be noted that the MEDE is also the ministry responsible for promoting fishing investment.

The election of President Arnaldo Alemán in 1996 resulted in a continuation or even a deepening of the central government's export oriented policies towards resource exploitation and marginalization of the coast's regional governments. President Alemán was dedicated to even more stringent neo-liberal policies than the previous government, and his presidency was marked by massive corruption, including the arbitrary use of transfer payments to municipal governments to reward party and personal loyalty (Close 2004a and Larson 2003). This corruption led to Alemán's eventual arrest and imprisonment after his term in

office. The current president, Henrique Bolaños, has been forced to deal with the fallout from the corruption and scandals of the previous government in which he was vice president. This has resulted in a rift in the Liberal Party between his supporters and powerful supporters of Alemán. Despite the problems associated with the previous government, the Bolaños government has continued on a similar neo-liberal path (Close 2004b).

The peaceful electoral transfer of power from the Sandinistas to the UNO in 1990 represented a significant move towards electoral democracy in Nicaragua. Although the political process in Nicaragua is marred by corruption and clientelism, and elections are marred by outside interference from U.S. as well as the usual assortment of controversies, they do represent real opportunities to change leadership in all levels of government. As a casual first hand observer of municipal, regional, and national elections over the duration of the CAMP-Lab project, I witnessed a high degree of scrutiny and vigilance among the population, aimed at ensuring a fair opportunity to vote and a fair count of the votes cast. In short, the democratic process was valued and defended by the general population in a way that appeared to ensure a relatively high level of legitimacy in the electoral process. This legacy has important implications for opportunities available to people to influence government policies at all levels, at least in the time periods prior to elections.

That elections are real and contested in the area is illustrated by the increased attention paid to the coast and Pearl Lagoon during election times. On two occasions just prior to elections (national and regional), the Nicaraguan President visited Pearl Lagoon. On both occasions the president, accompanied by a helicopter gunship and a small flotilla of heavily armed speed boats, spoke to small crowds, promising infrastructural improvements. Anecdotally, on the second occasion, just a day prior to the arrival of then future President Bolaños, a new generator was delivered to Pearl Lagoon to “temporarily”² replace the one that had been out of service for two months.

Current Legal Status of Resource Control

The political and legal structures related to management and control of natural resources in Nicaragua are complicated. The laws are contradictory and there are significant overlaps in jurisdiction. These overlaps require collaboration between levels of government without adequate mechanisms in place to support or foster cooperation. For example, the 1997 version of the Municipalities Law gives local governments control over their territory and natural resources:

The Municipal Governments have competency in all aspects pertaining to socioeconomic development and environmental and natural resource conservation of their territorial circumscription. . . . [The Municipal

² The generator was originally to be taken back after a period of a month, but local leaders refused to relinquish it until a permanent replacement for the old generator that was prone to breakdowns was in place.

Government is responsible for] developing, conserving and controlling the rational use of the environment and natural resources as a basis for the sustainable development of the Municipality and the country. . . . (Art 6 and 7, point 8, law 40 and 260, Municipalities Law from Larson 2003)

On the other hand, the General Law of the Environment and Natural Resources (No. 217) gives rights to the national government:

Preservation of the environment and the conservation, development and rational exploitation of natural resources correspond to the State; it may enter into contracts for the rational exploitation of these resources when this is in the national interest.

Nevertheless, Larson (2003) argues that in Nicaragua progress has generally been made towards municipal decentralization. Over the last ten years, the country has moved away from a tradition of no municipal governments to having achieved significant municipal capacity development. One of the key tools available to municipal governments are ordinances that specify norms related to important local issues and have legal authority under Nicaraguan national law.

While Larson (2003) argues that there is a commitment to decentralization at the higher levels of central government, the effect in terms of greater local control of natural resources has been limited. In general, there has been a lack of respect for local leaders from within national government institutions and a natural tendency of officials in these institutions to act to protect their own power and jobs. Resistance to decentralization has been most notably experienced in areas related to economically valuable natural resources (Larson 2003).

On the Caribbean Coast, the decentralization process related to use and control of natural resources is further complicated by uncertainties related to communal land claims. The various indigenous and ethnic communities of the region claim traditional communal territory that does not correspond to the geographic boundaries of the municipalities. This fact complicates issues of natural resource use and control by adding another level of government, resulting in situations where communal boards and coordinators have claims to decision making rights over the same geographic areas as the mayors and municipal councils.

Communal land demarcation consultations have begun in much of Caribbean Nicaragua, including Pearl Lagoon, at least in part due to an Inter-American Court of Human Rights Decision, *“The case of the Mayagma (Sumo) Awas Tingni Community v. Nicaragua”* of August 31 2001. This decision centered on a conflict over logging concessions given to a private company on Awas Tingni community lands. The decision stated that the Nicaraguan government did not *“provide adequate recognition and protection of the community’s customary tenure”* and that *“Nicaragua must secure the effective enjoyment of those [indigenous] rights, which it had not done for Awas Tingni nor for the vast majority of indigenous communities”* (Anaya and Grossman, 2002 : 2). As a result of this decision, there have been recent efforts at the national level to begin

the demarcation process, most notably through the National Commission for Demarcation (CONADETI).

Political and legal municipal decentralization, and communal land claims and demarcation efforts contribute to an opportunity for local people to renegotiate mechanisms for controlling access to livelihood resources. The outcome of this opportunity will be determined in part by ongoing political and legal processes. Improved local capacity to engage effectively and knowledgeably in these processes has the potential to impact significantly on the benefits which local people are able to secure.

Current Reality of Government Control over Resources

It is important to note that the Caribbean Coast of Nicaragua has historically been treated by the Nicaraguan central government (and to a certain extent, by foreign interests) as an open pool of natural resources to be exploited at will with little or no consideration to local communities' rights. As noted above, the political / legal setting has changed in recent years giving more legal authority over natural resources to the regions, municipalities, and communities. In addition, the practical realities of resource control necessarily place local people at the centre of functional efforts to control the use and exploitation of natural resources.

Technically, concessions for natural resource exploitation and use on the Caribbean Coast of Nicaragua require approval by up to four levels of

government including National, Regional, Municipal, and the Community (if the resources are on communal land). While all of these levels of government have some form of legal authority over the natural resources of the area, the communities ultimately have de-facto control over resource exploitation when they choose to exercise it. The entire permanent contingent of national police in Pearl Lagoon community is four officers and they lack equipment like adequate boats and motors or budget to purchase fuel. In addition, their efforts and the efforts of occasional additional police in the area tend to be focused on drug enforcement. ADPESCA fisheries officials who are occasionally present in Pearl Lagoon also lack funds for both fuel and were often dependent on NGO (most notably DIPAL) for fuel and equipment. As a result, central government authorities are, in most cases, not in a position to monitor and enforce environmental regulations without broad based consensus and assistance from the local communities. This situation gives local communities more power over resources but also makes enforcement of any regulation (on local people or outsiders) largely dependent on the communities' efforts. While local communities are able to exert pressure to influence the behavior of local people who do not abide by environmental rules, it is more difficult for them to police these behaviors among outsiders due to lack of resources and legal authority.

Pearl Lagoon Communities

A Profile of the Communities

Pearl Lagoon, often known locally as the Cuenca (Basin), is located in the Southern Atlantic Autonomous Region (RAAS), 55 km north of the regional capital of Bluefields on the south eastern coast of Nicaragua (Kasch, et al 1989 see Figure 1 p. 15). The Cuenca contains fourteen communities of varying sizes and four main ethnicities, Miskitu, Creole, Garifuna and Mestizo. In 2004, the Instituto Nacional de Estadística y Censos (INEC) estimated the population of Pearl Lagoon at 10,301, with 6,547 under the age of twenty (Gonzales forthcoming)³. Research completed in the Pearl Lagoon Communities in 1992 and 2003 by Acción Medica Cristiana (AMC) and by Carl Bro, a Danish consulting firm working with the Atlantic Biological Corridor (CBA) estimates the population of the individual communities as presented in Figure 3.

The average number of years of education in rural Caribbean Nicaragua in 1995 was 2.1 years, and the illiteracy rate in 1998 was estimated at 44.2 per cent (CONPES 2001). Life expectancy on the Caribbean Coast was estimated at 65.8 in 1998, and 19.7 per cent of the population had access to potable water where they lived.

³ Based on census of 1971 and 1995.

Population of Pearl Lagoon Communities		
Community	1992 AMC estimates	2003 CBA estimate
Awas	85	165
Brown Bank	138	186
Haulover	1000	1419
Kakabila	266	676
La Fe	258	163
Pearl Lagoon Town	1457	
Marshal Point	254	253
Orinoco	824	1603
Raitipura	155	450
Rocky Point		188
San Vicente	142	48
Set Net	94	320
Tasbapauni	1076	1657
Pueblo Nuevo	460	
Christian Medical Action (AMC) from Christie 1999 Atlantic Biological Corridor (CBA) from unpublished CBA report 2003.		

Figure 3: Population of Pearl Lagoon Communities

Transportation between Pearl Lagoon communities takes place mostly by water, although it is possible to walk between some communities. Transportation outside of Pearl Lagoon is necessarily by boat of two varieties: 1) fast and somewhat expensive commercial *pangas* (outboard motor boats holding up to 20-40 people at \$ 8 US per person in 2003), that move between Pearl Lagoon Town and Bluefields three to four times a day based on demand; or 2) by freight boats that are less expensive, slower, and infrequent.

Communication with the outside world from Pearl Lagoon for much of the project's time frame was limited to a public telephone office in the town of Pearl Lagoon, with inconsistent hours and occasional lack of service related to electrical power outages. In the later stages of the project, there was a privately

owned telephone office in Haulover, but it operated inconsistently and access was dependent on the availability of the telephone's owner and electricity. There was also a reasonably good Internet connection available in Pearl Lagoon during the last year of the project, but it has since ceased to operate.

Institutional Landscape

Although Pearl Lagoon is geographically isolated, over the years a number of NGOs and research institutions have sponsored various projects in the basin. Christie (1998) suggests that these institutions have played an important role in filling the void left by the lack of government services in Pearl Lagoon from the late 1980s onwards. While I do not have an exhaustive and detailed list of these institutions and their mandates, Figure 4 gives a sense of the NGOs activity in Pearl Lagoon in recent years. Overall, NGOs have been an important and influential presence, and the local population is accustomed to having them in their communities. The main geographic focus of project management⁴ and implementation of NGO activities has been Pearl Lagoon Town and Haulover because they are more accessible from the regional capital, Bluefields. As a result, the peripheral benefits of the NGO presence (jobs as cleaners, cooks, security guards, etc.) have been largely limited to these communities.

⁴ In many instances project management is not significantly devolved from Managua or Bluefields.

CAMP-Lab has collaborated with a number of these institutions at various times throughout its history. During the final three years of the project In particular, there were productive working relationships with URACCAN, FADCANIC, CBA, AMC, DIPAL and RAAN ASDI RAAS⁵.

CAMP-Lab's co-operation with URACCAN was productive in a number of ways. First, CAMP-Lab's partner, York University, had a prior affiliation with URACCAN through a Tier II CIDA project that provided M.A. level education to faculty at URACCAN. The program offered short intensive courses in Nicaragua, taught by York University faculty, and in six cases, study was completed at York University in Toronto. Deborah Barndt -- one of CAMP-Lab's York University faculty participants -- was involved in teaching in Nicaragua and supervising Nicaraguan students as a component part of the URACCAN project. This connection facilitated collaboration on the popular education component of CAMP-Lab's activities. The radio program broadcast on URACCAN's station in Pearl Lagoon, and the organization of two CAMP-Lab popular education workshops benefited from the York-URACCAN connection (see Chapter 7).

The availability of University education in Bluefield, both at URACCAN and BICU, provided an opportunity to build on the grassroots interest in the

⁵ Collaboration with DIPAL and RAAN ASDI RAAS is explained in detail in the description of CAMP-Lab's management plan efforts.

environment that CAMP-Lab fostered in Pearl Lagoon. To that end, a number of CAMP-Lab's younger participants were able to pursue related education at these institutions. In the later stages of the project, CAMP-Lab made efforts to strengthen this synergy by providing research funding for local university students to conduct their thesis research in Pearl Lagoon.

CAMP-Lab's collaboration with FADCANIC was rooted in synergies between complementary activities in the work of the two organizations in the region, as well as personal relationships with one of the key employees in Pearl Lagoon. This individual had initially become interested in the environment through participation in CAMP-Lab activities and subsequently pursued an education in forestry before taking a position with FADCANIC in Pearl Lagoon. The relationship between the two organizations involved collaboration on plant distribution with CAMP-Lab project staff, as part of FADCANIC's agro forestry effort, and the use of CAMP-Lab committees by FADCANIC staff as community partners in small infrastructure projects designed and implemented by local people in their communities.

CAMP-Lab's collaboration with the Atlantic Biological Corridor (CBA) took place in two ways. First, the CBA project (undertaken by the Danish consulting firm, Carl-Bro) used CAMP-Lab committees as key contact points in the various communities in its work to establish a baseline description of the communities and their development needs. This partnership was solidified by the presence of

former CAMP-Lab participants in the Carl-Bro project. These participants included the former director of CIDCA, David Bradford, who was one of the authors of the third phase of the CAMP-Lab proposal, and Ray Garth, a former CAMP-Lab communal investigator. In addition to CAMP-Lab's Carl-Bro connection with CBA, another portion of the project activities included the routing of a green trail in the Pearl Lagoon area. Based on the demands of Pearl Lagoon communities CAMP-Lab played a role in organizing the communities, to survey and evaluate the area in which the green trail was to be located.

CAMP-Lab enjoyed an ongoing relationship with Christian Medical Action (AMC), collaborating on environment related health issues. This included activities such as potable water testing and the promotion of sound practices for treating contaminated water. In addition, there was occasional collaboration on logistical issues related to traveling in the lagoon. Once again in this case there was a natural synergy between the activities of the organizations. That relationship was further enhanced by the involvement of CAMP-Lab staff and committee members as participants in the health committees of various communities supported by AMC.

In addition to these institutional relationships that were ongoing through the third phase of the project, there were also significant previous relationships with the Central American Caribbean Research Council (CACRC) and a group from the University of Michigan that ran an annual biological field course in the RAAS.

CAMP-Lab's involvement with CACRC came about through the prior association of that group's leaders with CIDCA and their need for a research team to gather information related to land issues in Pearl Lagoon for part of a World Bank funded report on land issues on the Caribbean Coast of Nicaragua⁶. CAMP-Lab's role with CACRC involved conducting research on the Pearl Lagoon communities' claims to land and resources. This data was later drawn on as a source of information for the development of a first draft of the CAMP-Lab management plan.

CAMP-Lab also had an informal relationship with a group from the University of Michigan's School of Natural Resources and Environment that ran an annual field course in the RAAS, including Pearl Lagoon, through a partnership with CIDCA. This course included students from the University of Michigan, UCA, and URACCAN and lasted close to a month, involving a number of days in Haulover. Participation in this field course was the reason for Patrick Christie's initial visit to Pearl Lagoon that eventually lead to the development of CAMP-Lab. CAMP-Lab's involvement with the course included the annual participation of one of CAMP-Lab's communal investigators (Ray Garth) as a

⁶ While working on a World Bank funded report may appear to be counter to CAMP-Lab's mandate, it is important to note that CACRC itself is directed by activist anthropologists from the University of Texas in Austin, and the organization "is devoted to activist research and pedagogy on issues of racial justice, cultural rights, and the distribution of resources" (Gordon, Gurdian, and Hale 2003: 370).

local expert on indigenous plants. In addition, some CAMP-Lab committee members who went on to attend URACCAN were able to participate in the course over the years.

Overall, the presence of these other institutions in Pearl Lagoon proved important to CAMP-Lab's successes. The presence of URACCAN and BICU in the region provide an academic outlet for the interest that CAMP-Lab fostered. In turn, this has allowed local people to acquire the educational background needed for deeper integration into the work of other environmental NGOs in the area. In short, NGOs like FADCANIC and CBA-Carl-Bro and RAAN Swedish International Development Agency (ASDI) RAAS have provided opportunities for CAMP-Lab project participants to access resources and engage in environmental research and decisions making processes in ways that would not have been possible through CAMP-Lab alone.

Institutions in Pearl Lagoon			
Institution	Description	Activities in Pearl Lagoon	Time Frame
CBA	Global Environment Fund (GEF) sponsored regional project with MARENA	Green Trail Management Plan (Wawashang river) Development planning and baseline research.	1998 – 2004
URACCAN	Local University	Radio station Community Development and Strengthening	1995 – Present
CEPAD	Consejo de Iglesias Evangélicas Pro-Alianza Denominación	Agricultural development Dry Latrines	?-95
AMC	Primate's World Relief Fund	Health Centers Potable water Sanitation	? – present
APN	Norwegian Union Money	Fisherman's Co-operative Biological research CAMP-Lab	Early 1980s – 2002
DANIDA	Danish Development funding	Infrastructure, Roads, and Wharfs.	? – Present
DIPAL	Dutch Bilateral project to Promote of commercialization of artisanal fisheries	Fisheries research Education of fishers Fisheries Management Plan Fisheries credit schemes Revolving credit schemes	1995 – 2001
RAAN ASDI RAAS	Swedish International Development Agency	Strengthening regional, municipal and community government	2002-2005
FADCANIC	Nicaraguan Development Institution on the Caribbean Coast (Sandinista).	Sustainable Development Support Regional Autonomy	Early 1980s – Present
CIDCA	Academic Research Institute on the Nicaraguan Atlantic Coast	Social Science, Linguistic, and Scientific Research	1981 – present

Figure 4: Institutions in Pearl Lagoon

Identity in Pearl Lagoon

Jamieson (1995) indicates that Pearl Lagoon inhabitants have a partially shared identity based on common lifestyles, a shared environment, and the ability to speak Creole English. “Cuenca dwellers” generally have a good knowledge of the ecosystem on which they depend for a living, and men especially share a common identity based on their major economic activities of fishing, shrimping, and farming. While there are many similarities among the people, Jamieson (1995) also stresses many factors which divide the Cuenca into separate groups along social, cultural, and geographic lines.

There are three cultural groups directly involved in CAMP-Lab’s activities: the Creole, Garifuna, and Miskitu (see Figure 5). As noted earlier, the people known as Creoles on the Atlantic Coast of Nicaragua are descended from a variety of African origins, in combination with European and Indian populations that lived on the coast during the colonial period. The first Africans were brought to the area as slaves around 1633, and African slaves continued to be imported to the region for another 150 years. In addition, there were some Jamaican “coloured” traders who became permanent residents of the coast who also contributed to the Creole population.

Current Ethnicity in Pearl Lagoon by Communities			
Creole	Miskitu	Creolized Miskitu*	Garifuna
Pearl Lagoon Marshal Point Brown Bank Set Net Rocky Point	Awas Kakabila Raitipura	Haulover Tasbapauni	La Fe San Vicente Orinoco
*Miskitu communities that have lost their language.			

Figure 5: Current Ethnicity in Pearl Lagoon by Communities

By the time the British first left the coast in 1787, there were a number of "free men of colour" and escaped slaves living in the area. Miscegenation of both a consensual and violent nature between slaves, Europeans, and Indigenous people had led to class differentiation and to the emergence of some elite land - and slave - owning classes among the Creole population (Hale and Gordon 1987).

The existence of this elite Creole population on the coast, combined with the British exodus from the area in 1787 meant that, until reincorporation with Nicaragua in 1894, the Creoles exercised the most political and economic power in the area. However, this control was subordinate to North American and British imperialist interests (Hale and Gordon 1987).

The Garifuna (also known as Caribs) are phenotypically African, but they maintain some of the cultural and linguistic characteristics of the indigenous peoples who inhabited the Lesser Antilles at the time of European contact (Hale and Gordon 1987). The Garifuna were exiled by the British from the island of Saint Vincent in 1787 (after a prolonged period of conflict) and settled in coastal

areas of Guatemala, Belize, Honduras, and Nicaragua. A common feature of all Garifuna settlements is access to the sea (Davidson 1980).

The Nicaraguan Garifunas first arrived in the area from Honduras in the late 1870s (Davidson 1980). Between 1880 and 1910, Garifuna from 16 different families settled in the Pearl Lagoon area (Hale and Gordon 1987). Presently, there are three Garifuna communities in Pearl Lagoon, the largest of which is Orinoco, which was first settled in 1912 (Davidson 1980).

The Miskitu, one of many indigenous groups of Nicaragua's Atlantic Coast that settled in the area prior to the British presence, became the dominant indigenous group on the coast after 1630 when regular trade began with the British. Trade with the British gave the Miskitu access to metal tools and firearms, changing the indigenous economy and also giving this group a military advantage over other indigenous groups in the area whom they forcibly assimilated into their culture. Miscegenation with both Europeans and African slaves changed the group's phenotype (Hale and Gordon 1987). According to Hale (1987), this miscegenation with former African slaves probably contributed to the Miskitu's assertive relations with outsiders, as these people must have been worldly, wise, and aggressive to have escaped slavery.

The Miskitu and the British maintained a mutually beneficial relationship for many years, in which the British provided firearms, rum, and livestock, and in

return, the Miskitu provided cheap labour and a fighting force against the Spanish (Smith 1993). Smith indicates that the Miskitu actively cultivated their relationship with the British in order to expand their power on the coast (1993; Vilas 1989).

Class, Ethnicity, Conflict, and Cooperation

Class or relative wealth does not have a particularly important impact on social relations in either Pearl Lagoon or the CAMP-Lab project. There is a degree of economic differentiation in Pearl Lagoon but it is relatively limited in scope, with only a handful of families that would be considered wealthy by outside standards. These wealthier individuals and families have attained their position on the bases of their activities as merchants and proprietors of the larger stores, bars, restaurants, hotels, and transportation services in Pearl Lagoon.

In any case, there is no local class of people in Pearl Lagoon that makes its living based by exploiting local wage labor on a large scale. The significant opportunities for wage employment that do exist in Pearl Lagoon come from the activities of extractive industries that are based outside the area. These opportunities are relatively insignificant in the overall economy of Pearl Lagoon and for the most part are present only in Pearl Lagoon Town and Haulover. To the extent that local people employ the labor of others, the relationship is most often based on kinship connections and, in the case of fishing especially, it is compensated with a share of the profits rather than a wage. Some local farmers

do make use of migrant mestizo labor for wage work on the farm that local people have tended to avoid in recent years (Hostetler 1998).

Excluding the relatively small group of merchants in Pearl Lagoon, social differentiation in the communities is largely related to the ownership of slightly more equipment for fishing or to the cultivation of more community land. This resource related wealth differentiation generally emerges either through years of individual or family labor or through the productive investment of cash from external sources (for example, from relatives working abroad), or windfalls from the drug trade. In addition, some families have achieved a greater relative degree of economic prosperity on the basis of political patronage at different moments in the evolution of the area or on the basis of historic family connections to the traditional community leadership. This economic disparity does have some influence on peoples' opportunities for exploitation of natural resources through access to productive inputs like motors and nets. There does not, however, appear to be a consistent distinction in environmental attitudes in relation to social differences (Hostetler 2000).

Overall class has not been a significant determining factor for involvement in CAMP-Lab as membership in the CAMP-Lab committees tends to span the economic spectrum. The exceptions to this tend to be the very rich who do not have time for or sufficient interest in the project's activities and the very poor who cannot afford the time. While these participation gaps might be problematic in

terms of integrating a full range of community opinions into the project's activities a significant economic spectrum of the Pearl Lagoon population is still represented in CAMP-Lab committees. It is also interesting to note that wealth does not appear to be a determining factor of political affiliation in Pearl Lagoon, with both Sandinista and anti Sandinista support drawing on a cross section of the economic spectrum.

More significant than class is the history of inter-community conflict that has at times been violent. In particular, during the Sandinista period 1979-1989 Pearl Lagoon was an area of conflict that included deadly battles among many of the communities. In general, there was a tendency for Miskitu communities to support the Contras, while Creole and Garifuna communities tended to be supporters of the Sandinistas. However, no community was universally supportive of either side, and most individuals I spoke with, who were not directly involved as combatants, have mixed feelings about both sides. This period of conflict has left a residual distrust, both between and within communities, particularly between people who were at war with each other in recent memory.

The residual effects of war had implications for CAMP-Lab. CAMP-Lab's staff had all been associated in some way with the Sandinistas during the 1980s (one has since switched to the Liberal Party). This involvement with the Sandinistas ranged from passive support to participation in Sandinista youth, to acting as a local party official. None of CAMP-Lab's staff, however, had been

members of the military. As a result, among many people in Pearl Lagoon, CAMP-Lab was viewed as a Sandinista organization, a label that brings with it limits in the degrees of trust extended by members of the local community. The reasons for this common Sandinista identity among CAMP-Lab staff are multiple, but I believe there are two key elements. First those associated with the Sandinistas were more likely to have a collectivist mindset and to engage in the types of social and political activities and educational in which they had taken part during the revolution. This experience and collectivist mode of thinking coincided with the goals and methods of CAMP-Lab. Second, people who were associated with the Sandinistas during the 1980's had increased access to social programs, including higher education both inside and outside the country resulting in higher levels of preparation for CAMP-Lab's work among Sandinistas. Nevertheless, while some community members may have been concerned about the project staff's Sandinista background, these concerns were diminished by the fact that three of the five staff members were chosen directly by their communities.

This association with the Sandinistas posed some but not insurmountable challenges for the project in terms of achieving complete trust in the communities. Individually, the staff appeared to be well respected, and no overt problems arose as a direct result of what I might describe as a "perceived political association". In addition, it is interesting to note that some of the key

contributors to CAMP-Lab activities in the committees and in monitoring activities were fairly notorious Contra combatants. While it was evident that CAMP-Lab's perceived Sandinista affiliation created resistance to participation among some segments in the communities, for many people, the importance placed on collective self interest in protecting and controlling the local environment seemed to outweigh the influences of the political schism.

In addition to residual inter-community distrust related to the war, stereotypes continue to exist in the minds of local people about things like the trustworthiness, sexual habits, the use of obia (magic), or the penchant for violence characteristic of the other ethnic groups in the area. These divisions exist and occasionally become important in inter-community squabbles, for example, over particular resources or a baseball game. However, at the same time a general sense exists among most Pearl Lagoon people that there is a need for unity between the communities to face the common threat posed by the encroachment of the agricultural frontier on their collective territory and what they perceive to be the general tendency of the central government to usurp and exploit local natural resources that Pearl Lagoon community members see as their patrimony.

The popular image of the Caribbean Coast in the rest of the Nicaragua is that it is a wild and lawless place full of "black" and "indian" drug dealers and sexual predators. The common reaction of otherwise intelligent and progressive

acquaintances in Managua, when I told them I worked on the coast, was a warning rising out of one or more negative stereotypes about the people, like: “be careful you can’t trust those people” or “watch out for the drug dealers”. In addition to the perpetuation of stereotypes of immoral behavior, there is also a general sense that the people of the coast cannot be trusted or do not have the ability to run their own affairs. This general lack of respect for coast people often translates into very little inclusion of Caribbean people (especially black or indigenous) in either government or NGO activities in the area. This lack of inclusion results in poor local understanding of planning, decreases the level of active local participation in programs and projects, and contributes to the general tendency toward mutual distrust.

There is also a degree of stereotyping among Pearl Lagoon community people regarding Mestizos as being land hungry and quick to violence. However, there is a distinction made between coast Mestizos who have lived on the coast for some time and those who have arrived recently. At the root of the local dislike for newly arrived Mestizos is the fact that they encroach on community land and tend to clear cut, farm for a brief period (one or two years), and then sell out to big ranchers, only to start the process over again. While the local population generally has sympathy for the plight of these landless and poor Mestizos (Sambola 2003 and Hostetler 1998), they understandably do not believe that the solution to these people’s problems is their unchecked and uncontrolled

encroachment into their community lands. They also correctly believe that the central government is doing nothing to prevent this encroachment.

In addition, to the division between Caribbean and central Nicaragua, there is also a significant divide between those living in the major urban centre, Bluefields, and those living in other more remote communities. In general people from Bluefields view Pearl Lagoon as a backwoods hinterland. While some from Bluefields might be inclined to visit for a short vacation or a quick trip to the beach, they tend to be less inclined to stay and work in the area.⁷ This is even more the case in communities that are more distant from Bluefields than Pearl Lagoon Town and Haulover that do not have access to telephone service or regular transportation to Bluefields. While people from Bluefields have more in common with community people than those from central Nicaragua, there is still a social, cultural, and (in some instances) linguistic divide still exists, and it can limit their effectiveness as project or program staff in Pearl Lagoon.

⁷ The partial exception to this is a number of people from Pearl Lagoon communities or with significant family connections in Pearl Lagoon who currently live in Bluefields. In my experience, the most effective leaders for NGOs in Pearl Lagoon, and among of the CAMP-Lab staff were people from the communities who had managed to obtain a post secondary education outside of the region. These people often maintained residences in Bluefields as well as their home community.

Ecosystem and Land Use

Eco-System

Pearl Lagoon is the largest lagoon on the Caribbean Coast of Central America, covering 5200 hectares, with depths reaching between 0.5-12m. The salinity of the Lagoon varies from fresh to sea water, both seasonally and with the distance from the 300 m wide opening to the sea. The lagoon is home to 62 different species of fish, whose presence varies seasonally with the salinity of the water (Christie and Rigby 1996). The tropical rainforest of the area is home to 250 species of tree, 255 species of bird, and 60 species of butterfly (Christie et al 2000).

Although Pearl Lagoon is considered to be one of the most "pristine coastal lagoons" on the Caribbean Coast of Central America, it has been greatly affected recently by natural and human-made occurrences (Christie and Rigby 1996: 2). Accounts of Pearl Lagoon in the late 1940's by naturalist Archie Carr describe a rich ecosystem teeming with a broad variety of wildlife (Carr 1953). While species such as jaguars, tapirs, and curassow described as abundant by Carr are still present in the lagoon, they are very rare, pointing to substantial degradation due to pressures from the human population. Population growth rates in the Lagoon have increased since the end of the Contra war in 1990, causing an increase in agricultural and forestry activities. At the same time, the end of the Sandinistas'

agrarian reforms in the 1980's has meant a renewed migration to the region by landless Mestizos from the central and Pacific regions (Vandermeer 1990).

Hurricane Joanne changed the landscape of the area drastically in 1988, blowing down significant stretches of forest, eroding coastlines, and causing large fires as seasonal agricultural burning ignited fallen forests. Human intervention in the form of dredging of deep water passages and the opening of a second entrance to the Caribbean in the north have caused further changes in water flow and fish migration patterns (Christie and Rigby 1996).

Land Use and Tenure

Lands are generally owned communally, although there is a certain degree of uncertainty over land rights. Communal lands around Pearl Lagoon cover 18,536 hectares with a range of ecosystems, including lowland rain forest, swamp forest, savannah, and mangrove forest (Christie 1999). Cultivation has traditionally determined use rights to land. Initial access to land by individuals or families is negotiated through community leaders or the previous cultivator if it has been used before.

Land that is not in use by the community is commonly infringed upon by individual or commercial interests. Landless peasants migrating from the Pacific (popularly known as the "Spaniards from the back") in search of land to farm are increasingly present in farming areas like Rocky Point, Manhattan, Patch River,

and the Wawashang River (Christie and Rigby 1996; Christie 1999). According to Larson (2003), the effective forest area remaining in Nicaragua -- most of which is located in the Caribbean regions -- is approximately 33,000 square kilometers or about half of what it was in 1950. Deforestation rates are currently estimated at 50,000 hectares annually, down from 150,000 through the 1990s (Larson 2003). The higher levels through the 1990s can be partially attributed to a population influx after the end of hostilities in the Caribbean regions related to the Contra war and the roll back of Sandinista land reforms.

Community members generally have use rights to any land they are presently cultivating or have cultivated in the past. Decisions over community land use are traditionally mediated by a council of elders or the Communal Coordinator, but some private land titles have been handed out, complicating the situation⁸ (Christie and Rigby 1996; Howard 1993; Nietschmann 1973; Helms 1971).

Community land ownership is a contentious and confusing issue in the Pearl Lagoon area, as well as on the rest of the Atlantic Coast. Most of the communities in the Pearl Lagoon area have explicit, though somewhat

⁸ One example is the case of a Greek American entrepreneur who purchased the supplementary title to a number of tracts of land on the coast of Nicaragua, including some of the cays off shore from Pearl Lagoon. Some of these tracts have been sold for substantial profit and there have been related incidents of violence, including security guards firing on a delegation of regional government officials who were traveling to the cays to discuss their status. In another instance, one of the cays was given away as a prize in a contest on a French radio station.

ineffective, legal rights to their communal lands. The exceptions to this are communities such as Orinoco, which were formed after the land demarcation that occurred in conjunction with the Harrison-Altamirano Treaty of 1904. While communities like Orinoco have never received official title to land, their rights are widely recognized locally (Christie and Rigby 1996). Howard (1993) points out that while direct rights over territory are claimed only over communal lands, many of the people in the communities studied in the northern Atlantic Coast "consider that they have the right to benefit from the lands and natural resources of the Atlantic Coast as a whole" (209).

Personal or family control over land in Miskitu communities has traditionally been based on use rights. Land that has crops on it is controlled by the individual or family who planted the crop. As a result, planting of perennial crops such as coconut, banana, and plantain is the most common way of claiming rights to land (Helms 1971; Nietschmann 1973; Howard 1993; Christie and Rigby 1996). Howard also makes an important distinction between agricultural lands and other resources on community lands, such as lumber, suggesting that they "are regarded as common property," and that extraction from these areas is regulated by communal authorities (Howard 1993: 201). Research done in Belize indicates that communal ownership of land is similarly consistent with the Garifuna culture. A study of the community of Punta Gorda in Belize indicates that communal

lands were available to any member of the Garifuna community who wished to use them (Cominsky 1976).

Based on her work in the 1960's in Asang, a community on the Rio Coco in northeastern Nicaragua, Helms (1971) suggests that land had no monetary value, and to buy or sell it would have been inconceivable in the Miskitu culture at the time. Nietschmann's work in Tasbapauni, around the same time period, supports Helms' contention, suggesting that land cannot be sold, but rights to land can be renounced so others can use it. Howard (1993) presents a more recent account of the same phenomena in some northern Miskitu communities, suggesting that "the concept of ownership of community land seems alien to many people" (200). Howard mentions examples of people selling land in one of the communities in which she worked; however, she clarifies this observation by pointing out that "members of the community consider that only use rights to the land had been sold. While crops on the land can be privately owned, the land still belongs to the community" (Howard 1993: 202). Overall, Howard (1993) argues that although Miskitu culture has been greatly affected by outside influences, "there remains a distinctly indigenous concept of land rights. . . . based on collectivity and use according to need rather than ownership" (203).

The idea of ownership of maritime resources is somewhat more elusive than land ownership in Pearl Lagoon. Christie (1999) indicates that all communities have preferred fishing grounds, but the more popular areas are

used by a number of communities. One of the more militant communities in the Lagoon, Tasbapaunie, in the past, has claimed exclusive rights to the northern part of the lagoon, but this is increasingly ignored by other communities. In general, aquatic lagoon resources are considered to be available to whoever catches them. However, the people of the Pearl Lagoon communities clearly and collectively believe that they should have rights to control this use, especially by outsiders.

Livelihoods

Agriculture

Land in the region is used for a number of different types of agriculture, depending on the ecosystem. Coconuts are planted along the shores, while bananas and sugarcane are planted on sandy ridges. Lower wet areas are used to plant rice and dasheen. Rainforest areas are used to plant corn, beans, and tubers; and other crops such as citrus, mango, and cacao are also planted in the area. The savanna is used for cattle grazing, and home gardens are popular for medicinal herbs and vegetables (Christie and Rigby 1996). People often have a variety of fruit trees, including coconut, lemon, orange, mango, guava, and cashew growing near their houses.

Overall, the tendency over the past 20 years among most Pearl Lagoon communities has been to move away from farming. This has been spurred on by

a variety of factors related to the Contra War in the 1980s, changing local perceptions about the suitability and “modernness” of farming (especially for women), and the preference of many local people for the quick cash economy of fishing or other activities rather than the tedious long term effort of farming (Hostetler 1998; Barbee 1997). A notable exception to this pattern has been the village of Kakabila, where local people have increased production of traditional foods like cassava, plantain, and yam for the local market in Pearl Lagoon Town or Bluefields. This has proven to be a relatively lucrative livelihood strategy for Kakabila residents, who have managed to secure a stable income from a variety of crops while continuing to participate in fishing during the most profitable seasons.

Fishing

Fishing for scale fish and shrimp is the largest source of income in the area, with an estimated 1600 people engaging in these activities—at least part time. Fish and shrimp marketed in the Pearl Lagoon area were estimated to have risen from 294,005 kg sold for U.S. \$507,000 in 1995 to 603,799 kg sold for U.S. \$1,419,000 in 1996 (Christie 1999). Fish are mostly caught with gill net in the lagoon, including species such as coppermouth (*Cynoscion spp.*), snook (*Centropomus spp.*), catfish (*Bagre marinus*), and drummer (*Micropogon furnieri*). Local people report the effort required to catch fish has increased

significantly in recent years, and certain species, most notably coppermouth, have become rare (Hostetler 1998).

Two types of shrimp are commercially exploited in Pearl Lagoon: seabob (*Xiphopenaeus kroyeri*) and white shrimp (*Penaeus schmitti*). Shrimp is caught mostly with the use of cast nets and hand trawls, 437 of which were reported to be in use in the lagoon (Bouwsma, et al 1997). Trawling in the lagoon is informally banned, but this rule has been ignored by some. Larger trawl nets are used by some local people just outside the lagoon entrance. This is done either with diesel boats or most recently by nets designed for use with pangas. Trawling outside, and especially inside the Lagoon is frowned upon by cast net fishers because it is perceived to be decreasing their ability to catch fish (Christie 1999).

The national significance of the fishery in Caribbean Nicaragua and in Pearl Lagoon specifically can be seen in Figures 6 and 7. The increased production in Pearl Lagoon in the late 1990's can be attributed to improvements in fishing gear and increases in overall fishing effort.

Total Seafood Production 1995 – 1999 Nicaragua and Pearl Lagoon (in pounds)			
Year	Total Nicaraguan Seafood Catch	Total Processed by Mar Caribe in Pearl Lagoon	Percentage of National Total
1995	21,938,000	645,575	2.9%
1996	23,579,000	958,828	4%
1997	30,470,000	1,633,302	5.4%
1998	33,979,000	2,338,842	6.9%
1999	30,537,000	1,388,157	4.5%
	From: CONPES 2001	From: DIPAL RAAS Fish Data base	

Figure 6: Total Seafood Production 1995-1999 Nicaragua and Pearl Lagoon (in pounds)

Nicaraguan Fisheries Production 1990 – 1999 (in thousands of pounds)						
Scale Fish			Lobster		Shrimp	
Year	Total	% Caribbean	Total	% Caribbean	Total	% Caribbean
1990	1,431	12	664	100	2,494	71
1991	3,980	12	911	100	2,136	85
1992	3,619	29	1,704	100	1,783	80
1993	4,589	34	1,657	95	3,397	65
1994	14,998	32	2,139	94	4,699	70
1995	12,661	29	3,298	92	5,979	76
1996	14,998	30	3,269	98	5,312	77
1997	14,185	35	3,933	98	12,352	75
1998	15,146	40	3,041	99	15,792	78
1999	13,350	42	3,650	99	13,537	64
From: CONPES 2001						

Figure 7: Nicaraguan Fisheries Production 1990 – 1999 (in thousands of pounds)

In 1996, there were estimated to be approximately 28 km of mostly four inch mesh gill net in the lagoon. Transportation included 186 dugout canoes smaller than 24 feet, 130 dugout canoes larger than 24 feet, 19 pangas, and 9 larger diesel boats. There was a total of 80 outboard motors in the lagoon, 68 of which were under 30 HP (Bouwsma, et al. 1997). At one time, 2.5 inch gill nets were introduced by commercial interests in the lagoon, but they were perceived

by fishers to be killing too many juvenile fish and were mostly voluntarily abandoned.

Lagoon production is sold either to boats carrying coolers full of ice that travel to and from Lagoon communities irregularly or to the Mar Caribe processing plant located at the entrance to the lagoon.⁹ Sea Bob are traditionally dried by local people who borrow the product from the fisher. The processors then sell the product to buyers who come to the area or they transport them to Managua to fetch better prices. Upon the sale of the product, the processor repays the fisherman and keeps a cut of the profit. Since approximately 2000, Mar Caribe has begun drying sea bob at their facility in Pearl Lagoon using large machinery, removing some of the opportunity for increased economic benefits from this type of processing from community members since the product in part is diverted to the Mar Caribe plant where fishers can receive immediate payment rather than waiting for the local processor to sell the product.

Opportunistic Drug Trafficking

Another significant source of income for the people of Pearl Lagoon is opportunistic drug trafficking. Caribbean Nicaragua is located on a significant seaborne drug trafficking route between Columbia and Mexico. Large outboard

⁹ Ice boats are owned and operated by a number of different commercial interests that include Mar Caribe as well as processing companies based in Bluefields.

motor boats operating with three or four 250 hp outboard motors carry approximately 2000 kg of cocaine each from Columbia to Mexico, passing close to Corn Island and the numerous cays along the coast of Nicaragua. Occasionally these smuggling boats are forced to abandon their cargo, which then floats up onto the local beaches. Local fishers or people walking the beaches find bundles reportedly ranging from 1-100 kg. These bundles are then sold locally between U.S.\$1500 and 3000 to people who have connections with distribution networks. In addition, small amounts of the drug are turned into crack cocaine by local entrepreneurs, who then sell it for U.S.\$1 a dose to a local clientele of mostly young men who have become addicted. Beyond anecdotal tales of local drug finds, there is also physical evidence in the form of the occasional appearance of abandoned drug running boats floating out to sea. During one trip to the area I saw a total of three such boats that had been recovered by fisherman in two communities.

Based on anecdotal evidence and research by Dennis (2003) in the communities of Awastara and Sandy Bay, large cocaine finds are usually secured through a payment to police and community leaders. In addition, Dennis notes that, in his experience, the finds were partially distributed in the community, especially in the case of early finds. I am unaware of the traditions for distributing the benefits of drug finds in Pearl Lagoon communities, but they likely vary among them. The proceeds from cocaine finds are substantial, especially in the

economic context of Nicaragua, where the average Gross Domestic Income (GDI) in 2002 was U.S. \$720 (World Bank 2003).

Dennis (2003) identifies different patterns of use in the two communities he studied on the Northern Caribbean Coast, describing one that has used the profits of opportunistic drug trafficking for substantial development and investment in productive infrastructure and improved living conditions. Other communities, however, have not been successful in harnessing the benefits of these windfalls. In Pearl Lagoon there is substantial anecdotal evidence of benefits to individual families who are able to invest in better homes and productive assets like outboard motors and the like. At the same time, there are substantial social and human costs related to addiction, criminalization, and corruption of a large segment of society that have, in one way or another, an interest in the drug trade. Again, at the same time, it is unreasonable to expect people to decline the significant economic benefits of a chance find. This is especially true given the widely held belief that turning the drugs over to any authority will lead to them claiming the economic benefit for themselves.

Remittances

Another important source of income in Pearl Lagoon is remittances from relatives working outside the area, mostly on cruise ships. These individuals (mostly young men, and some women as well) sign up with an agency for

approximately U.S.\$1000, which then arranges a job and provides a plane ticket to get to the ship. These people are employed as cleaners and cabin stewards, starting at approximately U.S.\$600 a month in base salary, with a top pay of about U.S.\$1000. In addition, they can make additional income from “side jobs”. Cruise ship employees work for 8 to 10 months on the ship, return home for two months, and then return if they choose to. This process, known locally as “shipping out”, currently involves approximately 25-30 people from Pearl Lagoon, Haulover, and Orinoco, and is increasingly common. Pearl Lagoon people are able to secure this employment at least in part because of their ability to speak English, which is the operating language for most ships. Many of the people who ship out use the money to improve their living conditions, educate their children, and invest in productive infrastructure to provide an income in the future.

Other Livelihood Options

Among other forms of livelihood activities in Pearl Lagoon communities are: small scale lumber extraction for houses, boats, and fuel; hunting; the running of small shops for consumer goods; construction; and a small number of jobs in the Mar Caribe fish processing plant. All of these activities are largely dependent on either money or products being brought into the community from the previously described activities, or they are simply subsistence-driven and not part of the money economy. It is important to note that a moral economy (to varying degrees) continues to exist in the communities of Pearl Lagoon, involving

reciprocal labor arrangements and sharing, especially of food, among extended families and friends. While the strength of this tradition of cooperation and sharing has been diminished somewhat over the years as subsistence commodities such as green turtle and fish have moved from the subsistence to the market economy, practices of sharing continue in a more limited fashion, especially in the case of close friends and relatives, children, and older people. As a general rule, people in the Pearl Lagoon communities will not let their neighbours go hungry if they have food to offer¹⁰ (Kindblad 2001; Hostetler 1998; Weiss 1980; and Nietschmann 1973). Traditions of sharing in the communities can also be seen in the case of major drug finds as the profits are distributed directly among family and friends and indirectly to the community as a whole through feasts, and such.

Conclusions

The most important long term livelihood options available to Pearl Lagoon people are fishing, farming, and other natural resource extraction activities. These activities contribute to both the money economy and directly to people's subsistence needs. While lucrative, livelihood options related to remittances and drugs are not particularly stable, and the maintenance of these opportunities falls

¹⁰ The one partial exception to this is the exclusion of young (especially male) drug addicts. People feel these individuals have the ability to be productive and also that they should not support their habit.

outside the control of local people. Drug related income is dependent on the continuation of current smuggling patterns and has dangers inherent to engagement with illegal activities and criminal organizations¹¹. Income from this source could easily dry up with intensified drug enforcement efforts or changes in smuggling patterns. The case of remittances from cruise ship work is dependent, to a large extent, on the health of the tourism industry, a fact that was underscored after terrorist attacks of September 11th 2001, when many Pearl Lagoon people's time on the ships was cut short, and the "side jobs" that substantially supplemented their income were no longer available. In the end, the backbone of Pearl Lagoon livelihoods is dependent on the continued health and productivity of the local environment. There is a growing recognition in the communities of the pressures being placed on the environment and a corresponding increase in the willingness to address relevant environmental issues.

¹¹ This weakness was illustrated in a recent Toronto Star article about increased U.S. drug enforcement efforts on the sea borne smuggling route off the coast of Central America (Ross 2005).

Chapter 2: The CAMP-Lab Project, Its History and Modus Operandi

CAMP-Lab's Beginnings

As mentioned in the introduction, the CAMP-Lab project was initiated in Pearl Lagoon in 1993 through the efforts of Patrick Christie (a M.Sc. student from the University of Michigan) and Roberto Rigby (a local biologist who was working in a local marine laboratory funded by Norwegian Peoples Aid (APN)), through the use of traditional PAR methods. This early PAR process, which was not externally funded, identified the need for a management plan for the natural resources of Pearl Lagoon, and it was the basis for the initial project phase and its ongoing focus on natural resource management. At its peak level of financial support in 1997, CAMP-Lab employed eight full time Nicaraguan employees and was supported by two North American graduate student researchers.

A Brief Summary of CAMP-Lab Activities

While the central focus of CAMP-Lab's activities was the participatory creation of a natural resource management plan, historically the project was also engaged in a variety of activities designed to support that effort and increase environmental awareness in the Pearl Lagoon communities. Most important among these activities were the creation and support of CAMP-Lab committees,

environmental monitoring, and environmental education. These activities were not isolated from each other and in many cases overlapped. In addition, these activities evolved over time as the project's priorities and available resources changed.

The most important among these CAMP-Lab activities was the creation and support of CAMP-Lab committees in the communities around the lagoon. These committees met regularly with communal investigators to discuss environmental issues and to plan and conduct related activities. The activities that these committees were involved in included, at various times, consultations related to the development of the management plan, participation in monitoring efforts, involvement in small reforestation activities, community clean up, and fundraising for small local projects (see chapter 7).

In the early phases of the project environmental monitoring included four main activities: fisheries monitoring, lagoon water monitoring, freshwater monitoring, and forest monitoring. Of these monitoring activities, only the freshwater and forest monitoring continued through the third phase.

Monitoring of the fishery was accomplished through catch per unit effort (CPUE) measurements conducted by Haulover and Pearl lagoon fishermen, recorded by filling out a form (developed by local fisherman) after each fishing trip. This activity lasted from July 2005 until October 2006, ending after DIPAL

began similar data collection and the project and participants decided not to duplicate the effort (Christie 2000).

The monitoring of lagoon water took place in the first year of the project as a holdover from the previous activities of the Haulover Marine Laboratory that was funded by APN. This involved monthly testing of the water for dissolved oxygen, turbidity, salinity, and temperature in a variety of locations. This activity ended as equipment broke down and the marine biologist who had been leading this effort took on other responsibilities with CAMP-Lab and eventually left the project to pursue further education (supported by the IDRC).

The monitoring of potable water by CAMP-Lab involved measuring of fecal coliform in various sources of drinking water around Pearl Lagoon. This semi-annual activity involved the collection of water from various communal wells and river sources in cooperation with local users and the subsequent testing of the water in the CAMP-Lab office in Haulover. The testing of the water was conducted by local secondary school children supervised by CAMP-Lab staff, and the results were made known in the relevant communities.

CAMP-Lab's forest monitoring efforts involved semi annual monitoring of transects in pine and rain forest areas. These monitoring activities involved traveling with community members from the village or villages closest to the particular transect to gather information about tree growth and diversity, ground

cover, and wildlife. Often these activities overlapped with environmental education efforts of the project by including a number of local students in the monitoring activity.

CAMP-Lab's environmental education efforts were initially centered on environmental education classes given in the primary and secondary schools by communal investigators. This effort took the form of weekly classes that focused on local environmental issues and often integrated the participatory methods used by the project in its other activities; short field trips to nearby areas of interest. At its peak these efforts included regular classes in the schools in Pearl Lagoon, Haulover, Orinoco, Marshal Point, and Kakabila, but the loss of funding for two of the communal investigators limited the effort in the schools in Pearl Lagoon and Haulover.

In addition, to this formal contribution to environmental education, the project's more recent efforts in popular communication through its radio program and news letter provided another avenue for increasing local awareness about environmental issues. These activities also provided resources that were used by local school teachers in their own environmental education efforts (see chapter 7).

CAMP-Lab Staff During the Third Phase

At the beginning of its third phase, CAMP-Lab project staff included four paid communal investigators, all of whom were born and living in the Pearl Lagoon municipality. In addition, the project leader, a woman from Bluefields, spent a significant part of her time during her tenure with the project living in Haulover (see Figure 8).

CAMP-Lab Staff Background					
Staff Member	Birth Place	Home Community	Education	Ethnicity	Start Year
Bertha Simmons Project Leader	Bluefields	Bluefields / Haulover	Undergraduate degree	Creole	1997
Eduardo Tinkam Communal Investigator	Haulover	Haulover	High School Adventist (religious) Schooling	Miskitu / Creole	1996
Oswaldo Morales Communal Investigator	La Fe	Pearl Lagoon	Administration and accounting training	Garifuna	1996
Bonifacio Gonzalez Communal Investigator	Orinoco	Orinoco / Haulover	2 years in Roman Catholic Seminary	Garifuna	1996
Ray Garth Communal Investigator	Marshal Point	Kakabila / Haulover	Forestry technician diploma	Miskitu	1996

Figure 8: CAMP-Lab Staff Background

The project leader earned her undergraduate degree in social work at the University of Central America (UCA) in Managua and began working with CAMP-Lab early in 1997 as a sociologist. She assumed the job of project leader later that year. All of the communal investigators had backgrounds as teachers in the Pearl Lagoon communities, as well as some form of post secondary education.

They are all highly respected in the communities as intelligent, knowledgeable, and trustworthy; and they have local influence based on this respect (especially in their home communities). Eduardo, Bonifacio, and Ray were selected for the position of communal investigators in CAMP-Lab when they were proposed by the CAMP-Lab Committees in their home community during the project's previous phase. Oswaldo moved into his position as communal investigator after being hired for the role of administrator/book keeper in 1996. This role was eventually cut out of the budget, but Oswaldo continued to take on these tasks in addition to his duties as communal investigator. Of the staff, only Eduardo has held an official leadership position in his community as a member of Haulover's communal board. The withdrawal of Norwegian Popular Aid (APN) funding during phase three of the project lead to both Bonifacio and Ray losing their positions in 2001, but they continued to participate in CAMP-Lab activities when they could. This volunteerism and continued participation in CAMP-Lab activities is an indication of their dedication and the value they placed on the project's activities.

The third phase CAMP-Lab project proposal, prepared in 1999 by CIDCA-UCA and CERLAC at York University, called for significant in kind support from both Noreen White, CIDCA regional sub director in Bluefields, and David Bradford, the CIDCA director (Bradford et al 1999). Both individuals had spent substantial time working with the project throughout its earlier phases, and both played a major role in writing the third phase proposal. Both David and Noreen

were familiar with the staff and comfortable with the participatory approach used by the project. By the time the third phase of the project began, however, David had taken a job at a different institution and Dennis Williamson, who was less familiar with the project and its participatory methods, replaced him as CIDCA director. In addition, Dennis's priorities were focused on other CIDCA projects on the northern Caribbean Coast, affording him considerably less time to devote to CAMP-Lab than the previous director. In addition, CIDCA budget difficulties in 2001 ended the funding for Noreen's position of regional sub director in Bluefields, further diminishing the human resource commitment of CIDCA to CAMP-Lab (Found and Hostetler 2001).

CAMP-Lab and Outcome Mapping

In July 2002, at the beginning of the final year of the project, CAMP-Lab adopted Outcome Mapping (OM), a monitoring and evaluation methodology that had recently been developed by the IDRC Evaluation Unit. In short, OM is a participatory and iterative method that monitors changes in the behavior of project partners along with project strategies and organizational activities that are designed to support those changes (see chapter 6). During the process of introducing OM to the project, Vision and Dream statements were elaborated as follows:

CAMP-Lab Dream Statement

Various levels of government will play a more important role in environmental issues, working in cooperation with the communities toward the implementation of their management plan. CAMP-Lab Committees are strong and self reliant. People are environmentally conscious and use natural resources in a sustainable way based on both traditional and scientific knowledge. The advance of the agricultural frontier will stop and community lands will be demarcated and titled. Fisheries production will be regulated and diversified, and alternative sources of income will be available to community people. Conflict between communities will be resolved in a peaceable way. The well being of people in the communities will be improved economically, in education, and in health. The Pearl Lagoon municipality will serve as a good example for other municipalities and will attract appropriate support from outside.

CAMP-Lab Mission Statement

CAMP-Lab will link its dream with the communities through continued and increased opportunities for community participation. It will engage in both formal and informal environmental education and participatory monitoring activities to increase local awareness of environmental issues. CAMP-Lab will provide training and technology to local communities that will assist them to address issues of concern to them; it will also assist the communities to search for financing for projects that the communities see as important. CAMP-Lab will facilitate the coordination of activities between various institutions and communities, and it will work with the communities to help them influence various levels of government and encourage co-management of natural resources. Finally, CAMP-Lab will pass on information about Pearl Lagoon and CAMP-Lab beyond the communities.

CAMP-Lab's core efforts throughout the third phase of the project, in relation to this mission, focused on working with the people of the Pearl Lagoon communities to create and implement a management plan for the basin. As part of this effort, CAMP-Lab worked to increase the local capacity to: 1) conduct,

research and gather information relevant to resource management in the area; 2) analyze and disseminate this information; and 3) engage with various levels of government and business in meaningful dialogue about the future of their communities and natural resource base.

CAMP-Lab and Participation

Requirements for and claims about being “participatory” have become fashionable in many development programs and projects around the world, including in Pearl Lagoon. In reality, there is a wide variation in what participation actually means in the project context; ranging from token participation to meet donor requirements, to full local control of the project without external assistance (see Figure 9). CAMP-Lab is the only “participatory” project that has operated in the Pearl-Lagoon region which involves strong local control over project direction and day to day activities, rather than simply incorporating local opinion in pre-defined objectives, or, mere token participation.

Approaches to Participation	
Approach	Characteristics
Cooption	Token community participation, the community has no real input or power.
Compliance	Research agenda is decided by outsiders, the community is assigned tasks.
Consultation	Local opinion is sought, but outsiders analyze situation and decide actions.
Cooperation	Local People work together with researchers to determine priorities, but the process is directed by outsiders.
Co-learning	Local people and outsiders share knowledge and work together to form action plans.
Collective action	Local people set their own agenda and carry it out in absence of external initiators.
From (Cornwall 1996 from McAllister 1999:)	

Figure 9: Approaches to Participation

CAMP-Lab's participation has shifted over time from a process that included elements of co-operation and co-learning approaches in its early phases (with Patrick and Roberto), to one that incorporates elements of co-learning and collective action. This shift took place gradually over time for reasons that included increased organization and capacity among CAMP-Lab Committees and an increasingly prominent role in the planning and execution of activities by local CAMP-Lab staff (natives of Pearl Lagoon and Bluefields). This latter element of CAMP-Lab is of crucial importance to the project's participatory credentials as it means that it is truly locally run and is able to interact more effortlessly with the broader Pearl Lagoon population than other projects in the

area. When asked about the “main effects of CAMP-Lab in Pearl Lagoon”, a community member and former employee of APN argued that one of the main benefits of CAMP-Lab in the area was “*a stable staff of people that you can count on all the time*” (Paul), referring to project staff consistency over a number of years.

The uniqueness and importance of CAMP-Lab’s participatory credentials in Pearl Lagoon are recognized by both local community members as well as by an outside observer. Sarah, an academic colleague who has worked extensively in Pearl Lagoon and the RAAS generally describes, CAMP-Lab’s unique participatory relationship with the Pearl Lagoon communities.

I think overall CAMP-Lab has been one of the most successful initiatives in the communities of the Pearl lagoon basin and I also think it’s had one of the biggest impacts out of all the different organizations. . . . For me one of the most important things about CAMP-Lab is that it has a very good relationship with the communities. Usually NGO have various different projects . . . that are created before and taken into the communities and presented . . . as something that we are doing now and would you please participate. For me CAMP-Lab has been very different than that. I have seen CAMP-Lab have years and years of sort of active participation in the communities in a more sort of participatory action research type framework. When you go to the communities and ask people in the communities what institutions have the best relationships with the communities or that the communities appreciate the most, CAMP-Lab is always one. . . . I think in terms of participatory action research CAMP-Lab has been a real success at least in a sort of intellectual or political sense. (Sarah)

Similarly, when asked generally “what is the effect of CAMP-Lab”, Ted, a community member and former CAMP-Lab communal investigator from Orinoco, reflects:

the thing is . . . [CAMP-Lab] come and be working with the people in a participative type of way. They listen to the people and they get the input from the people before they take any step in any way to do something or do anything. . . . The people have been playing the role of the principal actors inside this project so what I see is really a positive effect of CAMP Lab. (Ted, Orinoco)

Local staff control of the day to day functioning of the project, as well as of its planning, is unique in the Pearl Lagoon area. Virtually all other projects operating in the area tend to hire technical and decision making staff from the Pacific areas of Nicaragua because of the perceived lack of qualified locals. This is problematic in Pearl Lagoon due to the cultural, racial, and linguistic divide in the country that leads to community people viewing Mestizo, Spanish speaking Nicaraguans, as more objectionably foreign and threatening than North Americans or Europeans.

While CAMP-Lab is uniquely participatory in the context of Pearl Lagoon, it is important not to overstate the depth and breadth of the participation. CAMP-Lab’s efforts include CAMP-Lab Committees in eight villages of Pearl Lagoon: Haulover, Awas, Raitipura, Kakabila, Brown Bank, La Fe, Orinoco, and Marshal Point. In addition, CAMP-Lab worked with the community board of Tasbapauni,

interested individuals from Pearl Lagoon and Rocky Point, as well as people from Pueblo Nuevo and Set Net Point, in certain special activities (see Figure 1).

One of the major deficits of CAMP-Lab in terms of participation was its inability to establish a stable CAMP-lab committee in Pearl Lagoon Town, which remains the largest population centre in the area. When asked in an individual interview why there was no Pearl Lagoon committee, one project staff member offered the following opinion:

Pearl Lagoon have expand a lot and people is moving in and out and out. ... There is a quicker pace than the way the rest of communities go around. You know they go more slow about things. Not that they are slower person but they just take their time. Pearl Lagoon is more money focused . . . there were so many project coming in direct to Pearl Lagoon. Not to Haulover, Pearl Lagoon, Orinoco but direct to Pearl Lagoon [town] and these people, these projects would pay the people to be part of the project . . . to come and do something. It wasn't no participative action research it was just a project that had to be done in a time so to do it we have this amount. . . . DANIDA with their road or with this wharf and such . . . and project before them which would compensate [monetarily]. So these people get used to being compensate every time they do something.

Probably if we had had more personnel someone to deal direct with Pearl Lagoon alone, maybe it would have worked. But I think that was one short coming on CAMP-Lab, the amount of people that it was too little bit of us for the ambitions of CAMP-Lab. (Pat)

The inability of CAMP-Lab to establish a committee in Pearl Lagoon Town was, at least in part, balanced by: 1) the participation of a number of strong and vocal individuals from the town; 2) the weekly CAMP-Lab radio program; and 3) by its involvement in setting and delivering the environmental component of the local

high school curriculum. Despite this visibility, the absence of a committee in Pearl Lagoon Town remained a project weakness.

Invitations to CAMP-Lab meetings are broadly extended to local communities and no one is turned away from attending or participating in meetings. However, participation is not cost free in terms of peoples' time and energy and therefore it is not reasonable to expect all community members to be eager to participate extensively in the activities of a project like CAMP-Lab. In addition, unique community dynamics related to culture, work patterns, and community level politics play a role in defining who participates in CAMP-Lab Committees. When asked in an individual interview if CAMP-Lab affected "how community members interact with each other", a CAMP-Lab participant's answer evolved into an explanation of some of the dynamics of CAMP-Lab Committee involvement:

Most groups are you could say mainly female, you know you have few males, but that's because of the way the community work. . . . Like the male is usually the one that go out to fishing or go ship out . . . they're out often and when they do come in from the sea they just look for how to go lie out or sit down or relax. . .

Who stay in more are the older one them, and the teachers and such. Somehow we get involved with the teachers but on a different level [environmental education]. They are not inside CAMP Lab committee because they are like a full day busy. Most who are in CAMP-Lab Committees are house wives, farmers, and school kids.
(Pat)

The eight CAMP-Lab Committees are made up of self-selected people from the communities with active group members in each community averaging approximately twenty-five individuals. Meeting attendance itself averaged ten people over a sample of thirty-seven meetings. Individual group composition differs between communities with some having a predominance of young people and others including higher numbers of older people. The overall tendency is higher attendance rates among women than men, with 65 percent women attendees in a sample of thirty seven meetings. The precise makeup of the individual CAMP-Lab Committees has tended to change over time in terms of age, gender, and numbers based on dynamics within the communities. These changes occurred based on interpersonal relations, the arrival in or departure from the community of people with strong personalities who were involved with the project, and changing interests of community members.

CAMP-Lab is not ideal in terms of the extent and make up of its participation. However, the project's goals and activities were clearly grounded in community aspirations, and there was substantial participation by community members, both participating in and leading the project. During the later stages of the project, its radio program significantly raised CAMP-Lab's profile among people in Pearl Lagoon who were not directly involved in the project. As one CAMP-Lab staff member suggested in reference to the radio program's impact,

“anybody can tell you . . . what CAMP-Lab is doing because we get the message out to people” (Adrienne).

The overall result of CAMP-Lab’s efforts is a degree of local familiarity and goodwill towards the project that is unique in the Pearl Lagoon Basin. While discussing how CAMP-Lab influenced the communities’ relationships with various levels of government, one of the CAMP-Lab staff described the relationship that had been built with the communities:

Most of the time they [the communities] name us [CAMP-Lab] as an entity that could back them up with their project or with their demands. Not only with . . . assistance [for] . . . the making of the management plan but also we had the “green trail” where they specifically asked for that project to go on and for us to be with them in that project. (Pat)

The extent of the good will CAMP-Lab enjoyed in Pearl Lagoon was evident when project funding for that green trail through the region became available through the Atlantic Biological Corridor (CBA) project. Local people requested the involvement of CAMP-Lab in the process over other NGOs or government bodies.

The idea that CAMP-Lab has unique standing among the population as a generally trusted and valued organization in Pearl Lagoon was echoed by a former CAMP-Lab staff member while discussing the project’s role in Pearl Lagoon generally:

I know that many next organizations have been working around the area and thing like that, but if you talk to them [local people] you don't hear them talk like they talk about CAMP-lab. They would say yea, well they come here but CAMP-Lab talk about the ideal things like nature like protecting what is ours. (Joe)

When discussing her general views about CAMP-Lab, an academic colleague doing extensive research in the Pearl Lagoon area opined:

There aren't that many institutions that have that good a relationship with the communities in Pearl Lagoon. . . . Very rarely do you hear people complain about CAMP-Lab, usually it's positive which is rare here because everybody has something to complain about. (Sarah)

The counterpoint to having strong local control of the project and having achieved unique and high levels of good will among the population was a certain degree of weakness in the project's ability to influence and gain support from government, especially at the higher levels. During an individual interview, this CAMP-Lab deficit was identified by one staff member in the context of discussing the process of developing the management plan:

We really were strong with what is the base or the people . . . so I think that was real good. But somehow we had to take into consideration the people who make strong decisions, you know the decisions makers, and this is you know where we had our setback, our drawbacks with these people. (Adrienne)

To a degree, this deficit in CAMP-Lab's ability to engage with and influence people in positions of power can be attributed to financial difficulties at CIDCA.

Financial constraints impacted CIDCA's ability to provide adequate human resources support for CAMP-Lab in these lobbying efforts. Conversely, some of

the efforts of project staff could also have been redirected to, at least partially, address this weakness.

At the same time, if CIDCA had been in a position to provide support or had participated more thoroughly in CAMP-Lab activities, it is possible that some of the decision-making and planning that devolved to local staff and participants may have been re-appropriated by the CIDCA. The challenge becomes one of balancing high levels of local participatory project control with necessary means to effectively influence and/or access higher levels of authority. Achieving this balance requires unique leadership that has the ability to function successfully as a lobbyist, as well as to espouse a willingness to leave significant project control to participatory processes. By the end of the project, CAMP-Lab's skills in the former had improved significantly through experience.

Another aspect of CAMP-Lab's use of participation came in the final year of the project when OM was introduced to the project as a participatory monitoring and evaluation (PM&E) tool. The intentional design process of OM used in CAMP-Lab integrated the activities of project staff, local community members, government representatives, and local employees from other NGOs working in the area. This process placed responsibility in a diverse group of local hands for defining project success and how it was to be measured. The implementation of OM in a participatory fashion is consistent with a more pro-politics approach to

development projects and research. It is integral to ensuring that local priorities are the main focus of project and research activities.

The early process of implementing CAMP-Lab's OM framework was somewhat less participatory as responsibility for data collection and analysis fell primarily to project staff (still local community members) and myself as an outsider academic. CAMP-Lab committees had some involvement in data collection and the initial results of monitoring were distributed to the communities through the Awake newsletter. However, the limited time in which OM was used (the project culminated within a year of introducing OM) did not allow for wider participation in the analysis of the OM data by local community members.

Collaboration with York University

CAMP-Lab's collaboration with York University took the form of a co-learning process as described in McAllister (1999). York University graduate students and faculty provided skills and academic knowledge that were not locally available but were necessary to realize and advance project goals. The type of skills, research interests, and personalities that were desired among York student participants were identified in meetings with project staff and community members. Individuals who closely fit these criteria were then identified at York University. CAMP-Lab staff members described the process of collaboration with

York University in the following ways during a group interview which sought to focus on the merits of collaboration:

They bring some things and we brought some things. We brought the ideas what we want, and they brought how to make this idea take form. So you needed the two things. (Pat)

We . . . hear there is this pool of resources with these different fields and we could somehow pull from them. That make you feel like better. None of us [CAMP-Lab staff] were experts on making a management plan we just feel our way around, or experts on doing some next thing that we were doing here we came and learned in the field. . . . So you have some people what somehow have some theory on this methodology and have some experience on it it make you feel better. (Pat)

York University . . . fill in areas where we didn't have anybody as Pat said before like in the case of popular communication we didn't have nobody else in that area and then we had Deborah coming down giving a workshop. And then we had Christine who spent times with us here in popular communication in what is the radio program and also the news letter. (Adrienne)

Through this collaboration, York University participants contributed to the strengthening of the project in areas identified by project staff and participants as requiring outside support. These areas included, most notably, popular communications and participatory scientific monitoring.

Another facet of York University student' contribution to CAMP-lab was related to the withdrawal of APN funding. Due to the reduced personnel and resources available to CAMP-Lab, York University participants provided strong organizational and communication skills to the project that were, at times, insufficient among existing CAMP-Lab and CIDCA staff after APN reductions and

CIDCA financial difficulties. These contributions eased the project's transition into its post-APN financial reality by giving it time to adjust to its new circumstances, while continuing to meet its ongoing commitments in the communities.

While York University provided specific skills and knowledge to CAMP-Lab through direct, or “hands-on” participation, a number of important spin off effects were identified by CAMP-Lab staff:

You know people could see the news letter or people could hear the radio program. But I could also see the baggage of knowledge what I get from these people. (Pat)

Through this collaboration we are improving skill and besides that confidence in doing other things. I found myself writing but I think bad writing at the beginning and now I feel like I could write a little more fluently, it's easier for me to express writing. (Chris)

Skills-development related to research and various forms of communication, like those reflected in these comments, reached beyond CAMP-Lab staff to other community members involved with York University's contributions. Among those most affected were the Radio Committee and people who participated in various student research efforts. These spin off effects represented a significant contribution to the enhancement of human capacities in the area.

The partnership with York University and the presence of York University graduate students and faculty working directly with the project lent it a degree of legitimacy in the eyes of other NGOs and government agencies working in the area. In some cases, the project staff believed, these entities would have been

less likely to engage with CAMP-Lab activities if York University had not been involved.

Perhaps CAMP-Lab's most important collaborative effort with York University came near the end of the project, with the development of a shrimp farming information seminar. This process (to be described in more detail in Chapter 7) came about through the identification of an issue of concern by community members to CAMP-Lab staff. CAMP-Lab staff and York University participants then gathered and translated relevant academic information into a format that was appropriate for broad based local consumption. Further, the staff and York University students organized an informational seminar which included representatives from each community and a host of relevant experts and decision makers.

This event represented a significant example of strong collaboration, in that it applied the unique skills and knowledge of all of the participants to a problem brought to the project by community members. In addition, it accomplished this degree of collaboration in a setting that required decision-makers to hear, consider, and engage with local analysis and concerns about shrimp farming, thereby increasing their accountability to local people, and forcing a commitment to transparency in any future decisions they made about shrimp farming.

In short, CAMP-Lab was established in 1995 through the efforts of a graduate student from the University of Michigan and a local marine biologist. The early phase of the project identified a local desire for setting up a natural resource management plan for Pearl Lagoon, and the following phase was dedicated to the participatory development of such a plan. York University's involvement with the project began with the third phase in 2000 that was focused on the codification and implementation of the plan. York's external support during the third phase (2000-2003) provided expertise, training, and support to the local project staff in areas that were identified locally as important but in which there was a dearth of local capacity. Throughout its history, the Project sought to place community involvement at the center of its activities, and to a significant degree it was successful in that endeavor. The following chapter turns to the theoretical frameworks on which I have drawn to analyze the CAMP-Lab experience.

Chapter 3: Moving Beyond Critique: Theorizing and Promoting Sustainable Livelihood Development

Development and Environmental Movements: The “Anti-Politics Machine[s]”

The critical literature on development and environmental movements argues that global projects, while in many individual cases well-meaning and sincere attempts at human betterment, serve as mechanisms for the imposition of state authority and the undermining of local agendas and priorities. Ferguson (1994) argues that the development apparatus “is an ‘anti-politics machine’, depoliticizing everything it touches, everywhere whisking political realities out of sight, all the while performing, almost unnoticed, its own pre-eminently political operation of expanding bureaucratic state power”(p. xv). Escobar (1995) describes this phenomenon in broader terms, suggesting that the discursive invention of the third world and development in the post war period was an excuse for expanding western modes of global governability. In a similar vein, Brosius (1999a, 1999b) implicates the environmental movement in the same exercise by arguing that there is a conscious effort by national elites and transnational capital – using environmental protection as a pretext – to displace

“moral and political imperatives in favor of indifferent bureaucratic and techno-scientific forms of institutionally created and validated intervention” (1999b: 36).

Brosius implicates mainstream environmental organizations in the anti-politics process and points particularly to the International Union for the Conservation of Nature (IUCN) and the Forest Stewardship Council (FSC) as institutions complicit in promulgating this displacement of politics. Specifically, he implicates them in contributing to what Rappaport (1993) called “institutional deafness”, which he describes as “the unwillingness or inability of authorities to understand messages encoded in terms other than those of the dominant economic discourse” (Rappaport 1993: 300 in Brosius 1999b: 50). Rappaport suggests that these environmental organizations are engaged in efforts at “domestication” of local people into regimes of state based “environmental governmentality”.

Ferguson’s characterization of development efforts in Lesotho suggests not so much the conscious involvement by development agencies in the process of state intervention and depoliticization, as the shrouded effects of development projects that are a convenient side effect for governments. He argues that this may also explain the tendency of governments and development agencies to continually repeat the mistakes (in terms of stated development goals) of failed projects. Ferguson also points to a version of institutional “deafness” that extends to development agencies which are often “hungry for good advice” but limited in

the type of advice they can take in terms of suggestions for better “development”. In these cases, the deafness effectively leaves broader political critiques and challenges to the development paradigm and political status quo beyond the hearing of development agencies. As a result, Ferguson sees severe limitations on the emancipatory potential of working from within traditional development agencies and government structures, but he does suggest that a bad situation could have been made much worse if there had not been left-populist intellectuals working inside these institutions. Bebbington (2002) is more optimistic about the long term potential to influence these institutions, suggesting that the introduction of new concepts (such as social capital) has helped reformers in institutions like the World Bank “trespass” and sow the seeds of alternative approaches.

From the critical development perspective, the question of “what is to be done” by researchers about poverty, hunger, and oppression in the third world is addressed by Ferguson (1994). He suggests that that question should be approached as a real world tactic and must be preceded by determining the answer to the question, “by whom?”. Ferguson argues that the question of “what they should do” is inherently flawed because: 1) there is no “they” with a unified view of the problem, and therefore no unified view of what should be done; and 2) the question is presumptuous in that the ordinary people are the ones who know best what they need to do to survive and that they are already doing it.

Ferguson leaves a small opening for the possibility of useful outside advice and expertise to assist in various local emancipatory struggles, but he sees this external advice and expertise as limited to answering specific, localized tactical questions.

Ferguson sees engagement in the political process in one's own society as the primary way in which academics as "experts" can advance the cause of Third World people. Academics may be able to productively influence policy at home by countering misinformation, and by putting into context and making real the problems of the Third World.

From Ferguson's perspective, the criteria for useful engagement by academics in efforts to alleviate poverty through activities in the Third World are: 1) identifiable groups that represent movements of empowerment; and 2) demands from these groups for specific skills or information to support their efforts. I argue that adherence to these criteria would unnecessarily limit the space for useful contributions by outside researchers to emancipatory processes.

The first criterion limits the possibility for assisting with the organization of local groups based around the interests and concerns of local people who have not yet coalesced into an identifiable group or movement. This type of informal organization is a core component of participatory approaches to research, and it opens up greater opportunities for contributions by outside researchers by

assisting with the creation of such groups. While there are limits to the degree of usefulness and appropriateness of participatory research, when used prudently, it has provided a productive set of tools to support emancipatory change (see PAR Relevance and Limitations p. 124).

The second criterion dictates that support to groups should be limited to a response to a request for a specific skill or information. This ignores the probability that there are bodies of knowledge and possibilities for research unknown to many groups that could be extremely useful for furthering immediate interests and broader emancipatory aims. Contributing to filling this lacuna in information and knowledge of information possibilities represents a potentially powerful avenue for outside researchers to contribute to emancipatory efforts. To contribute in this way, scholars can assist groups to identify, access, and develop relevant bodies of knowledge, and to analyze and apply this knowledge in the local context.

Ferguson rejects engagement with development agencies as a possible avenue for addressing problems in the Third World on the grounds that their underlying mandates (linked to the government structures they serve) actually gear them to frustrate the kind of emancipatory processes that many “left” social scientists seek to advance. At the same time, Ferguson is very clear that development agencies, not to mention the development paradigm itself, will not be diminished in importance. Given the strong argument that Ferguson makes

regarding the malignant effects of many of these institutions' activities, it appears short sighted to argue against engagement in efforts to influence these groups. Admittedly, our efforts at influencing these development actors will be difficult and slow to generate change. The power of these institutions, however, makes efforts to change them a crucial component of long term emancipatory progress in the Third World.

It is reasonable to make some generalizations about the structural and ideological limitations of a number of organizations such as USAID and the World Bank. They are not, however, homogenous organizations, and opportunities for progressive academics to influence their activities from the inside exist at some levels and in some cases. Some of the more impressive documented examples of "development" success involving these institutions (or the state itself) can be found in the work of Krishna, Uphoff, and Esman (1997), Tandler (1997), and Uphoff, Esman, and Krishna (1998). In addition, there is a wide range of development or environmental institutions (many of which are sympathetic to approaches to the problems of the Third World) that address concerns like those of Ferguson (1996) and Brosius (1999). In the medium to long term, demonstrable success in the efforts of these institutions, based on alternatives to the mainstream development paradigm, may provide leverage to encourage policy shifts in other, more conservative, institutions. Efforts to maximize the

effectiveness of any such leverage must include strategies designed to overcome the problem of “institutional deafness”.

Governmental and mainstream development agencies will inevitably be powerful forces on the institutional landscape in the Third World. In this context, it is important to note that in most cases, local communities desire services (education, healthcare, roads, electricity, etc.) provided by institutions, particularly the state. Li (2002) notes that outside supporters often make incorrect assumptions about traditional communities' inclinations to oppose the state without recognizing the extent to which they desire and seek benefits from it. Li argues that in many cases, local community resistance is not a rejection of development, but rather the rejection of particular development experiences that have failed to bring promised benefits and have removed livelihood resources without providing adequate alternatives.

Within this context, Li (2001) suggests that seeking legal strategies for securing the benefits of fuller citizenship for rural communities -- equal to that of other citizens—is an important component of development. Li (2001) questions the usefulness of the instrumental simplifications made by Community Based Natural Resource Management (CBNRM), around community cohesion and environmental responsibility, to develop legal strategies designed to attain fuller citizenship. She argues that, to be effective, these efforts need to be rooted in more thorough and nuanced understandings of the local political economy and

ecology. Li (2001) points out that the CBNRM model seeks to shift power from the state to communities, but that in practice it serves more as an opportunity to mutually rearrange the relationship between the state and local communities. For Li, the nature of the particular state, in terms of the degree to which it is willing to make concessions to local communities, or has the power and will to prevent power transfers to them, is crucial to the emancipatory potential of this approach.

Bebbington (2000) also scrutinizes the co-produced reality of “modernizing development” in his critique of post-structural interpretations. He argues that poststructural interpretations of modernizing development as exercises in state cultural domination do not necessarily hold true. Bebbington suggests instead that these programs often lead to the restructuring of power relations and patterns of resource access in a way that is determined by the variety of agents working within these development programs. The lack of a unified internal view of “modernizing development” (a cornerstone of poststructural analysis) implied in this observation, diminishes the effectiveness of poststructural analysis as a tool for understanding the development processes.

Bebbington (2000) concurs with Li’s (2001) characterization of “modernizing development” as produced through the complex interaction of a number of actors, suggesting that it is a co-production between the state, external development institutions, local people, as well as the variety of engagements local people have with a range of markets, ideas, and practices of modernization.

Bebbington (2000) argues that, instead of simple resistance, peoples' engagements with development can often be viewed, more accurately, as co-productions in which they work to transform and use these processes and institutions to further their own purposes. In addition, Bebbington argues that these engagements have also led to the opening up of unique spaces within states and markets for local people that are unlikely to have come about without active engagement with these entities.

Given that local people virtually always have some role as co-producers or modifiers of development (no matter how oppressed or unbalanced the power relations may be), enhancing local actors' abilities to influence the direction and nature of this co-production is a potentially powerful means to contribute to emancipatory processes in the third world. The degree to which the particular state is willing to permit, or is able to prevent, local influences on co-production will clearly impact on the immediate potential of this approach. However, even in the worst case scenario, there are likely avenues for local communities to enhance their ability to influence development efforts in emancipatory directions.

The Pro-Politics Machine: Contributing to Local Capacities and Agency

If the development discourse (and by extension its institutional progeny) is an insufficient and flawed foundation for engagement in emancipatory processes

in the Third World, and we reject (for ourselves) the role of academic as neutral observer and analyst, then we must look for alternative theoretical and practical underpinnings for our scholarship and engagement with this process. To contribute to filling this theoretical and methodological gap, I focus on the concept of sustainable livelihoods and draw on literature in three areas: political ecology, especially engaged political ecology; sustainable livelihoods, particularly work focused on various types of livelihood assets; and participatory action research (PAR), particularly as it relates to the CAMP-Lab project. Based on this literature and insights drawn from project work in Nicaragua, I develop a theoretical framework for analyzing and identifying points for engagement with emancipatory processes in the Third World.

In some respects, my work parallels recent postdevelopment literature that attempts to move beyond criticism into more constructive efforts to provide alternative pathways for addressing the problems of the Third World (Santos 2004; Gibson-Graham 2005). This postdevelopment approach is grounded in critical attitudes toward mainstream development thinking, but it also moves beyond critique into “a mode of thinking and practice that is generative, experimental, uncertain, hopeful, and yet fully mindful of the material and discursive violences and promises of the long history of development interventions” (Gibson-Graham 2005:6).

In this vein, Santos (2004) identifies the role that Enlightenment thinking and its notions of rationality and efficiency play in rendering invisible alternatives to mainstream development thinking. He bases his argument on what he terms the monocultures: of knowledge; linear time, classification, the universal and the global, and capitalist productivity and efficiency.¹² He calls for a “sociology of absences” to reintroduce alternatives that have been disqualified by these monocultures. Santos’s aim for such a sociology is to have the credibility of these alternatives to the status quo “discussed and argued for and their relations taken as object of political dispute”, thereby creating the “conditions to enlarge the field of credible experiences” and widen “the possibilities for social experimentation” (Santos, 2004: 238-39 from Gibson-Graham 2005). Similarly, my work argues that it is possible to open up space for the reintroduction of alternatives as

¹² Santos’s describes these five monoculture as:

- the monoculture of knowledge that turned “modern science and high culture into the sole criteria of truth and aesthetic quality” and produced non-existence “in the form of ignorance, or lack of culture”;
- the monoculture of linear time that produced non-existence “by describing as ‘backward’ (pre-modern, underdeveloped, etc.) whatever is asymmetrical vis-a-vis whatever is declared ‘forward’”;
- the monoculture of classification that distributed “populations according to categories that naturalise[d] hierarchies”, thereby producing non-existence in the form of inferiority and subordination;
- the monoculture of the universal and the global from which derived “the logic of the dominant scale” that produced the local and particular as a “non-credible alternative to what exists”;
- the monoculture of capitalist productivity and efficiency that “privileges growth through market forces” and produced nonexistence in the form of the “non-productiveness” of non-capitalist economic activity. (from Gibson-Graham 2005:5)

suggested by Santos by contributing to local capacity, thereby engaging in the co-production of development.

Gibson-Graham's work in Jagna, in the Philippines, takes Santos's lead, focusing its efforts on confronting the challenges that the community economy faces by directly engaging in efforts at:

- sustaining and strengthening the diverse practices that support subsistence and produce wellbeing directly;
 - reclaiming, safeguarding, and enlarging the commons that provides a base for survival, subsidising subsistence and creating community; and
 - generating surplus and marshalling and distributing it to foster expansion of the productive base and increase standards of living.
- (2005: 17)

In his commentary, Kelly (2005) lauds Gibson-Graham's work for providing "a creativity and hopefulness that is often lacking in endless rounds of critique" that have come out of the postdevelopment literature (2005: 39). At the same time Kelly cautions that Gibson-Graham's focus on the community economy may pose the danger of "absolving from responsibility and political pressure the international financial institutions, local and national elites, and structures of global inequality and dependency" that are at the root of local development problems in the first place (2005: 42-43). In contrast, I argue that by working to strengthen local communities' intangible livelihood assets, it is possible to increase local communities' ability to exert political pressure and hold local and national politicians, business elites, and NGOs more accountable.

Focus on Sustainable Livelihoods

The concept of sustainable livelihoods is a useful tool to develop a broad based understanding of the dynamics and parameters of local level development realities in the Third World. Bebbington (1999) describes sustainable livelihoods as:

- Diverse assets;
- Ways in which people are able to access, defend, and sustain these assets;
- Abilities to combine/transform assets into income, dignity, power, and sustainability so as to reduce poverty and increase living quality and human and social capability;
- An asset base that will continue to allow for the same sort of transformations; and
- Abilities to change the rules and relationships governing how resources are controlled, distributed, and transformed into income streams. (cited by Kinakan 2003)

Kinakin suggests that the sustainable livelihoods approach differs from previous approaches to analyzing development in that it premises “itself on *participatory*, *strength/assets-based* (as opposed to needs based), *people-centered* (as opposed to technical or project output-based) ways of thinking and doing that link the *micro and macro* in ways that improve, support, and sustain livelihoods” (2003: 17). This sustainable livelihoods’ approach to development provides useful insights for the creation of a theoretical map of livelihood dynamics that can help us locate strategic points for intervention aimed at maximizing the impacts of the relatively limited resources available to social science researchers and/or small projects. Within the context of this theoretical map, I argue that a

focus on enhancing intangible assets -- including human capabilities, social capital, and agency -- at the local level is a particularly productive and practical avenue for researchers or small projects to contribute to sustainable livelihood outcomes.

The power of engagement in efforts to improve human capabilities, social capital, and agency comes from the potential impact on access to other types of livelihood resources and the creation of democratic space for increased local influence over mainstream development efforts. Enhancing the space and capacity for local engagement represents an avenue for opposing and rolling back the “anti-politics” effects of mainstream development and environmental movements identified by Ferguson (1995) and Brosius (1999). In addition, interventions of this sort provide a practical approach to help local groups shape and harness initiatives by traditional development institutions, environmental movements, government, and businesses that have more substantial resources at their disposal. Enhancing local capacity for engagement with these entities is useful in two ways. First, it represents an avenue for steering the resources available to these entities towards activities that are more coherent with local peoples’ needs and desires. Second, it provides a path for reducing the impact and occasionally blocking the more negative actions of these entities which are inevitably part of the political and economic landscape.

Political Ecology

My first theoretical underpinning for engaging with the issue of sustainable livelihoods is political ecology. Robbins makes a useful distinction between what he terms “hatchet and seed” approaches to political ecology. As a hatchet, “political ecology seeks to expose flaws in dominant approaches to the environment favored by corporate, state, and international authorities, working to demonstrate the undesirable impacts of policies and market conditions, especially from the point of view of local people, marginal groups, and vulnerable populations” (2004: 12). In this way the hatchet approach provides critique of existing approaches to dealing with environmental issues by empirically challenging their theoretical underpinnings.

Alternatively the “seed” approach to political ecology that I draw on in my work seeks to document and support local strategies of resistance to the dynamics addressed by the hatchet approach. Drawing on Peet and Watts, Robbins argues that this “is not simply a salvage operation - recovering disappearing knowledges and management practices - but rather a better understanding both of the regulatory systems in which they inhere . . . and the conditions under which knowledges and practices become part of alternative development strategies” (Peet and Watts 1996: 11 from Robbins 2004: 13). In short, the “seed” approach to political ecology focuses on identifying alternative development strategies that have been successful and ways in which these

efforts can be strengthened, supported, and broadened. It is in this way that the seed approach to political ecology seeks to make a contribution to the preservation and development of alternative and appropriate ways of making a living.

With this distinction in mind, my definitional starting point for a seed approach to political ecology, drawn from Bryant and Bailey, is “that [it] seeks to explain the topography of a politicized environment, and the role diverse actors play in the ‘molding’ of that environment, so as to better assist those actors in society who are fighting for social justice and environmental conservation” (1997: 195). From this perspective, political ecologists focus attention on critically analyzing the role of grassroots organizations and on the way in which relationships between different actors influence the processes of development and access to resources (Bebbington and Pereault 1997; Bryant and Bailey 1997; Bryant 1997; Peet and Watts 1996a, b). Ideally, this analysis should help to identify possibilities and opportunities for altering these processes in ways that are more conducive to more equitable and sustainable development. For this analysis to be effective, political ecologists argue that there is a need for a “thorough understanding of the ways in which unequal power relations condition human-environmental interaction in the Third World, and the possibilities for transformative action associated with those relations” (Bryant 1997: 12).

Engaged political ecology calls for a focus on efforts to construct alternatives to the status quo that are, at the same time, rooted in the present social, political, and economic realities (Bryant 1997; Bryant and Bailey 1997). These efforts should contribute to building “short-term, pragmatic, and realistic responses that work from contemporary contexts”, and they should reflect and build towards the desires and aspirations of local people in the longer term (Bebbington 1996: 105). This approach is consistent with some of the principles that Escobar identifies as guiding progressive popular groups in the third world, namely, “the defense of the local as a prerequisite to engaging with the global . . . and the formulation of visions and concrete proposals in the context of existing constraints” (1995: 226). These types of progressive groups are seen by Escobar as providing alternatives to hegemonic globalization (2001; 1995).

According to Bryant (1997), two key elements are important to a “‘politically engaged’ Third World political ecology” (p. 12). The first element is the need for exposure and critique of the way in which powerful political and economic actors in society benefit disproportionately from environmental degradation, demonstrating the contradictions between their public face and their private actions. The objective of this activity is to pressure actors to alter their environmental practices by publicly challenging their versions of events and analysis of future impacts.

The second element of a “politically engaged” political ecology, according to Bryant (1997), is the encouragement of a counter coalition involving grassroots groups coordinating with other sympathetic actors to help move toward more socially just and sustainable alternative environmental management systems. Bryant (1997) sees the political ecologist's role in this effort as one of helping to identify shared interests and political aims of potential actors in such a coalition and the ways in which they might be able to subvert the political and economic interests that are dedicated to maintaining the status quo. At the same time, Bryant suggests that it is necessary for political ecologists to critically assess the activities of this type of counter-coalition if it is to contribute to the emergence of more socially just alternatives.

Assets and Livelihoods

The second theoretical point of departure for engaging with the issue of sustainable livelihoods is the literature that focuses on the various assets on which people draw to construct their lives. This literature includes works focused on social capital, human capital and capabilities, entitlements, and agency. These are complex and controversial concepts, social capital particularly so. Since this is the case, it is relevant to point out that social capital has been adopted by a wide variety of scholars in the social sciences and utilized in a variety of sometimes contradictory ways (DeFilippis 2002; Dasgupta and Serageldin 2000; Evans 1996). One of the more strident critiques of social capital

comes from Fine who sees social capital as a concept that “incorporates and neutralizes dissent”, subverting the progressive intentions of many social scientists (2002: 799). Similarly Mayer and Rankin (2002) argue that social capital, as applied in development programs to date, has played a mainly accommodationist role within the neoliberal project. They argue that the inconsistency between the intellectual roots of social capital in transformative social movements and its utilization -- by organizations like the World Bank -- tends to respond “to lenders concerns about financial sustainability rather than to traditions of fostering radical collective action” (2002: 805).

Nevertheless, Mayer and Rankin also point out that social capital can be used to “highlight the more *contradictory aspects* of collective social action” found in contemporary opposition movements (2002: 807). Of particular salience to my work, they point out that these opposition movements provide democratizing pressures by helping to hold politicians accountable, raising neglected issues, and challenging the social costs of macroeconomic policy (2002: 807).

Bebbington qualifies his view of the conceptual usefulness of social capital, arguing that it is limited to those interested “in understanding where room to maneuver lies within actually existing political economies” (2002: 801). With that caveat, Bebbington (2002) argues that social capital is a useful “mesolevel” concept that “can reduce the distance between theory and strategy” by improving our understanding of the networks, relationships, and actions that can be utilized

to access and exercise power, capture resources, and provide opportunities for collective action (see also Evans 1996). It is in this progressive and transformative vein, focusing pragmatically on opportunity for change within the existing context, that I see social capital as providing a conceptual contribution to my work.

The common thread that I find useful throughout the assets and livelihoods literature is its theoretical contribution to identifying and clarifying various non-physical and non-monetary components of development and how they contribute to people's livelihood strategies. By providing analysis of the dynamics that influence the structure of access to resources, this literature speaks to one of the central concerns of political ecology (Bryant 1992 and Ribot 1998). The analysis also serves to elaborate elements of feasible alternatives to the status quo by identifying and mapping current factors that influence access to resources. In turn, examining these factors reveals avenues for shifting access in a way that is conducive to more equitable and sustainable livelihood development (Bebbington and Perreault 1999). This potential led Bebbington and Perreault (1999) to suggest that integrating these approaches into political ecology methods would help it become both "radical and relevant", offering a critique of existing models of development while also identifying avenues for moving towards alternatives that include improved asset distribution.

The works of Bebbington (1999) and Bebbington and Perreault (1999) focus on development in terms of improvement of the asset base available to people from which they can extract their livelihoods. They adopt a multiple capital approach focussing on five types of capital -- produced, natural, human, social, and cultural -- and the ways in which these capitals are translated into people's well-being, both materially and experientially (see Figure 10).

Types of Capitals	
Capital Type	Definition
Produced capital	The physical and financial means of production that have been produced by human activity (Bebbington 1999, and Bebbington and Perreault 1999).
Human capital	The knowledge, skills, and capabilities possessed by humans that allow them to act and produce in given and new ways (Bebbington 1999, and Bebbington and Perreault 1999).
Natural capital	The natural stock that yields a flow of natural resources and services - for instance, land water, and soil that yield harvests of crops (Bebbington 1999, and Bebbington and Perreault 1999).
Cultural capital	A set of cultural practices or traditions "that enable forms of action and resistance that the other four types of capital would not, alone, make possible" (Bebbington 1999: 2034).
Social capital	"The norms and networks facilitating collective action for mutual benefit" (Woolcock 1998: 155 from).
Geographic capital	Highlights the "the spatial patterning of disadvantage" and includes issues like "physical or frictional distance" from strong economic activity, urban areas, transportation hubs, communications links, and political centers. It is often rooted in the presence of "ecological barriers such as mountains and water bodies" (Bird and Shepherd 2003: 592).

Figure 10: Types of Capitals

Bebbington (1999) draws on the work of Sen (1997) which encourages a movement away from overly economic views of human capital to a human capability approach – taking into account the non-monetary contributions to well-being provided by improvements to human capabilities. Sen's (1997) human capabilities approach focuses on the ability of people to lead lives that they have reason to value and to enhance the choices available to them in their lives. Using the example of education, Sen (1997) argues that there are both potential economic and non-economic benefits derived from improved education. For example, more education can lead to both improved wages and the ability to communicate, argue effectively, and be taken more seriously by others.

Krishna (2001) takes the idea of human capabilities a step further, operationalizing part of human capacity in a separate asset type – agency.¹³ For Krishna (2001), agency takes the form of capable local leaders with the ability to effectively champion local interests with government, NGOs, business, or other relevant external agents. Improved human capabilities and agency contribute to

¹³ Krishna (2001) considers six different agency types and corresponding variables in his work in India. The agency types were caste strength, strength of the panchayats, strength of patron client linkages, strength of political parties (in terms of local ability to influence party policy), the strength of village councils, and the availability and efficacy of educated young leaders. Krishna's research identified the importance of the latter in particular as a crucial component common to his high performing case study villages. It is this component of agency that is most salient to the efforts of CAMP-Lab.

people's ability to shape development efforts within their local context and ultimately influence development practice in ways that they see as valuable.

Bebbington (1999) points out that Sen's (1997) human capabilities argument is transferable to social capital. He argues that it plays a particularly vital, but economically difficult to measure, role in securing access to other resources and actors crucial to the construction of sustainable livelihoods valued by people. In the end, human capabilities, agency, and social capital combine to play a crucial role in enabling communities to secure access to other forms of capital. Krishna's (2001) work in India correlates the presence of these three assets with high development performance, in the form of a greater likelihood of development project successes and improved local access to resources, providing some initial indication of this combination's significance.

Based on their multiple capitals approach, Bebbington (1999) and Bebbington and Perreault (1999) attempt to build and use a framework to analyze "poverty reducing rural livelihoods" that focuses on assets as the vehicles people use in making a living, making living meaningful, and challenging the structures under which they make a living (Bebbington 1999: 2028). In conceptualizing this framework, Bebbington (1999) points to a number of key considerations. These include the diversity of assets people draw on; the way people access, protect, and sustain these assets; the way people transform assets into improved consumption levels and living conditions that are perceived

to be more desirable by people's own criteria; and the ability to more effectively defend and sustain assets.

The theme of access and the role of social capital and human capability as gatekeepers for access to all types of resources are given central importance by Bebbington (1999) who argues that, in many ways, access may be the most critical of all assets. Similarly, Leach, Mearns, and Scoones' (1999) work on entitlements focuses on the role of formal and informal institutions and organizations in shaping the way that different social actors access and derive well-being from environmental assets and thus also shape ecological change. As a result, Leach, Mearns, and Scoones (1999) see the enhancement of claims-making capacity through activities such as education and leadership training as potentially crucial to securing command over environmental goods and services and contributing to effective resource management. Similarly, Scoones (1998) focuses on institutions and organizations as mediators of access to livelihood assets, and therefore he argues that understanding these institutions and organizations is crucial to designing interventions that promote sustainable local development.

Bebbington (1997) suggests that there are links between social capital, manifested in negotiating capacity at the grassroots level, and the promotion of sustainability. He argues that the improved ability of grassroots groups to renegotiate relationships with the market, state, and other actors in society can

potentially play an important role in promoting development and sustainability. Woolcock (1998) frames a similar argument, suggesting that development depends on overcoming social dilemmas by nurturing strong social ties between and within local communities, civil society, macro level institutions, and corporate sector institutions. As a result, Woolcock (1998) argues that micro level projects should focus on participatory organizations that can build links “between local communities and formal institutions” while moving towards increased independence (p. 187).

The link between social capital and promoting sustainability is drawn out more thoroughly in Pretty and Ward (2001), who argue that social and human capital embedded in participatory groups within rural communities has been of key importance to sustainable and equitable solutions to local development problems. Drawing on a wide range of studies, they make the argument that including well organized local groups in the planning and implementation of rural development efforts increases the likelihood that project activities will be effective and sustained after a project’s end. This is especially true in the case of watershed management, where it is increasingly recognized that sustainable management is unlikely to occur without the willing participation of local users (Pretty and Ward, 2001).

Pretty and Ward (2001) offer three stages for describing the evolution of human and social capital development of community groups based on five

themes: the world view of their members, internal norms and trust within groups, external links and networks, technologies and improvements, and group lifespan¹⁴. They argue that policy makers and practitioners should seek ways to support the formation and maturation of groups along these lines in ways that reflect the desires and needs of local people and also promote environmental sustainability. In addition, Pretty and Ward (2001) point out that policy reform in support of, or at very least not detrimental to, emerging social and human assets embedded in local groups is also a necessary condition for these groups to thrive and contribute to the development of sustainable livelihoods.

Bird and Shepherd (2003) introduce the concept of geographic capital to highlight the importance of the “the spatial patterning of disadvantage” (p. 592) within livelihoods development efforts. Geographic capital includes issues such as “physical or frictional distance” from strong economic activity, urban areas, transportation hubs, communications links, and political centers. The spatial disadvantage caused by poor geographic capital is often rooted in the presence of “ecological barriers such as mountains and water bodies” (Bird and Shepherd 2003: 591). The effects of isolation in this context are often characterized by difficult climates and poor health conditions; and compounded by “social and political exclusion from mainstream society”, identity or ethnic politics, the

¹⁴ Pretty and Ward’s three stages are reactive-dependence, realization-independence, and awareness-interdependence (2001: 219).

perceived illegitimacy and/or disengagement of the central government, and the occurrence of violent conflict in the region (Bird and Shepherd 2003: 591).

Bird and Shepherd (2003) suggest that current work on livelihood development has been focused on successes in non-remote locations and does not take into account the unique deficits in geographic capital faced by remote rural areas. They argue that attacking the causes of poverty in more remote contexts will involve “a greater emphasis on human capital and security, particularly the protection of existing assets as well as whatever assets can be acquired by poor households in the course of development” (2003: 593). This emphasis, they argue, would be a crucial prerequisite to livelihood diversification, which is viewed, by many, as a potential key to improved livelihood outcomes.

The crucial contributions of this livelihood and assets literature to my work fall into four categories. First, the literature draws on the idea that non-material contributions to well being derived from enhancements in human capacity, social capital, and agency are potentially as important as monetary contributions to the overall wellbeing of communities. Second, the role of human capacity and social capital and agency in securing access to other forms of assets (environmental, financial) is crucial to local communities’ abilities to secure their material wellbeing. Specifically, the focus of Woolcock (1998), Scoones (1998), Leach, Mearns, and Scoones (1999) and Krishna (2001) on enhancement of local peoples’ ability to successfully engage both formal and informal institutions and

organizations that mediate access to other livelihood resources is extremely salient to my work. Third, Woolcock's (1998) and Pretty and Ward's (2001) idea of gauging the maturity of local social and human capital embedded in local groups provides useful ideas for efforts to assess the progress of a project such as CAMP-Lab. Finally, the link between this type of human and social asset development and sustainability comes with the recognition that local involvement in the planning and implementation of natural resource management is often crucial to its effectiveness. Rules regarding resource management developed and controlled by local people are more likely to be respected and enforced locally than rules imposed from the outside. As a result, enhancement of local peoples' abilities to engage in processes related to natural resource management plays a role in both securing access to environmental resources and increasing the possibility that management efforts will move towards sustainability.

PAR Relevance and Limitations

The potential usefulness of participatory research methods within the context of engaged political ecology was identified by Bryant and Bailey (1997), who argued for a systematic integration of the practical implications of participatory research into future political ecology work to help better reflect the "practicalities of political engagement" (p. 196). There is a diversity of participatory methods that make use of a wide variety of tools, techniques, and

degrees of participation (Selner 1997). McAllister (1999) provides a useful taxonomy of participatory research based on the activities included in the participatory component of the project and the degree of local control or ownership of the process (see Figure 9).

CAMP-Lab falls within the co-learning approach as identified by McAllister's taxonomy. Within its co-learning approach, CAMP-Lab's efforts are guided by some key tenets of PAR that serve to define and focus its activities. The first consideration of CAMP-Lab's PAR methodology is a focus on research results that contribute to the reduction of oppression and social problems. This focus leads to questioning of the appropriateness and adequacy of traditional scientific methods as well as reductionist social science in identifying oppressive circumstances, and it calls for a more equal treatment of other methods of knowledge generation. As a result, PAR (for CAMP-Lab) views research as a co-learning project that incorporates both professional researchers and local people on an equal basis, with each contributing their own skills, knowledge, and understanding in order to provide a richer conception of the problem being studied. Finally, PAR focuses on the idea of praxis that links analysis with action as part of the process of generating knowledge (Christie et al. 2000; Freire 1993).

Some early participatory projects adopted the use of participatory research tools and methods and championed the central role of local people in

development efforts in an overly optimistic and uncritical fashion. In addition, some more mainstream development efforts have selectively co-opted language and tools of participation in ways that are inconsistent with meaningful participation. Nevertheless, there are PAR practitioners and projects that are cognisant of these problems and limitations, and they continue to work effectively for emancipatory change and livelihood improvement in the Third World.

Kapoor (2002) critiques participatory research with regards to concerns about inclusiveness, legitimacy, justice, and power distribution within participatory projects. Similarly, Cooke and Kothari warn that participatory approaches to development can have negative consequences in three areas: they can “override existing legitimate decision-making processes” (2001: 7); they can “reinforce the interests of the already powerful” (Cooke, and Kothari 2001: 8); and they can drive out methodologies with advantages that participation does not provide.

Mohan (2001) examines the possibility of moving beyond the problems identified in these critiques by suggesting a less essentialist view of knowledge and political power that recognizes: 1) the need to give up the notion that resistance assumes “a subject standing entirely outside and against a well-established structure of power” 2) the limits to knowledge and understanding among all groups or societies, opening up space for “our own, guilt-free analysis”; 3) the need for the researcher to be included among the objects of the

research, and; 4) the recognition that a dichotomous characterization of “western” and “indigenous” does not accurately portray the interaction and influences that already exist (almost inevitably), and that this provides grounds for useful dialogue in which “‘we’ do have something to offer” (Mohan 2001: 164-165).

Mohan suggests that this less essentialist approach opens up space for participatory development that recognizes and embraces its inherently political nature and the need to focus on “systems and structures that determine power and resource allocation – locally, nationally, and globally” (2001: 166). This approach includes the state as an integral part of this type of effort and suggests that 1) it cannot always be dismissed as “venal”, and; 2) it can still contribute to and protect socially beneficial change. Finally, Mohan makes an argument for long term involvement by participatory researchers that seeks deeper participation focused on capacity building and aimed at enhancing communities’ abilities to demand action from development agencies whose role should be responsiveness to these demands.

These critiques of PAR are important and need to be considered within the context of research design, implementation, and evaluation. McAllister (1999) and McAllister and Vernooy (1999) begin to address these concerns by providing useful guidance to assessing the scope and quality of participatory research, focusing on the goals of community based resource management (sustainability,

equity, local empowerment, poverty alleviation, etc.) while also addressing issues of power, representation, and divergent interests amongst various actors within the PAR process itself.

Found suggests that new forms of participatory research “hold out promise for more effective and sustainable projects” and identifies the need for special forms of planning and evaluation to support them (1997: 121). Mohan argues that one of the barriers to effective “participatory development has been the imposition of evaluation and monitoring criteria for projects that reflect the concerns and priorities of the non-local organizations” (2001: 165). The Outcome Mapping monitoring methodology employed in the CAMP-Lab project (and this research) localizes the development of monitoring and evaluation criteria in a way that partially addresses the problem of external imposition identified by Mohan.

Mohan points out that any intervention, regardless of the goal, can be “criticized for ‘originating’ the process and thereby ‘colonizes’ social change” (2001: 167). Participatory research will always be open to this criticism, and the approach is not universally useful or appropriate. However, when used prudently PAR can be a productive way to support improvements in local social capital, human capacity, and agency. The increasing need for this type of effort is summarized by Mohan arguing that “our common subjugation to increasingly global material forces and the possibility of transformative dialogues – make the

need and likelihood of collaborative alternatives more urgent and pressing” (2001: 167).

A Sustainable Livelihood Framework

The framework for analyzing sustainable livelihoods dynamics developed and employed in this dissertation draws conceptually on the work reviewed above. The framework incorporates two categories of livelihood assets: tangible assets that contribute directly to material wellbeing and intangible assets that contribute to experiential well being, and to improved local access to both categories of assets in the future (see Figure 10). These assets are drawn on by people within their livelihood context, which includes non-negotiable components like history, geography, and culture and negotiable components such as political processes and regimes, legal structures, and economic structures. In their livelihood strategies, people draw on and employ tangible and intangible assets within their livelihood context to 1) make a living materially and non-materially, and 2) alter their livelihood context in ways that improve the effectiveness of the assets they possess and access to other assets. These livelihood strategies lead to livelihood outcomes that contribute to people’s immediate material and experiential wellbeing, and feed back into the tangible and intangible assets available for future livelihood strategies.

Context

For the purpose of this framework, the livelihood context refers to elements of the local setting that enable and/or constrain possible livelihood strategies. In many ways the livelihood context incorporates many of the elements that are captured by Bird and Shepherd's (2003) concept of geographic capital. Some of these elements are non-negotiable, such the historical, cultural and geographic setting; others are negotiable, such as political, legal, and economic structures and institutions.

While contexts such as history, culture, and geography may not be negotiable in terms of content, their meaning and importance can change. For example, the relevance of geographic isolation can be made less important by

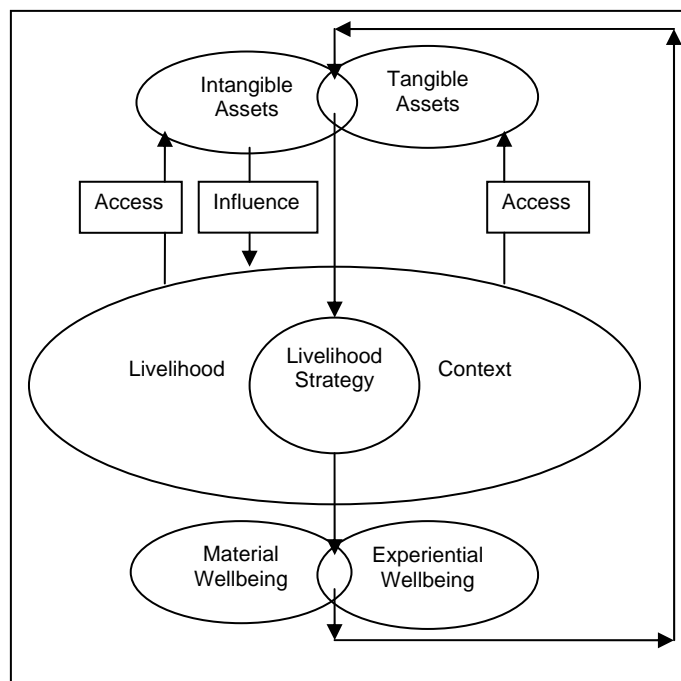


Figure 11: Sustainable Livelihood Framework

the introduction of new communications technology to a region or better transportation infrastructure to reduce frictional distance contributing to a given location's isolation. Similarly, the practical implications of being a largely indigenous community can shift, depending on national or international forces that assign value to indigenous culture and knowledge.

Negotiable components of the livelihood context include institutions and structures that can be influenced, to a greater or lesser extent, by local people. For example, the political setting can be influenced by local people through their involvement in direct political processes such as elections, or less direct activities such as lobbying of politicians, bureaucrats, and influential groups or people. These indirect activities, in many cases, offer avenues for influence—even in settings without strong democratic institutions or traditions.

Livelihood Assets

For the purpose of this framework, tangible livelihood assets are things that can be drawn on to contribute directly to the material well being of people. These include: natural capital; produced capital, both physical (infrastructure) and financial (money, credit); human capital (skills, for example, carpentry); and social capital (for example, cooperative labour arrangements).

Intangible livelihood assets are drawn on by people to contribute to their nonmaterial well being, as well as their capacity to make the most of current

livelihood opportunities and create new ones. There is a degree of overlap between tangible and intangible assets in the social and human realms. Sen (1997) differentiates between human capital and human capabilities, suggesting that education and skills help people secure their livelihoods (tangible assets), but also give them the capability to engage more fruitfully and meaningfully with the world, as well as the power to change it (intangible assets).

In a similar vein, Uphoff and Wijayaranta (2000) make a useful distinction between structural and cognitive social capital. They identify structural social capital as a mutually beneficial collective action (MBCA) which may assume the form of institutions such as volunteer fire departments that provide immediate benefits. Alternatively, they suggest that cognitive social capital assumes a more abstract form in phenomena like local goodwill, trust between people, and an ethic of cooperation to enhance the possibility and effectiveness of more structural forms of social capital. Cognitive and structural social capital are dependent on each other because effective structural social capital cannot exist without some degree of its cognitive counter part, and cognitive social capital has little concrete impact without structural support.

The last form of intangible livelihood asset included in this framework is what Krishna (2001) identifies as agency capacity. For Krishna, agency takes the form of local leadership with the skill and ability to engage with government, business and NGOs in a way that fosters greater ability to capitalize on

opportunities, influence policy, and secure other assets for communities. Agency capacity raises the productivity of other types of assets, most notably social capital, and it can be fostered by investment in “leadership training, increased awareness of constitutional rights and government programs, and easier access to offices of the state” (Krishna 2001: 938-939). Also, knowledge of the agendas, budgets, and mandates of NGOs should be added to Krishna’s list as this information is useful in efforts to mobilize support from these often influential actors.

Asset Usages

Assets are employed by local people and communities in relation to the construction of their livelihoods in two basic ways. First, tangible and intangible assets are drawn on and combined by people in livelihood strategies that provide for material and experiential wellbeing. In this sense, livelihood strategies include the provision of material inputs to people’s lives, as well as non-material inputs related to maintaining and improving a sense of security and well being for people within their social, cultural, and historical context (Kinakin 2003; Scoones 1998; Chambers and Conway 1992). These livelihood strategies have implications for the sustainability and future availability of various livelihood assets for local people. Implications can be either positive or negative, both in terms of individual asset types and the total portfolio of assets available to people.

The second way assets are employed by local people and communities is in the formation of strategies aimed at maintaining and improving access to other livelihood assets. These efforts draw on intangible livelihood assets (most importantly, agency) and are targeted at modifying the negotiable portions of the livelihood context in ways that secure and improve future access to both tangible and intangible assets. Some examples of this type of asset employment include working through political or legal means to prevent or control extraction of forest resources by foreign lumber companies, or negotiating more favorable terms (jobs, wages, environmental protection, etc.) for local people from new business ventures in their communities.

Livelihood Intervention Points

Within the context of the livelihood framework outlined above, there are a number of points at which various types of development interventions impact on livelihoods. Most notably, these intervention points include tangible assets, livelihood context, livelihood strategies, and intangible assets. While development efforts may limit themselves to one of these points, they most often incorporate activities in a number of these areas. For example, it is difficult to envision efforts to improve on livelihood strategies that do not also incorporate some form of tangible asset contribution. Similarly, efforts to alter livelihood context are often accompanied by related efforts at enhancing intangible livelihood assets.

Many large scale traditional development interventions provide some type of tangible asset in the form of physical capital, for example sanitation facilities, roads, or power generation. This type of intervention can be targeted either at improving people's lives directly (for example, a water sanitation project), or at facilitating development in a particular economic sector (for example, an aquaculture project) or some combination of the two. In any case, this type of intervention can have both positive and negative implications on local peoples' livelihood opportunities. The impact of this type of intervention is dependent on the extent to which the intervention: 1) incorporates an understanding of local livelihood strategies, and 2) is targeted at improving local livelihoods rather than broader economic prosperity – possibly even at the expense of local livelihoods.

Projects aimed at influencing the livelihood context of local people can take the form of co-management projects or government decentralization efforts. These projects attempt to renegotiate – often mandated or encouraged by external agents like the UNDP – some aspect of the negotiable livelihood context (for example, government decentralization). As a result, these efforts often represent openings for renegotiation of some aspects of the local livelihood context that may or may not be beneficial to local people, depending on their ability to participate effectively in the negotiating process (see Li 2001; Krishna 2001; Bebbington 2000; Woolcock 1998).

Projects aimed at adding or altering livelihood strategies often occur with the introduction of new technologies or techniques of production. Green revolution type activities fit in this category, as do efforts to encourage the production of non-timber forest products. Once again, the actual benefit of this type of development intervention for local people hinges, at least partly on: 1) the degree to which it is targeted to improve local people's livelihoods - versus promoting national or international economic interest, and; 2) the degree to which local people are able to influence the process and content of these types of development efforts so that they incorporate an understanding of local needs and desires.

The final possible area for development intervention contributions to intangible livelihood assets offers no immediate material benefits. Instead, these interventions are aimed at enhancing communities' abilities to control and maintain their current tangible asset base, and to locate and capture new livelihood assets. Theoretically, contributions to these types of assets should enhance the effectiveness (in terms of improved local livelihoods) of development efforts at other points in the livelihood framework by: 1) contributing to the modification of these efforts in ways that will be supported by the community, and 2) encouraging or coercing these efforts to address more directly the desires and needs of a broader spectrum of local people (rather than only the

local elite) or, in some cases/many cases, external interests such as government or business.

In some cases, efforts are made to incorporate enhancement of intangible livelihood assets into other types of development interventions. These contributions to intangible livelihood assets are generally tied to and focused on supporting a particular development agenda. While these contributions can be constructive in terms of local livelihoods, their link to an often externally imposed development agenda potentially limits the latitude available for local critique of that agenda. As a result, I argue that there is value in strengthening intangible assets, independent of other development agendas. This independence from externally imposed agendas provides the maximum space for local critique and lobbying vis-à-vis other development activities taking place in the region.

Chapter 4: Monitoring and Evaluation Alternatives: Enhancing Methodology for Project Learning and Accountability

Why OM Evaluation in this Dissertation?

The focus of this dissertation is on the ways in which small scale participatory projects and research activities can contribute to the development of intangible livelihood assets in the Third World. As a result, participatory monitoring and evaluation (PM&E) methods appropriate for tracking these influences from participatory projects provide good sources of data for this study. The use of monitoring and evaluation methodologies has two additional effects related to: 1) documenting the effectiveness of this type of project, and 2) the enhancement of the case study project's performance.

The first effect of OM's use in CAMP-Lab is a contribution to advancements in methods of monitoring and evaluation that can capture the influence of projects on intangible livelihood assets. OM enhances the viability of this type of project effort by improving the ability to document success and to advocate for the sponsorship of similar efforts. Found (1999) points to the broad program/policy learning role for monitoring generally, arguing that evaluation provides lessons for project participants, organizations, and funding agencies

that improve their ability to design and implement more effective projects. The development of OM makes an important contribution because more traditional non-participatory evaluation methods can serve as stumbling blocks for participatory projects (such as CAMP-Lab) by imposing evaluation criteria that do not reflect local concerns or priorities and (Howes 1992; Mohan 2001).

The second effect of engaging in OM within the context of CAMP-Lab is that it contributes directly to the project's effectiveness through project learning and provides a useful pathway for direct researcher contribution to improving project performance. Found argues that monitoring can serve as a reminder to "project members of the outputs or outcomes which should be evident from the project" and also provides early and ongoing indication of the project features that should be added, changed, or eliminated (1999: 66).

Found (1999) lists six purposes for project evaluation generally: 1) accountability; 2) better project management; 3) testing causality; 4) creation of project descriptions; 5) institution building, and; 6) lessons for future programs. McAllister (1999) focuses specifically on three rationales for the monitoring and evaluation of participatory research that coincide with Found's second, sixth, and first purpose respectively.

1. **Project management:** To systematically learn from and adapt the research approach as the project proceeds, according to what has been successful or not-successful, and according to enabling and risk influences such as social and power dynamics which affect the research process and results;

been replaced by bureaucratic trust based on plans, budgets, and accounts” (Roche 1999 from Earl, Carden and Smutylo 2001: 7). Overall therefore they suggest that, “this approach reduces the likelihood of strong partnerships and stakeholder involvement” (2001: 7). Third, they point out that if a program is successful, local ownership will increase and endogenous actors will take more prominent roles in the project with a correspondingly decreasing role for exogenous actors. The paradox of this dynamic for claiming impact is that if a program is truly successful in these terms, then the role of the exogenous development agency in causing impacts will be lower and decreasing in relation to endogenous actors when these impacts actually occur. Fourth, the idea of using impact as an evaluation criterion is problematic in that it requires donors to look for measurable results in the short term, when in many cases, important results actually occur after the end of a particular program. The result, in some cases, is that initiatives may be aimed at easily attainable short term low risk goals at the expense of longer term visions and efforts.

Earl, Carden, and Smutylo’s solution to the challenge of attribution of impact -- imbedded in OM -- is to place increased value on “results achieved ‘upstream’ from impact . . . by focusing on changes that are clearly within a program’s sphere of influence” (2001: 10). In this way, OM focuses on incremental short term changes that are fundamental to large-scale long term changes in human wellbeing. In this approach, the “intended impact of the

program is its guiding light and directional beacon, a test of relevance . . . not the yardstick against which performance is measured” (Earl, Carden and Smutylo 2001: 10). This unique evaluation logic synchronizes with engaged political ecology’s emphasis on dealing with short term development challenges in pragmatic and realistic ways in order to build toward futures that represent the long term desires and aspirations of local people (Bryant 1997; Bryant and Bailey 1997; Bebbington 1996).

Constructive yet critical monitoring methods for participatory development projects, aimed at influencing access to intangible assets, will provide a tool for ongoing improvement and also contribute to the body of evidence available to promote this type of project within broader circles of policy and decision makers. In sum, contributions to the development of evaluation methodology able to illustrate the influence of projects aimed at human and social assets have the potential to both improve these types of projects’ effectiveness and to increase their acceptance among development institutions (Richey-Vance 1996; Earl, Carden and Smutylo 2001).

Evaluation and Participatory Research

The challenge of evaluating the effects of a project like CAMP-Lab (regarding its contribution to sustainable development) lies in the difficulties associated with measuring and attributing effects on intangible assets -- like

2. **Conceptual learning:** To identify lessons of general applicability and to improve understanding of how different participatory research approaches and methods influence the outcomes of natural resource management projects. To identify what approaches work and don't work under different conditions, and what external and methodological factors influence this;
3. **Accountability:** To justify the research strategy and expense to funding agencies through credibly illustrating the link between participatory research methods and project outcomes, so that researchers can be accountable to donor agencies, and for programme accountability to funders (government, tax payers, etc.) (16 -17).

All of Found's rationales are applicable to the use of OM within the context of CAMP-Lab, with the exception of the third, testing causality. Earl, Carden, and Smutylo (2001) reject the goal of testing causality (attribution of results, or demonstrating impact) as a realistic or useful goal for development evaluation methodology and it is therefore not part of OM.

OM moves away from a focus on impact, characteristic of linear evaluation methods like logical framework analysis (LFA) and result based management (RBM), despite increasing institutional pressure among donor and recipient agencies to demonstrate impacts. Earl, Carden, and Smutylo (2001) critique the usefulness of attempting to demonstrate the impact of development results on four grounds. First, they point out that linear cause and effect thinking cannot accommodate an understanding of development as a complex process that is affected by a number of factors outside of the project or program's control. Second, they argue that the tendency to rely on logic-based models of evaluation (that stem from the fixation on causality) contributes to the bureaucratization of programming and places counterproductive limitations on the types of partners that can be used. The result is that "partnerships based on shared values have

social capital, human capabilities, and agency -- that are the main targets of its efforts. As previously mentioned, evaluation techniques used by donors, such as LFA and results-based management (RBM), are geared toward claiming impacts and causality for changes in order to justify funding (Smutylo 2001). While these approaches may be useful and/or necessary in some circumstances, in many cases they cannot capture the full story of a project's influence on development. As Found argues, "project settings involve so many interrelated variables that particular inputs may produce outcomes which are greatly modified from those anticipated by simple logic" used in monitoring methods such as LFA (1999: 57). Again, this is especially true in the case of improving intangible livelihood assets that are the focus of CAMP-Lab and many other PAR projects.

In many traditional monitoring methodologies, two main shortcomings need to be overcome. The first shortcoming is related to the limitations placed on project learning because of the emphasis traditionally placed on claiming credit (Smutylo 2001; Carden 2000; McAllister 1999; Vernooy and McAllister 1999). Earl, Carden, and Smutylo (2001) suggest that, "when donors and recipients attempt to be accountable for achieving impact, they are severely limiting their potential for understanding how and why impact occurs" (p. 6). In other words, too great a focus on results leads to "clueless feedback" (Smutylo 2001). This happens when evaluators pay insufficient attention to variables external to the

project that contribute to outcomes or fail to adequately explore the complex dynamics that usually contribute to impacts.

The second shortcoming of traditional monitoring is related to the positive correlation that often exists between what is being monitored in a NGO and the activities on which the NGO's efforts focus. Richey-Vance (1996) concludes that if only tangible, quantifiable results are emphasised in monitoring, NGOs will produce "bricks and mortar . . . at the expense of less visible, less marketable efforts to build human capacity and social capital" (Richey-Vance 1996, 1). Carden (2000) argues that defining development project success in terms of short term measurable impacts puts at risk longer term capacity-building efforts. He argues that projects need to be viewed, not as ends in themselves, but rather as vehicles to achieve longer term development objectives. In summary, the type of monitoring required by many development agencies is, in part, responsible for restricting the types of activities that are possible within development projects which can contribute to artificially limiting options for alternative, creative, and locally driven development efforts. As a result, developing participatory approaches to monitoring is an integral part of fostering alternative more pro-politics approaches to development that are viable on a broader scale.

Efforts to develop alternative monitoring must meet the challenge of overcoming the short-falls of more traditional methods while also providing acceptable data for policy and decision makers. Such alternative monitoring and

evaluation methods need to be flexible enough to take into account: 1) external factors that influence project outcomes, and 2) the long term nature of development processes -- which most often extend beyond the life of a given project. In addition, these methods should accommodate greater participation (especially by local people) in all stages of the monitoring and evaluation process. At the same time, monitoring and evaluation methods need to maintain an adequate ability to effectively highlight the benefits of development projects to donors, policy makers, and others in decision making positions, in a way that they consider valid.¹⁵

McAllister and Vernooy's (1999) approach to dealing with these challenges is to advocate monitoring of participatory research focused on changes in the research site during the project's tenure. They suggest this can be accomplished by presenting logical linkages between a project's activities and its outputs and outcomes through monitoring of the process, and the use of simple indicators designed to measure changes in the research site. McAllister (1999) identifies five products generated by participatory research that can be considered for evaluation purposes: participatory process, methods, and tools; outputs; outcomes; impacts and reach (see Figure 12). These products are not

¹⁵ The process of gaining increased acceptance for alternative monitoring methodologies like OM is likely to be a slow. However, successful examples of the use of these methodologies, such as CAMP-Lab's experience, can contribute to the process.

necessarily easy to differentiate, and they serve collectively as more of a menu for consideration within evaluation rather than strictly defined categories.

McAllister (1999) feeds these products into a framework that illustrates contributions of participatory research to change. This model provides a useful heuristic tool for thinking about the evaluation of participatory projects (see Figure 13). Many of the concerns and strategies present in the work of McAllister (1999) and McAllister and Vernooy (1999) are reflected in the design and logic of Outcome Mapping (OM).

Products of Participatory Research

1) Participatory process, methods, and tools:

-both as project output and a means to meet other project objectives

2) Outputs

-concrete and tangible consequences of participatory activity (including information products, number of people trained, participation itself).

3) Outcomes (short term impacts or effects)

-immediate impacts at least partly attributable to participatory research include both

a) Functional effects (e.g. greater adoption of new farming practices)

b) Intangible effects (e.g. improved confidence local conflict resolution ability)

4) Impacts

-overall long term changes influenced by many factors that are difficult to assess due to their long term nature.

-it is therefore "more realistic to consider outcomes as intermediate signs of impact" (p. 18)

5) Reach

-"describes the scope of who is influenced by the research combined with who 'responds' or acts because of this influence" (p. 18)

Source: McAllister 1999: 17-18

Figure 12: Products of Participatory Research

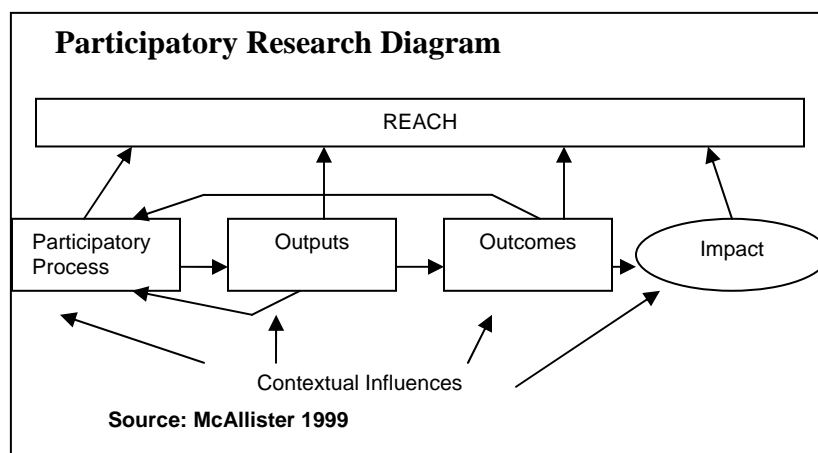


Figure 13: Participatory Research Diagram

OM Methodology and CAMP-Lab

In an effort to better understand and illustrate CAMP-Lab's contribution to the assets available to the communities of Pearl Lagoon, I adopt the Outcome Mapping (OM) approach developed within the Evaluation Unit of the IDRC (Earl, Carden, and Smutylo 2001). OM starts with the premise that progress towards development is achieved by the confluence of a number of factors, many of which are outside a project's control. As a result, OM recognizes that it is most often impossible to assign causality for development successes and failures to a particular project. Therefore, instead of attempting to demonstrate the direct development impacts of a project, OM focuses its attention on the role of a project in changing the behaviour of people, groups, or organizations with whom the project works directly in ways that contribute to wider ecological and human well-being. Rather than trying to demonstrate causal relationships, OM attempts to show a logical link between program activities and the behavioural changes

that contribute to the project's broader vision (Earl, Carden, and Smutylo 2001; Smutylo 2001).

OM's focus on behavioural change gives it the potential to realistically analyze the influence of a project such as CAMP-Lab on intangible livelihood assets. This gives OM potential resonance with Woolcock (1998) and Pretty and Ward's (2001) focus on gauging the maturity of local social and human assets. In addition, the process of OM fits well within CAMP-Lab's participatory methodology in that local participants and project staff (also local people) play a central role in the development of the monitoring priorities, the monitoring system, the generation of progress indicators, and the monitoring process itself. In this way, CAMP-Lab shares ownership of the OM monitoring system among a wide range of interested parties. OM also provides a basis for ongoing reflection on and adjustment of project activities to improve project effectiveness in making progress toward its vision. Thus, OM also contributes to the PAR priority praxis within the CAMP-Lab project.

OM and Evaluation Taxonomies

Evaluation Taxonomies

There is a wide variety of approaches to monitoring and evaluation, and a variety of different strategies for classifying and gauging the usefulness of these approaches. Stufflebeam (2001) identifies 22 commonly used evaluation

approaches and ranks them based on ability to comply with the Joint Committee Program Evaluation Standards (American Evaluation Association) checklist. The checklist ranks evaluations on thirty standards related to utility, feasibility, propriety, and accuracy (Stufflebeam 1999). Two evaluation methods that have much in common with OM, decision/accountability-oriented and utilization-focused methods, were among the highest scorers based on these standards. Their most striking similarities with OM are in the common emphasis they place on: 1) evaluation priority being placed primarily on learning and project improvement and only secondarily on accountability, and 2) stakeholder involvement in the evaluation process based on the premise that this will improve understanding and utilization of findings for project improvement.

Fishman and Neigher (2003) differentiate between traditional “‘modern’ and positivist or post positivist” approaches to program evaluation, and more recent “‘post modern’, ‘constructivist’” approaches. The first set of approaches emphasizes “decontextualized, group-based experiments; quantification; value neutrality; and deductive testing of general theory” while the second set of approaches “emphasize individual case studies in naturalistic context; qualitative information; a participatory/empowerment-oriented approach; and inductive development of grounded theory” (p. 422). Fishman and Neigher (2003) suggest that tools and methods from both positivist and post modern approaches to evaluation can be productively combined, based on their practical value for

improving the evaluation's utility. Patton (2002), one of the major advocates of pragmatic utilization, focused evaluation warns that there are limits to the usefulness of combined methods because of negative perceptions and feelings about quantification by actors (funders and evaluators) who favor qualitative methods. The reverse bias can be found in those evaluators who favor quantitative methods.

Greene (2000) provides a taxonomy of major approaches to evaluation, including "positivism" and three "post modern" approaches: utilitarian pragmatism; interpretivism, constructivism; and critical social sciences. These approaches are compared using four criteria: primary values promoted, key audience, preferred methods, and typical evaluation questions (see Figure 14).

Major Contemporary Approaches to Formal Program Evaluation				
Epistemology	Primary Values Promoted	Key Audience	Preferred Methods	Typical Evaluation Questions
Positivism (Cook 1985)	Efficiency, accountability, cost-effectiveness, policy enlightenment	High-level policy and decision makers, funders, the social science community	Quantitative: experiments and quasi-experiments, surveys, causal modeling, cost-benefit analysis	Are intended outcomes attained and attributable to the program? Is this program the most efficient alternative?
Utilitarian pragmatism (Patton 1997)	Utility, practicality, managerial effectiveness	Midlevel program managers and on-site administrators	Eclectic, mixed: structured and unstructured surveys, interviews, observations, document analyses, panel reviews	Which program components work well and which need improvement? How effective is the program with respect to the organization's goals and mission? Who likes the program?
Interpretivism, constructivism (Stake 1995)	Pluralism, understanding, contextualism, personal experience	Program directors, staff, and beneficiaries	Qualitative: case studies, open-ended interviews and observations, document reviews, dialectics	How is the program experienced by various stakeholders? In what ways is the program meaningful?
Critical social sciences (Fay 1997)	Emancipation, empowerment, social change, egalitarianism, critical enlightenment	Program beneficiaries and their communities, activists	Participatory, action oriented: stakeholders participation in evaluation agenda setting, data collection, interpretation, and action	In what ways are the premises, goals, or activities of the program serving to maintain power and resource inequities in this context?
From Greene 2002 (p. 984)				

Figure 14: Major Contemporary Approaches to Program Evaluation

OM does not fit neatly into any of the four evaluation approaches identified by Greene. It does, however, have significant parallels with utilitarian pragmatism in terms of values and audience, and with critical social science in terms of methodology. Figure 15 sets out briefly the OM approach to evaluation based on Greene's categories. The OM approach to each of these categories is developed more thoroughly below.

Outcome Mapping Approach to Evaluation				
	Primary Values Promoted	Key Audience	Preferred Methods	Typical Evaluation Questions
Outcome Mapping (Earle Carden and Smutylo 2001)	Primarily learning and project self improvement.	Staff, administrators and management	Analysis of progress towards project or program mission based on a framework, collaboratively defined by a variety of stakeholders, focused on relevant behavioral changes among key partners.	Are the program's or project's strategies influencing their partner's progress towards achieving their goals?
	Secondarily, accountability (to funders and/or beneficiaries) and policy influence.	Funders, higher level decision makers and policy makers. Beneficiaries		What strategies should be added, modified, or abandoned in order to improve partner progress?

Figure 15: Outcome Mapping Approach to Evaluation

OM Values Promoted

OM's primary values are focused on organizational learning with a secondary focus on accountability needs (Smutylo 2001, Patton 2002). There is

a degree of flexibility in the methodology and the precise tenor of a given OM process, and it is set, to a significant degree, by the donor's or program's perspective on monitoring and evaluation (Smutylo 2001; Patton from Earl, Carden and Smutylo 2001). Ultimately, however, OM is best suited to situations in which monitoring can be "given away" to organizations to enhance their capacity for organizational planning and management (Earl, Carden, and Smutylo 2001; Carden 2000). Found argues that giving away monitoring is appropriate when "everyone shares the attitude that organizations should analyze their activities honestly" (1999: 67). This attitude is only possible if monitoring participants feel they can identify weaknesses and problems in a project with minimal fear of negative repercussions for themselves.

OM Key Audience

For OM's project learning function, the key audience is centered on project management and staff. The methodology attempts to enhance project learning, in part by minimizing feelings of threat and anxiety often associated with monitoring and evaluation among project staff and management (Earl, Carden, and Smutylo 2001). Ideally, this contributes to project staff's and management's comfort in engaging and embracing the monitoring in an honest and self critical way that contributes to project improvements and provides useful data.

Depending on the degree to which OM is also being used for accountability purposes (documenting and reporting on achievements), the audience may also

include policy makers and donors. Patton suggests that OM holds promise as an accountability tool in that it has the potential to contribute to “across-portfolio learning” by facilitating the use of standardized indicators in a way that does not lose “the richness in each case’s story” (2002: 153).

OM Preferred Methods

Methodologically, OM provides a participatory system through which “programs identify the actors with whom they will work and then devise strategies to help equip selected partners with the tools, techniques, and resources to contribute to the development process” (Smutylo 2001: 10). Within this methodology, long term downstream impacts are guides to action, but not necessarily benchmarks for performance. Instead, “outcomes are defined as changes in the behaviour, relationships, activities, or actions of the people, groups, and organizations with whom a program works directly” (Earl, Carden, and Smutylo 2000: 1). These changes ideally contribute to the desired downstream development goals envisioned by the project. OM measures change in project partners through the use of graduated indicators of progress defined in a participatory process by key actors who ideally include project staff, management, funders, and beneficiaries. These changes are then logically linked to program activities through descriptive reviews of project strategies and process; however, as explained previously, establishing a direct causal

relationship between change in partners and project activities is not an aim of this methodology.

OM Typical evaluation questions

Outcome Mapping evaluation questions are focused on: 1) the degree to which project strategies influence their partners' behavior in ways that contribute to their achievement of goals defined by the project (through participatory processes); 2) the degree to which project strategies have been effective in assisting its partners with the achievement of their goals, and; 3) the identification of strategies that should be modified, added, or abandoned to improve project effectiveness. Questions are focused primarily on program or project learning and self improvement; however, depending on the nature of the particular OM framework, they also have the potential to contribute to accountability and across portfolio learning through standardized indicators (Smutylo 2001).

Contributions to Monitoring and Evaluation

This research contributes to the broader monitoring and evaluation literature by providing a case study of Outcome Mapping (OM) use¹⁶. Fishman and Neigher (2003) argue that building a knowledge base in qualitative evaluation is very much dependent on learning from past evaluation experiences.

¹⁶ OM and its use in CAMP-Lab is described in detail in Chapter 5.

In this respect, CAMP-Lab's OM should provide lessons of value for future efforts using the methodology, especially in similar circumstances.

While a single evaluation case study does not allow for "generalizable" lessons, it may provide case-specific insights of value for similar circumstances. In addition, if the case study is considered in combination with a sufficient number of other case studies, it may eventually be possible to begin making inductive generalizations for the methodology. This approach to building qualitative evaluation knowledge is advocated on a grand scale -- by Fishman and Neigher (2003 a,b,c) -- through the creation of a computerized data base of qualitative evaluation case studies formatted by using a common framework.

In summary, as a project that aims towards sustainable development through the enhancement of local capacity, CAMP-Lab represents a useful case study for evaluating OM's effectiveness in supporting and documenting progress towards these aims. In this sense, CAMP-Lab III experience with OM provides an experientially narrow but useful set of insights regarding the challenges and benefits that this PM&E approach offers for projects with similar objectives.

Chapter 5: Scaling Up: Supporting Policy “Trespass”

Research for Policy Change

Ferguson points to “political participation in one’s own society” in the role of “expert” with first hand knowledge of the Third World as one possible avenue for western academics to influence public debate and thereby to assist with overcoming some of the challenges faced in the Third World (1994: 286).¹⁷ I would argue that it is also possible and useful (in some instances) to contribute through more direct engagement with the development policy-making process and implementation, either in government or in the NGO community.

Efforts to engage with the policy process may be difficult and slow to generate change. However, development policy in the First World, to a large extent, generates the “anti-politics” effects identified by Ferguson (1994), and it is likely to remain the driving logic behind the allocation and direction of much of the resources transferred to the Third World. Therefore, efforts to influence broader development policy -- by developing, documenting, and promoting alternative development approaches -- are crucial components of long term emancipatory change in the Third World.

¹⁷ In particular, Ferguson points to examples such as the role of academics in raising public awareness and sympathies on issues such as Palestinian self determination or opposing U.S. policy in Central America through first-hand humanizing accounts.

Uvin, Jane, and Brown argue that without efforts to “scale up” influence, NGO successes will be “little more than islands of excellence in a wider economic and institutional environment which is detrimental to the poor” (2000: 1418). In this sense, “scaling up” means building from “concrete innovations at the grassroots level to connect with the forces that influence patterns of poverty, prejudice, and violence” affecting the Third World (Uvin, Jane, and Brown 2000: 1418). With this logic in mind, my dissertation research will make a modest contribution to the IDRC’s broader project of research for development policy influence.

In their efforts to identify mechanisms that link development research to policy influence, beginning in 2001 the IDRC undertook a two year strategic evaluation of the influence of 60 of its projects in 20 countries. The study characterizes the link between development research and policy influence as a “gradual shift in thinking over time” (Graham 2003: 3), and it identifies seven mechanisms that link development research with policy influence based on the experience of IDRC program staff (see Figure 16). These mechanisms provide a useful framework for thinking about CAMP-Lab’s influence on policy, both in terms of its overall impact as a development research project and its use and development of OM.

Mechanisms for development Policy Influence

- 1) dissemination of research results to policy makers, in appropriate formats;
- 2) interaction between researchers and policymakers during the design of the research, dissemination, and/or the research process itself;
- 3) building of relationships between researchers and decision makers that last beyond the research project;
- 4) public dissemination of and debate on the research results;
- 5) use of the research results by groups in society to encourage or advocate change;
- 6) strengthening organizations in terms of their capacity to carry out policy inquiry; and
- 7) strengthening key individuals within a generation of researchers who will in the future be in a position to implement or encourage policy change.

Source: Carden 2004: 138

Figure 16: Mechanisms for Development Policy Influence

While the improvement of development efforts through self evaluation and monitoring is the primary focus of OM evaluation, it is also designed to contribute to the IDRC's goal of research for policy influence through its strategy of "closing the loop". The IDRC defines closing the loop as,

an approach to programming and projects that seeks to ensure the awareness, understanding, and ownership of research outputs by decision-makers at all levels. Its goals are to increase the relevance and utilization of research outputs, thereby enhancing the influence of the researchers, institutions, and work we support (IDRC 2002).

The intent and goals of the IDRC strategy in research for policy influence, which closing the loop supports, is most succinctly and clearly articulated by the current IDRC president, Maureen O'Neal: "Probably the most important thing is the extent to which researchers can get their ideas out and have an influence on what society is ready to do or think about" (IDRC 2002: 10). Ultimately, there are

two complementary processes of research for policy influence to which this research contributes: 1) the development of alternative approaches to contributing to emancipatory change, and 2) the overcoming of “institutional deafness” in relation to these alternatives.

Development of Alternatives

My research contributes to the development of alternative approaches for contributing to emancipatory change in two ways. First, the research provides a new framework for the analysis of sustainable livelihoods, focusing on the various intervention points at which development projects can have influence. Analyzed through the lens of this framework, the research provides a participatory resource management project case study with analysis focused on project influence on local intangible assets. Analysis of the role and importance of intangible assets in development is not new; however, within this case study, my research is relatively unique in exploring the mechanisms through which participatory research and project activities contribute to enhancement of intangible assets.

Second, my research incorporates OM and contributes to its development as a productive tool for project self evaluation and improvement that may be useful for other similar projects. In doing this, the research helps contribute to an alternative to more traditional forms of evaluation, such as Logical Framework

Analysis (LFA) or Results Based Management (RBM), that impose external priorities and concerns on development efforts. These more traditional approaches to evaluation are not often particularly useful or appropriate for alternative or more participatory approaches to development, and they may in fact present a barrier to their adoption or successful implementation (Mohan 2001; Smutylo 2001; Earl, Carden and Smutylo 2001; Found 1999). Howes suggests that attempts to adapt LFA style monitoring and evaluation to participatory projects maintains “a structurally induced tendency . . . not to divert from the predetermined path”, limiting their ability to provide a real measure of local control (1992: 391). Alternatively and in some instances, participatory monitoring and evaluation efforts have tended to serve the project learning function of monitoring and evaluation but failed to produce data with potential for cross case comparison or generalizable lessons.

In this vein, Carden (2004) argues that, particularly in the context of capacity building efforts, appropriate support and project management systems require development to “ensure accountability, but are also agile in their ability to seize opportunities as they emerge”(149). At the same time, however, alternative approaches to evaluating these projects must take into account that evaluations “can make little contribution to social policies and programs if they are not perceived as credible – defensible, enlightening, and useful – by at least some evaluation users” (Greene 2002: 987).

Overcoming Institutional Deafness

One of the challenges faced in efforts to influence development policy and institutions is overcoming the problem of institutional deafness identified by Brosius (1999). Bebbington (2002) points to the notion of social capital as an example of the way in which certain ideas can “trespass” in development institutions (albeit in a limited way) and “sow seeds” that might ultimately “influence the thoughts and actions of others, and suggest different ways of operating” (2002: 802). One of the difficulties faced by efforts to “trespass” in these institutions (through alternative approaches to emancipatory change in the Third World) is the need to demonstrate and attribute the development impact of project efforts in narrowly defined ways that in fact limit program possibilities (Carden 2004; Mohan 2001; Smutylo 2001; Found 1999)¹⁸.

Project activities focused on improving the intangible assets base are likely to contribute to emancipatory goals but not in the short term. Rather, these impacts will be indirect, difficult to attribute, and likely to appear in the medium to long term—potentially long after a project’s conclusion. While OM does not solve the problem of attribution of long term impacts in project efforts, it does provide a monitoring alternative that allows “organizations to document, learn from, and report on, their achievements” in a realistic and nuanced way (Smutylo 2001).

¹⁸ The problems associated with attribution is discussed in detail in the previous chapter.

OM also holds promise for a degree of indicator standardization and numerical summarization to provide useful snapshots of progress across time that maintain empirical richness when accompanied by narrative explanations (Patton 2002).

A key challenge facing participatory monitoring and evaluation (PM&E) efforts like OM is the critique that it lacks scientific rigour. Such critiques are rooted in PM&E's "opening up of the research process to unskilled participants", bringing into question among some circles the credibility and quality of the information that is produced" (Guijt 2000: 209). Guijt argues that this skepticism about the rigour of PM&E stems from a combination of "resistance to unfamiliar and unconventional methods, discomfort with data collection carried out by non scientists, and unwillingness to let go of professional standards, irrespective of whether these are relevant or not (2000: 209)". Advocates of PM&E respond to accusation that the approach lacks rigour by challenging the usefulness of traditional "scientific" standards of rigour and arguing that PM&E provides a more practical, grounded, and economical approach to generating information that moves project activities and the development process forward.

PM&E approaches –like OM-- clearly represent a shift from "pre-defined 'objective' indicators to negotiated context-specific indicators" (Guijt 2000: 205). However, advocates of the approach argue that there is as great a likelihood of achieving objective and truthful information through collective discussion (which occurs in a PM&E process) as there is through externally defined and developed

methods carried out by an external evaluator relying on local informants with potentially little incentive to be entirely truthful or forthcoming (Howes 1992; Uphoff 1989; Hulme 2000). As a result, supporters of PM&E suggest that an approach based on local subjectively valid indicators is more meaningful, credible, and useful at the local level than methods that impose externally defined objectivity that is prohibitively expensive to achieve (Guijt 2000; Uphoff 1989).

On the other hand, arguments in support of PM&E reveal some important shortcomings. One of the strengths identified by advocates of PM&E is its ability to quickly adapt to changing conditions— a trait which is deemed crucial to the long term viability of monitoring and evaluation in development settings over time. Conversely, the ability to shift the focus of evaluation in an iterative process presents challenges for the use of PM&E for accountability purposes as it makes comparing evaluation data over time or across projects challenging (Guijt 2000; Howes 1992; Uphoff 1989).

There are a number of other shortcomings in PM&E approaches. Arguments in support of PM&E sometimes “go too far” in denying the potential importance of a reasonable level of external validation and critique leaving the method vulnerable to abuse by those responsible for local PM&E processes at a local level. Associated with this condition is a tendency to romanticize local knowledge and denigrate the potential contributions of “expert” outsiders whose

assistance and advice might be valuable to local people, particularly on highly technical topics (Batterbury, Forsyth, and Thomson 1997; Guijt 2000).

Another challenge faced by PM&E is that regardless of grounded theoretical arguments that can be made for the relevance and usefulness of the methods, they still must be deemed acceptable by key actors in the development process, including donors, governments, or NGOs. In their discussion of PM&E in relation to the environment, Batterbury, Forsyth, and Thomson argue that “the challenge . . . is not just to construct more informed and democratized explanations . . . but also to ensure this knowledge is used to influence policy” (1997: 129). This poses a potential challenge as individuals in decision making positions in these organizations are often trained in more traditional natural and social sciences. As a result, they may not be predisposed to the acceptance of methods that fall outside of their experience or epistemological world view.

On a practical level, PM&E methods may also represent challenges to the standing of some in positions of power. As a result, the validity of findings may be conveniently called into question on methodological grounds when findings are contentious or produce discomfort (Guijt 2000). Focusing on the power implications of PM&E, Probst (2002) points out that PM&E processes do not have the ability to shift power relations automatically. Instead, overarching power structures determine what is possible within the PM&E process.

The fundamental point of departure for deciding the value of PM&E approaches like OM in particular circumstances is consideration of the main use or purpose of the data. If it is to be used for capacity building and project learning in a particular program or project, the research methods must be understandable, usable, acceptable, and relevant to local people and project staff. In most Third World settings this requires a departure from complex scientific methods steeped in concerns of externally defined objectivity and a movement toward more locally relevant methods involving local choice of indicators and definitions of progress. Uphoff (1989) suggests that it may be possible in a local setting to gradually move toward methods and processes that are more likely to meet external standards of rigour as local capacity and comfort with PM&E increases.

If this information is to be used primarily for local improvement, then the importance of externally defined rigour and acceptability is less significant as a measure of its validity than would be local standards of data trustworthiness. Alternatively, if the primary purpose of the M&E is related to externally defined accountability, then these methods, no matter how useful locally, may not be appropriate (Guijt 2000). Ultimately, the purpose and expected audience of the PM&E are the key factors in determining the most appropriate methods.

Imbedded in the learning versus accountability dichotomy in the PM&E process is the importance of power relations. Guijt argues that “at the heart of the challenges lies the question of which objectives are more important: compliance

and accountability, or learning and adaptation? And if it is to be learning, then we cannot avoid asking ‘Learning for whom?’ and ‘Learning for what?’” (2000: 216). Framed in this way, the question posed is not meant to determine definitively which indicators are best suited to accurately monitor a particular process, but also “who is empowered or disempowered in the process of [indicator] selection, development and application (Guijt 2000: 205)”.

Ultimately, choices in monitoring and evaluation activities need to be read not only as a quest for best practices, but also as a political space in which “actors seek to influence the knowledge creation process so that it meets their needs” (Hulme 2000: 93). Hulme outlines this power dimension in the scientific approaches, suggesting these approaches do not sufficiently deal with the complexity and contingency of development settings while simultaneously empowering “professionals, policy-makers and elites . . . reinforcing the status quo and directly retarding the achievement of development goals” (2000: 87).

Divesting external development personnel or academics of the right to define project success through the identification of monitoring priorities, indicators, and scales of measurement is a profoundly politicizing practice that naturally accompanies a pro politics approach to development activities and research. In this way PM&E is a natural component of development activities that have local empowerment and capacity building as a priority. The challenge, as Batterbury, Forsyth, and Thomson point out, is that while participatory research

may play a role in the democratization process by bringing local knowledge into the policy arena, “aid or western expertise” is a necessary component of facilitating this move (1997: 129). As a result, there is an unavoidable role for external actors in moving the results of participatory processes into the policy process and a concomitant exposure to being compromised by these actors.

When implemented in a participatory manner, OM represents a pro-politics approach to monitoring and evaluation that is consistent with the values and goals of participatory approaches to development. At the same time, it has the potential to provide at least some quantifiable data that is comparable across cases. The potential value of this type of democratization of the monitoring and evaluation process that incorporates locally defined subjective but quantifiable indicators has been explored previously by Uphoff’s work on developing participatory self evaluation for the FAO’s People’s Participation Program (PPP) (1989). According to Howes, this type of approach can contribute to the project learning and institution building functions of monitoring and evaluation, but it also has the potential to generate “subjectively meaningful, yet quantitative indicators of progress . . . [that] in turn, facilitate at least some degree of external accountability and inter-project comparison” (1992: 391). OM parallels Uphoff’s (1989) work in that it attempts to create locally subjective indicators that are also quantifiable and present some opportunity for cross case comparison. In this

sense, both approaches focus primarily on project learning while attempting to also accommodate external accountability needs.

In the medium to long term, demonstrable success in efforts to contribute to emancipatory change in the Third World, based on alternatives to the mainstream development paradigm, may provide leverage to encourage policy shifts in other more conservative institutions. These efforts will have a greater chance to influence policy and overcome “institutional deafness” if they incorporate monitoring and evaluation efforts that produce data that meets the needs of development decision makers. OM provides a monitoring framework with potential to produce this type of appropriate data, while maintaining a core focus on project learning and local empowerment that is/can be embraced by project staff. My research contributes a unique example of OM implementation and reporting, incorporating simple numerical summarization of project performance over time by using locally valued and defined indicators thereby contributing to what Carden (2004) identifies as an important mechanism for development policy influence (see Figure 15, number 1).

In addition to contributing to policy influence through lessons learned using OM, some aspects of the method itself may have the potential to trespass into the methods used by other development institutions. Alternative monitoring and evaluation methods, like OM, are not likely to be widely or rapidly embraced in mainstream development institutions. However, exposure to the productive

application of this or other similar alternatives in the Third World may help generate local demands on development institutions for monitoring and evaluation that are more constructive, relevant, and locally owned. If effective, this pressure may, in turn, contribute to improvements in mainstream development efforts through improved project learning and a better grounding in local concerns.

Chapter 6: Methodology and Sources of Data

Methodological Overview

My role as doctoral student researcher in CAMP-Lab was made possible by my responsibilities as the project's manager at York University's CERLAC. In my position as project manager, I coordinated collaboration between CIDCA CAMP-Lab in Nicaragua and students and faculty from York University. In addition to facilitating this collaborative aspect of the project, I played an ongoing role in CAMP-Lab activities in Nicaragua as a participant, co-organizer, and co-planner of virtually every facet of the project from June 2000 until May 2003. My prior association with the project included: eight months spent working with it in 1997 as part of my MA research, collaboration on a project monograph in 1998-1999, and participation in the preparation of the phase three project proposal for IDRC in 1999 (see Appendix A).

My dual role as researcher and active participant in the process being studied had both advantages and disadvantages for the research product. On the positive side, my integration into the day-to-day operations of the project, though not absolute, gave me a comprehensive view of both the internal workings of the project and many of the underlying dynamics. In addition, my relationships with project staff and participants allowed for more thorough and honest

interactions in the interviews and during the OM monitoring and evaluation processes.

On the negative side, my integration into the project leaves me open to potential criticisms of bias and lack of objectivity. While I certainly have a personal investment in the project's success, it is manifested in a desire to make this project and other projects like it more effective; as a result, constructive criticism of and critical reflection on the project are integral parts of my commitment. This openness to constructive self-critique and reflection was also present among the Nicaraguan project staff, whose interest in increasing project effectiveness largely overcame their natural aversion to admitting problems and mistakes out of fear of penalization for this forthrightness. This tendency among the project staff was made stronger through the Outcome Mapping process, introduced in the final year of the project, which helped to cement the importance and acceptability of reflecting critically on previous activities in order to improve future efforts.

Both the project staff's and my own ability to engage in this critical reflection stemmed, in part, from the main project funder's (IDRC) focus on development research and capacity building for development research rather than on traditional development outputs. IDRC's more long-term and learning-oriented approach made openness among the participants possible and desirable.

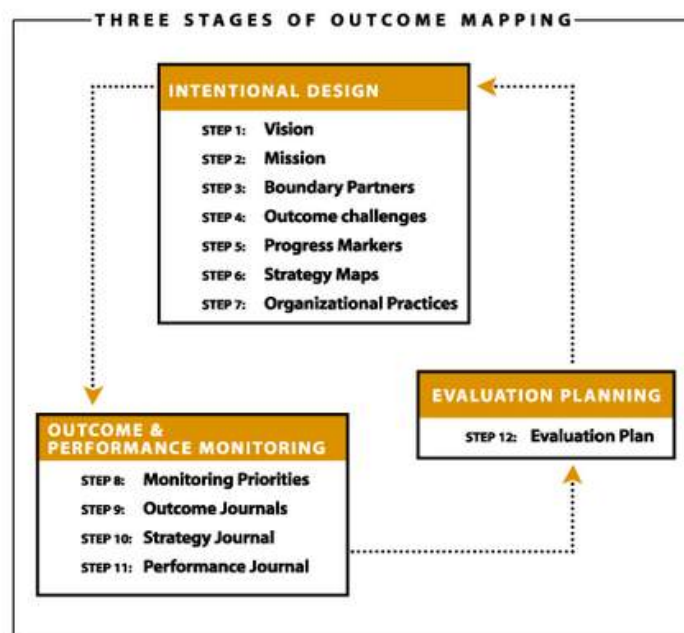
Many of the methodological tools and sources of data that I employed in this research were participatory in that: 1) I never viewed my efforts as wholly separate from the project itself; 2) I designed most of my research activities with the parallel goals of gathering data for my dissertation and contributing constructively to the project's effectiveness; and 3) my efforts usually involved some form of collaboration with project staff and participants. Data used in my dissertation is drawn from my own research initiatives, including: interviews and participant observation; project evaluation efforts, including OM and SWOT; project documents, including correspondence, reports, publications, and meeting notes; and the academic work of other project participants. As a result, this research includes, in one form or another, information drawn from the efforts of Nicaraguan CAMP-Lab staff, including Bertha Simmons, Eduardo Tinkam, Oswaldo Morales, Ray Garth, and Bonifacio Gonzales, and York University project participants Christine McKenzie, Monica Schuegraph, Bernice Kozak, Deborah Barndt, and Bill Found.

Outcome Mapping

Introduction of OM

The workshop that initiated CAMP-Lab's OM monitoring and evaluation process was based on the process developed by the IDRC evaluation unit. The OM workshop has three stages. The first stage, "Intentional Design", establishes

consensus among key actors about the macro-level goals that the project or program is trying to support (vision),¹⁹ clarifies how the program will contribute to these changes (mission), determines with whom the project will be working to pursue these changes (boundary partners), identifies what progress towards these changes will look like for each boundary partner (outcome challenges) and how this progress can be measured (progress markers),²⁰ and outlines how these changes are being supported by the program (“strategy maps” and “organizational practices”) (see Figure 17).



(From http://www.idrc.ca/en/ev-27710-201-1-DO_TOPIC.html)

¹⁹ CAMP-Lab has adopted the term "dream" rather than "vision".

²⁰ CAMP Lab has adopted the term "progress indicators" rather than "progress markers".

The second stage of the OM workshop, “Outcome and Performance Monitoring”, sets the project’s monitoring priorities and develops a framework for monitoring both boundary partners’ progress towards the desired outcome as well as the strategies and practices employed by the project to contribute to this progress. This framework includes graduated indicators of behavioural change in boundary partners and a descriptive review of the strategies and organizational practices used by the program.

The final stage of the OM workshop, “Evaluation Planning”, prioritizes evaluation topics, develops strategies for using evaluation findings, and identifies responsibility for conducting the evaluation. Evaluation Planning is rooted in the context of the particular program, taking into account both its monitoring needs and the resources it has available for monitoring activities.

CAMP-Lab OM Workshop Summary

CAMP-Lab’s OM efforts began on July 15, 2002 with a three day workshop that involved fifteen people, including a variety of local actors such as project staff, project participants, members of local government, representatives of its institutional affiliate (CIDCA-UCA), and representatives from other relevant local NGOs (see Appendix C). The OM workshop began with a review of the project’s history and activities. This activity helped remind participants familiar with the project of the activities in which CAMP-Lab had engaged over its nine-year

history and helped those less familiar with the project to understand it more clearly.

The historical review was followed by an exercise designed to demystify and redefine evaluation to suit the project's context, rendering it less threatening, increasing the likelihood of engaged and honest participation by the staff, and ultimately making it more useful as a project learning tool. The exercise began by asking the question, "What are the first three words you think about when you hear the word evaluation?" Participants then eliminated the characteristics that they did not wish to include in the evaluation and summarized the remaining characteristics to create a statement of intent for CAMP-Lab's monitoring. The resulting statement of intent was "to measure our achievements and failures over a time frame to learn from them, better define and correct our future, and also to motivate us".

After these initial exercises, we developed OM for CAMP-Lab by going through the three workshop stages outlined above (see Figure 16). Most of the workshop activities used small group discussions of four or five participants per group, including a CAMP-Lab staff member in each group. The groups worked simultaneously on the same step of the process, making use of flip charts or cards to record group ideas. These small group exercises were followed by the presentation of each group's ideas to the whole and a collective effort of synthesis through open discussion, debate, and collective editing of the result,

using a laptop connected to a large television set. The workshop participants chose to work in small groups as they believed it to be the most effective way to promote the widest possible participation. In addition, they believed that all groups working simultaneously on the same step would contribute to the depth and richness of the results.

Terminology for the various steps of OM was modified from that presented in Earl, Carden, and Smutylo (2001) to make the ideas more accessible to participants in the context of Pearl Lagoon. This was done by phrasing the goal of each step in the OM process as a question and supplementing this basic question with modified versions of the facilitation questions offered in Earl, Carden, and Smutylo (2001) (see Appendix D for the power point slides used in the workshop).

The steps and facilitation materials for OM were presented to the participants using Power Point on a laptop computer attached to a large television set. The computer and television displays were also used in the workshop to display, review, and revise the collective results of the workshop activities. This information was later edited and revised in the follow-up meeting of CAMP-Lab staff.

Summary of CAMP-Lab OM Workshop Follow-Up

The process of follow up was based on open discussion among the project staff (Appendix E). Precise wording of various parts of the evaluation framework were discussed and debated thoroughly by those present, as were appropriate graduation and measures for progress indicators. Decisions in the follow up were made on the basis of consensus.

The follow up began with review and minor revision of the project's dream statements, mission statements, and the outcome challenges for each boundary partner (the intentional design stage) and then focused its efforts on further refinement of the outcome and performance monitoring and evaluation stage of their OM effort. The team chose to monitor three of the six boundary partners (CAMP-Lab Committees, Radio Committee, Schools and Students) that they considered most important to the project and most practical in terms of the time and resources available for monitoring. In addition, the team decided that the remaining three boundary partners (Communal Boards, Communities, and Fishers and Farmers) would be used in the future, depending on the needs of the project and the time and resources available for monitoring by the team. In the end, I combined these three categories under the title of Communities, including key indicators from each (as identified in the workshop). The combined boundary partner and progress indicators were reviewed and approved by CAMP-Lab staff.

The group then reviewed the three selected boundary partners and their progress markers, and it developed rating schemes and data collection methods for each. These rating schemes were later modified slightly to facilitate more effective compilation and summarization of the data. There was insufficient time available to develop concretely the monitoring methods for project strategies and performance, so the team agreed that these aspects of the monitoring would be covered through discussions between the staff during future monitoring meetings. Most indicators were given a graduated scale of (F) Fair, (G) Good, or (E) Excellent to which a concrete measurement was assigned, while others required a more qualitative measurement, which was rated on the same scale. In a few cases it was decided that indicators would be measured by the presence or absence of the indicator.

One important result of the effort to identify progress indicators was that staff decided to reinstate some monitoring activities that had been previously employed but eventually abandoned by CAMP-Lab: the use of standardized information forms for CAMP-Lab Committee meetings and collecting copies of the work plans from individual CAMP-Lab Committees. Monica Schuegraf, a York University Master of Environmental Studies (MES) student working with the project, agreed to examine the standardized forms that had been used previously for CAMP-Lab Committee meetings and revise them to include extra information needed for our OM monitoring. In the case of the CAMP-Lab Radio Committee,

we agreed we would begin keeping the detailed program plans prepared prior to each show in addition to tapes of any interviews, socio dramas, and the like. Finally, we decided to begin keeping a log book at the CAMP-Lab office in Haulover to record basic information about all CAMP-Lab activities, including the “who, what, when, and where” in order to ensure documentation of activities that might otherwise go unrecorded.

Methods for Quantification and Summarization of OM Data

One useful aspect of OM is that it allows for quantification of outcome data, which makes a quick comparison over time possible. I developed and employed an alternative method for data quantification that differs from the method offered by Earl, Carden, and Smutylo (2001). Their system includes an algorithm for the quantification of progress indicators that assigns different values based on the graduated indicator levels and provides bonuses for achievement of all the indicators at the first two graduated levels.

This quantification method posed problems for CAMP-Lab’s OM in two ways. First, the method assumes that there are the number of indicators prescribed by Earl, Carden, and Smutylo (2001) at each of the graduated levels for each of the boundary partners. This was not the case for CAMP-Lab as the number of indicators selected in the workshop varied and did not fit neatly into the graduated levels. Second, the categorization of progress indicators into

“expect to see”, “like to see”, and “love to see” levels was a fairly arbitrary and inaccurate process for CAMP-Lab that, based on subsequent experience with boundary partners' indicator scores, only partly reflects reality. As a result, weighting indicators based on these levels would not add much to the quality or accuracy of efforts to quantify CAMP-Lab's OM results and would likely skew the results.

The OM quantification method that I developed for CAMP-Lab does not include an algorithm to reflect variations in the difficulty of achieving progress on each indicator. However, the method is consistent between different boundary partners, easy to use, and less arbitrary in this case than the weighted system would have been.

CAMP-Lab progress indicators were measured on a scale of “None” – “Fair” – “Good” – “Excellent” (see Figure 18 for a sample indicator). For the purpose of quantifying the data, this scale was translated into numbers from 0-3 (None=0, Fair=1, Good=2 and Excellent=3). This allowed for numerical and ultimately graphic representation and comparison of the individual indicators' progress over time.

Sample Progress Indicator From CAMP-Lab Radio Committee

Indicator 1

The Radio Committee has regular meetings.

Source of Information:

Log Book

Scale:

(Fair) 2 per month

(Good) 3 per month

(Excellent) 4 per month

Monitoring 1) Between August 19th and October 9th, 2002, there was no program because of a lack of power to run the radio transmitter; as a result, formal meetings were held during seven out of twelve weeks and two informal meetings were held during the power outage to maintain interest.

Monitoring 2) The committee met ten of thirteen weeks. There were three weeks that the radio did not broadcast due to a power outage.

Monitoring 3) The Radio Committee has met all but one week, often more than one time per week.

Evaluation for Monitoring 1, 2 and 3: 1) Good 2) Good 3) Excellent

Figure 18: Sample Progress Indicator Data From CAMP-Lab Radio Committee

To quantify the overall progress of a single boundary partner, the scores of the individual progress indicators were added together and divided by the maximum possible score for that partner (3 times the number of indicators). This process resulted in a percentage score that represented the boundary partner's progress towards complete success in achieving the progress indicators as defined in the OM workshop at the time of the monitoring. These percentages could then be compared over different monitoring periods to illustrate overall progress over time for a given boundary partner.

The relationship between boundary partners' progress and CAMP-Lab activities was established by demonstrating the logical link between project strategies, practices, and progress indicators. While the quantified progress indicators provided a vivid snapshot of the overall performance of CAMP-Lab, it was the narrative description of the links to project strategies that provided the detail necessary to truly understand the project's contribution to boundary partner progress and, ultimately, progress towards achieving the project's "Mission and Vision".

Interviews

Interviews were all conducted in Creole English, with which I became familiar during my MA research in the area during eight months of 1997. The interviews were taped and conducted in people's houses, on their porches, under a tree in the yard, or in the CAMP-Lab office, depending on circumstances and opportunities. I used an active interviewing methodology in this research that views both the interviewer and the respondent as active participants in the construction of knowledge about the respondent's experiences (Holstein and Gubrium 1995). An interview guide was used (see Appendices F and G), but leeway was given to the respondents to develop topics in ways that were relevant for them, and I explored interesting avenues of inquiry that went beyond those contained in the interview guide when they arose. I did not dictate interpretations to respondents, but I did play an active role in bringing alternate

considerations to bear, pointing out possible linkages among different parts of the respondents' experiences and suggesting different orientations to experiences. On a few occasions I also engaged in group discussions with project staff about certain topics. This approach was useful in that it allowed for a more sophisticated discussion of some topics as the participants built on each others' ideas and occasionally challenged each others' interpretations of events or activities (see Figure 19).

Interview Participants	
Total interviews	30
Total interview participants	18
Group interviews with project staff	5
Individual interviews with project staff	7
Interviews with others familiar with the project	17
Male participants	9
Female participants	9
Creole participants	6
Miskitu participants	2
Creolized Miskitu participants	5
Garifuna Participants	4
North American White	1
Interviews related to OM	4
Interviews related to intangible assets	26

Figure 19: Interview Participants

In my choice of interview participants, I made an effort to capture diverse opinions about CAMP-Lab's influence in the Pearl Lagoon communities. In total, I conducted 26 interviews focused on the influence of CAMP-Lab in Pearl Lagoon from July 2002 to May 2003, including four group interviews and 22 individual

interviews. There were a total of 18 different interview participants (multiple interviews were conducted with staff and two key participants), including nine men and nine women representing each of the area's ethnic groups (see Figure 18). These interviews contributed both to understanding CAMP-Lab's influence and to the exploration of different opinions about the project's effectiveness and contributions to area communities.

The core criterion for selecting interview participants was knowledge of CAMP-Lab activities, without which participants would be unable to contribute substantially to the research objectives. Interview participants included current and former members of CAMP-Lab staff, community members who were in some way involved in CAMP-Lab activities, representatives from other NGOs working in the region, and another scholar who worked extensively in the Pearl Lagoon area, both on academic research and project activities.

In addition, I conducted one group interview and one individual interview with each CAMP-Lab staff member regarding their experience of using OM. These interviews were designed to consider the strengths and weakness of using OM in the CAMP-Lab context and to explore ideas for improving the process from the perspective of the project staff.

Interviews with project staff (past and present) were conducted most often in the CAMP-Lab office, but they also took place in other locations when

convenient. They represent a formal culmination of conversations, debates, and questions about Pearl Lagoon and the Caribbean coast generally and the CAMP-Lab project specifically over more than 6 years of working with the project. The project staff were, in the ethnographic sense, my key informants and teachers regarding issues related to Pearl Lagoon and therefore my gateway to beginning to understand the communities (Baszanger and Dodier 2004).

My interaction with the staff included countless hours in project meetings, traveling in boats, attending community events, participating in international conferences, or relaxing in their houses or underneath a tree. This ongoing interaction undoubtedly informed the responses coming out of these interviews. The entire experience represents what amounts to an extended active interview process of collaborative knowledge construction (Holstein and Gubrium 1995). In this sense, these interview responses are well thought out subjective opinions that had formed over time rather than in the interview moment and are richer and more nuanced than might have been the case otherwise. While it might be argued that these views lack a degree of objectivity, due to our long standing relationships and the spirit of inquiry and debate in which I witnessed the views being formed and expressed over time I am confident that they are truthful representations of the subjective views of the respondents.

Interviews with non staff members took place in the person's home community, most often in or near their home. I was familiar with all of these

participants, but I tended to have stronger prior relationships with participants from Haulover and Pearl Lagoon where I spent significantly more time. All interview participants were familiar with CAMP-Lab and took part (in varying degrees) in the project's activities. While their opinions may be coloured by their association with the project and the fact that I, as the interviewer, was clearly associated with it – I do believe that their responses are subjective representations of their views of and experiences with the project.

Finally, one of my interviews was with a colleague who had been living full time in Bluefields for a number of years working on her PhD and undertaking consultant work. She had a high degree of familiarity with the Caribbean coast of Nicaragua generally (Pearl Lagoon specifically) and had worked on a number of research projects in Pearl Lagoon, including briefly with CAMP-Lab in 1998. While familiar with the CAMP-Lab project and staff, she had no particular alliance with them. Interviewing her provided an opportunity to get a well-formed outside opinion of how CAMP-Lab was seen in the communities and compared to other institutions working in them. She was particularly well-suited to this as she had recently conducted extensive interview research in the Pearl Lagoon communities (for an NGO) on the various institutions in the area and on political decision making processes.

Interviews were transcribed by me using a transcribing machine. The Creole English was translated to a certain extent to make it comprehensible to

those unfamiliar with the language²¹. Though most of the interview participants were willing to have their names associated with their comments, I have protected the identity of all of the participants with pseudonyms. In the case of CAMP-Lab staff, I have chosen to use androgynous names in order to protect the identity of the one female staff member.

Participant Observation in CAMP-Lab Activities

In addition to conducting formal interviews, I was also involved in a variety of CAMP-Lab's day-to-day activities in nine trips of three – six weeks each, between October 2000 and May 2003; a two-week planning trip for the project's third phase in November 1999; and eight months of MA field research in 1997 (see Appendix A). During this time of working with CAMP-Lab in Nicaragua, I was actively involved in multiple CAMP-Lab committee meetings in every community; CAMP-Lab intercommunity meetings; a variety of workshops on topics such as participatory monitoring, popular communications, and shrimp farming; water and forest monitoring activities; and the day-to-day activities of CAMP-Lab staff in Haulover and Bluefields, including planning, reporting, and efforts to coordinate with other institutions in the region. This high-level integration with project activities over a significant time period provided important

²¹ This was done by not spelling the transcribed text phonetically; as a result, a statement like “de mon dem” would appear as “the man them” in the translation.

insights into the project's functioning, its relationships with other institutions, and the communities in which it is active.

SWOT Analysis

In the case of the eight CAMP-Lab Committees and the Tasba Pauni communal board, data was collected through the use of Strength Weakness Opportunities Threat (SWOT) analyses in the final month of the project (Found 1999). The use of this method provided a somewhat structured forum for CAMP-Lab Committee members to reflect collectively on their committees and the CAMP-Lab project's efforts. This provided insights into the collective views held by committee members about project achievements and weaknesses in each community.

Project Related Documents

Project documentation also provided a valuable source of data for this dissertation. As noted, this documentation included formal project reports, meeting notes, project publications, project correspondence, and the academic work of other participants, including graduate students and faculty from York University.

Chapter 7: CAMP-Lab in Pearl Lagoon

CAMP-Lab's Management Plan

Creation of the Management Plan

The centerpiece of CAMP-Lab's activity in Pearl Lagoon was the creation, codification, and implementation of a participatory integrated resource management plan for the area. The genesis of CAMP-Lab's efforts to create a participatory management plan is described by one of CAMP-Lab's communal investigators:

[The Idea] of elaborating a management plan . . . did not come from us but it came from what the people have been talking about. All the meeting that we were having . . . the issues that the people have been coming up with is about the way we use resources . . . and even in some cases how they have been abused. . . . You didn't have a voice saying we want a management plan because people really didn't know much about that. But I would say [that in] silence it were out there. I say silence because people didn't used to say we want a management plan but people were talking about taking care of the resources, taking care of what we have. (Adrienne)

Well this took some years you know because we had to go through all this talk with the people and it's a slow process because it also using the method of PAR and this take time. It's not something that is so speedy and we work up with the people because we also know the people have their own knowledge and history of taking care of their resources. (Adrienne)

In its early phases (from 1995) CAMP-Lab's efforts to develop a participatory management plan paralleled an effort by a Dutch sponsored bilateral NGO working in the area, Integrated Development of Artisanal Fishery in Pearl Lagoon

(DIPAL), which was mandated to develop a fisheries management plan. Early in the process of creating these plans, some efforts were made to combine the work of the two projects. However, fundamental differences between the two projects' relationships with the communities, and strong basic philosophical differences between project leaders at the time, made collaboration difficult. As one CAMP-Lab staff person remarked, "Here we say they couldn't tie horse on the same post Hans and Patrick. I must say Patrick try but Hans was really close up" (Pat). Indeed, these early efforts at collaboration were tension filled, including, at times, acrimonious exchanges between the leaders in public meetings. Overall, this tension was rooted in disagreement about the appropriateness of different approaches to resource management and a general sense of conflict over institutional turf²².

DIPAL's work focused specifically on the fishery, and its plan was based on mainstream ecological research with little emphasis on the social and cultural circumstances of the area; it offered little opportunity for community influence over the form or content of its plan (Christie et al. 2000)²³. DIPAL's approach to local participation in the management plan illustrates the compliance approach

²² In one particular intercommunity meeting in 1997 that was co-organized by the two institutions the leader of DIPAL called the leader of CAMP-Lab a "stupid American" after he took on an unplanned facilitation role in part of the meeting. The concern at the time appeared to be concern that this gave the appearance of to strong a role for CAMP-Lab.

²³ See Appendix J for a comparison of the content of the two plans.

identified by McAllister (1996) in which participation is limited to local people carrying out an agenda set by outsiders (see Figure 9, p. 82).

An example of this type of approach came late in 2000 when efforts were underway to reach some compromise between the two plans. As part of this effort, CAMP-Lab agreed to accompany DIPAL to the various Pearl Lagoon communities in order to explain the content of their fisheries management plan to the local communities. The main DIPAL staff member who went to explain the plan was a Mestizo fisheries scientist who had been part of creating the plan, with very minimal consultation in the community. The presentations during these meetings were done in Spanish. While Spanish is understood by most community members in Pearl Lagoon, it is not the preferred language and it is generally perceived as an external cultural imposition to have meetings or presentations in Spanish. While the CAMP-Lab staff present attempted to assist in explaining the DIPAL plan, the staff were generally uncomfortable with the process and concerned that they personally and CAMP-Lab generally not become closely associated with it.

DIPAL's status as a bilateral project gave it ready access to the central government in Managua, and its plan was eventually codified in a ministerial decree at the national level. One CAMP-Lab staff member described the effect of this status on the negotiating relationship between DIPAL and CAMP-Lab. The following comments were made during a group interview with the CAMP-Lab

project staff who were vigorously discussing the pressures they faced to compromise on previously decided participation ideals as well as the merits of their decisions.

I am Sjef. I have a management plan that already has a ministerial decree. I have a backup from the minister I can go sit down and eat and drink with him any time I want. Do I need you? No, why because in the end my project say I have to make a management plan so when I come out of here I coming out with a management plan made with ministerial decree. My project no say I have to implement the management plan. My project no say the people have to accept the management plan. What that mean for us [CAMP-Lab]? That mean plenty because the way our project set we need our plan to be accepted we need our people to get into all of this. That's because we from here. But for him? No him come in just as how the French people them say as mercenary get paid to do a job. (Pat)

The strong relationship between DIPAL and the central government and the lack of a project mandate that requires full engagement with the local communities were perceived by Pat as significant factors impeding CAMP-Lab's efforts to negotiate a compromise plan with DIPAL.

In contrast to DIPAL's plan, the communities' management plan developed with CAMP-Lab includes both terrestrial and aquatic ecosystems, and it was formulated on the basis of four sources of information: 1) the data collected in CAMP-Lab's participatory natural resource monitoring activities; 2) research CAMP-Lab conducted with the Central American and Caribbean Research Council (CACRC) related to land use and tenure in Pearl Lagoon; 3) the communities' critique of DIPAL's fisheries management plan; and 4) a review of

other Latin American management plans. The initial draft of the communities' plan prepared with CAMP-Lab staff was presented to each community in Pearl Lagoon for review in special CAMP-Lab community meetings, and it was revised on the basis of feedback from this consultation.

The communities' management plan makes brief references to the land tenure and history of the diverse communities of the Pearl Lagoon basin and the geography of the area. The plan also includes an analysis of the socioeconomic conditions of the basin communities (in terms of education, health, economic activities, transportation, and communication), and an agro-ecological characterization of the different production systems used by the people of the area. Finally, the plan outlines different uses for the local ecosystems and the corresponding norms to be established for their protection (Bradford et al. 2000) (see the plan Appendix I).

CAMP-Lab's final version of the communities' management plan was officially presented in a meeting in February 1998 by three community members chosen by the CAMP-Lab Committees, based on their ability to present, explain, and defend the document. This meeting was attended by representatives from all of the communities, along with officials from all levels of government (Christie et al. 2000). The three presenters received training from CAMP-Lab staff in negotiation and conflict management to prepare them for engagement with the various actors present in the meeting. The increased degree of community

ownership over and support for the resulting plan, and contrasting feelings about DIPAL's efforts, were evident at this event. During an individual interview focused on describing the history of the management plan, one CAMP-Lab staff member described how this feeling of ownership was manifested and how it contrasted with the feelings about DIPAL's plan:

When these people were proposing the plan they were always talking of the community management plan, 'Our Management Plan', I can't recall one person saying CAMP-Lab management plan. They were also talking about DIPAL Management plan. I can't remember once they said our management plan when they were referring to DIPAL Management plan. It was always our management plan vs DIPAL Management plan. Our meaning we the communities. (Pat)

The importance of the management plan and its popular status as a community produced document was also noted by an academic colleague who had worked for local NGOs and was in the process of extensive research in Pearl Lagoon related to government and institutional structures: "I think people appreciate the fact that the management plan was something that was created by the communities. I think that's incredibly important, and people realize and appreciate that" (Sarah).

Codification of the Management Plan

CAMP-Lab's initial efforts towards management plan codification were based on the premise that some form of compromise plan was required to combine the DIPAL and CAMP-Lab plans. This compromise was seen as

necessary by DIPAL and CAMP-Lab because regional and municipal levels of government were unwilling to codify one plan while a second, overlapping plan, was being put forward by another group. While, as previously mentioned, DIPAL had a ministerial decree from the national level government for its plan, the Autonomy Law #28 governing the Caribbean region and the national law governing municipalities also give these lower levels of government substantial responsibilities and rights related to natural resource management. As a result of this complicated legal setting, DIPAL became at least moderately concerned with obtaining approval for its plan from these levels of government in addition to its national level approval, and it therefore felt the need to enter into discussions about the possibility of combining the two plans.

This legal setting was complicated by pressure exerted by government officials (responsible for natural resources) to develop a mutually acceptable compromise between CAMP-Lab's and DIPAL's management plans. Renewed efforts to reach a compromise between the two plans took the form of a series of meetings between CAMP-Lab and DIPAL, meeting that at times included representatives from APN, York University, ADPESCA (the central government agency responsible for the fisheries), and CIDCA. These meetings took place between the two institutions from 2000 to 2002 and, during this period, the project staff of the two institutions worked together on a variety of issues and initiatives, including participation and collaboration in each others' workshops in

the communities. In the end, however, no compromise plan was possible before DIPAL's scheduled departure from the region in January 2002 (Hostetler et al 2002).

During that two year period, negotiations between the two institutions proved challenging, particularly for CAMP-Lab, because DIPAL was generally opposed to having any direct community representation in these discussions and was largely unwilling to compromise on the content of its fisheries resource management plan. In retrospect, CAMP-Lab staff viewed DIPAL's interest in collaboration quite skeptically. CAMP-Lab staff members involved with the negotiation described the process like this during a group and individual interview respectively:

Sjef came up with all these fancy ideas of how we could do it [merge the plans], and every time we meet with him he have an idea and when we accept that idea and meet back again with him, then he come up with a different idea altogether. . . . It was like when you say you want sell something but you no really want to sell it. So you set such a high price that you know nobody going to buy it. I think that's what happen with Sjef and the management plan. (Pat)

We didn't really have the good will from DIPAL's, somehow they appear like they have the good will and other times they appear like there is no effort from them. So we were going ahead and coming back and forth, but we really didn't advance in getting this plan until DIPAL's project were finished. (Adrienne)

These reflections by CAMP-Lab staff correspond with my own experience as an observer and occasional participant in the negotiations between CAMP-Lab and DIPAL. My initial impression of the interactions in these meetings was positive.

The meetings were encouraging and upbeat including new ideas from the DIPAL director about how to collaborate. However, when CAMP-Lab and CIDCA staff attempted to follow up on ideas that had come from these meetings with more concrete proposals, the response was negative and any additional proposals were vague and involved taking the negotiations in substantially different directions than were previously discussed.

For its part, CAMP-Lab was unwilling to make substantial compromises without significant community involvement, at least to approve any major changes. The CAMP-Lab staff's insistence on this principle was rooted in their conception of the communities as ultimate authorities over the management plan and project. The fundamental difference in the philosophies of the two projects about participation and project ownership was evident in DIPAL's eventual insistence on negotiating only with the highest level of CIDCA management. Negotiations were made increasingly more difficult by instability in the local CIDCA Bluefield leadership at the time, leading to indecisiveness and confusion about who could/should negotiate with DIPAL on behalf of CAMP-Lab. While admittedly the CAMP-Lab – CIDCA hierarchy was challenging, my impression was that had DIPAL truly been interested in collaboration and compromise much more could have been accomplished.

CAMP-Lab staff lamented the degree to which they capitulated to DIPAL's refusal to have direct community involvement in negotiations. The challenges

faced by staff are evident in this exchange between staff members during a group interview. The comments below focus on the merits and legitimacy of compromises made during the process of trying to codify the management plan:

We negotiate even though this project the plan was elaborated with the participation of the people, but in these negotiations we didn't have no member of the community negotiating. So also this could have been a little weakness from our side by not using the community people who are really owner of the plan inside the negotiation (Adrienne).

We had some pressure behind we it's truth. But all the time I think we was thinking on the benefit of the community. What was going to benefit the community? The approval of the management plan approval however but approval. The ends justify the means in this case because we was working with the communities. But when APN our donor telling we you have to do this -- and remember they give us the extension and funds also to do it. When the municipal and regional council telling us we have to do it because it no going to happen unless we do. When this man [Sjef] telling we, we going to negotiate, but we no going to negotiate with this person and not with the community. What we was to do? Back off and tell him no when everybody else was pressuring we. What you think Sjef would of did do? Shut the door and say it done (Pat).

While CAMP-Lab staff compromised more than they would have liked on the matter of local peoples' participation in negotiations, they had also asked and received advanced permission from CAMP-Lab Committees to proceed in this fashion. Had a compromise been reached, however, they would have sought local approval on a joint plan. Nevertheless this experience demonstrates some of the structural limitations faced by CAMP-Lab staff. It illustrates efforts to retain a participatory approach while simultaneously working to codify the management plan within government structures and satisfy the demands of one of their donors

APN, which was pressuring for a compromise between the CAMP-Lab and DIPAL plan.

After DIPAL's departure, CAMP-Lab began pursuing alternative means for codifying the communities' management plan. Ultimately, the CAMP-Lab project developed a relationship with a relatively new project that was functioning in the region (ASDI RAAN RAAS), funded by the Swedish International Development Agency (ASDI). Its efforts in the region are focused on supporting regional and municipal levels of government through capacity development, and one of the activities in which it engages is assistance with the development and implementation of municipal ordinances. After a series of informal and formal meetings with ASDI in late 2002, it agreed to help CAMP-Lab develop a municipal ordinance based on the communities' management plan.

The role that partnering with ASDI played in the eventual codification of the CAMP-Lab management plan at the municipal level was understood by project staff to be linked to ASDI's close ties with the municipal government. One staff member explained during a group interview:

ASDI work close with the municipal government on what is social development. And when I say close I talking about financing social development and even paying a certain amount of personnel that the [mayor's] office have. . . . So I think the mayor's office listens stronger to ASDI than to us because ASDI is really putting in things.
(Adrienne)

While ASDI played an important role in the municipal codification of CAMP-Lab's management plan, it is interesting to note that ASDI's agreement to help CAMP-Lab was based on reciprocal assistance with the codification of a separate ordinance that ASDI had been working on for Pearl Lagoon. A CAMP-Lab staff member reflected on this dynamic during a group interview:

One thing that I can't understand is that ASDI has an ordinance that needs to get enforce but they haven't done it. . . . It's true that ASDI put some pressure for us, but it seems they could not put enough pressure for themselves. So I think that their participation in the process was very important, it was key to us because as Adrienne said they have so much input into the municipal government which makes them strong there. But I still can't understand why they can't get their ordinance passed. (Chris)

This request by ASDI is perhaps a reflection of CAMP-Lab's increasing and unique ability to mobilize people and accomplish tasks in Pearl Lagoon. Chris's comments also reflect an understanding of the particular levers of power and influence that these successes were beginning to provide the CAMP-Lab project in its relations with other more resource rich top down NGOs in Pearl Lagoon.

ASDI's decision to use CAMP-Lab staff in its efforts to pass municipal laws indicates a certain degree of confidence in them that speaks to their ability to organize and mobilize people (including municipal councilors) in the Pearl Lagoon area. This ability is a crucial component of the legislative process at the municipal level, and it reflects skills among CAMP-lab staff that are relevant to agency capacity building at the municipal level. The experience also speaks

more generally to the real possibility of increasing local influence over development institutions through efforts to foster human capacity and agency at the local level.

In addition to its partnership with ASDI, CAMP-Lab identified the importance of a relatively new mayor and council in Pearl Lagoon to their effort. This particular mayor and council were more open to working with NGOs such as CAMP-Lab than were previous municipal governments. While this new openness was identified as an opportunity for CAMP-Lab, the staff also recognized the significance of maintaining constant pressure on the mayor and council through consistent lobbying efforts in order to move their agenda forward. One CAMP-Lab staff member argued “in this country things are never done without any pressure. Let’s understand that, let’s learn from that, that you have to insist and insist” (Chris).

In early 2003, with this support from ASDI, CAMP-Lab began a campaign to convince municipal councilors to approve its management plan ordinance. Initial activities included presenting the ordinance and the history of the management plan to a monthly meeting of the municipal council and providing the plan to the councilors for their review. After this initial effort, CAMP-Lab organized and

sponsored²⁴ a follow up meeting in April 2003 in which the management plan ordinance was ultimately passed unanimously. This process garnered additional benefits through the development of a strong working relationship between CAMP-Lab and the municipal council, as well as with the municipality's new environmental department (funded by ASDI).

Implementation of the Management Plan

The last remaining element of CAMP-Lab's management plan efforts to be discussed is its implementation. As one CAMP-Lab staff member cautioned during an individual interview focused on the management plan: "I think there is something left behind around the management plan, to have it put into action. . . . The implementation so that it is a reality" (Adrienne).

Implementation of the management plan ordinance in Pearl Lagoon is technically the responsibility of the mayor's office as a component of the municipality's environmental program. As part of fulfilling its commitment to the management plan, the mayor's office has attempted to: enforce regulations on gill net mesh size, control the activities of fisher people from outside the lagoon, prevent trawling in the lagoon, and control the cutting of timber.

²⁴ CAMP-Lab paid for the transportation and per diem of councilors from outside of Pearl Lagoon Town so that the meeting could take place.

While codification of the management plan and support from the local government is important for management plan implementation in Pearl Lagoon, ultimately, the resources that the municipality (or any other level of government) has to dedicate to this effort are extremely limited. As a result, effective implementation of the management plan can only come through broad local understanding, agreement, and effective self regulation and enforcement. Organized local participation in the implementation of the plan is also seen as crucial by project staff members. While describing the history of the management plan in an individual interview, one staff member argued:

It's very important that we could have our people organized and guarantee that this plan is being carried out the way they would like it to be. That it could be benefiting them not just the municipal government because sometime these things start out in a very good way but on the way it suffer changes which is really against the author of the stuff, against the people. So I think the people need to have an organization which try to see that the thing is implemented in the right way. (Adrienne)

When asked in general terms what "CAMP-Lab has done in Pearl Lagoon," a community member --who had previously been the local representative for CAMP-Lab's donor APN – opined that the need to closely follow efforts like the implementation of the management plan is now more broadly understood in the communities, at least in part due to CAMP-Lab's efforts.

I think one of the important and most best things that CAMP-Lab has done is make people sensitive. I think people realize a big part of what have to be done here in the region have to be done by the

people. And no one else is coming to do it for you. You need to do it.
(Paul)

These statements reflect an understanding of the need for vigilance and active local participation if the communities' management plan is to be implemented in a way that is both effective and reflects the intentions of the communities that were its main authors. It also demonstrates the importance of contributing to the strengthening of local intangible assets if these kinds of efforts are going to be effective.

A large part of CAMP-Lab's activity, both before and after the management plan was codified, was focused on a variety of initiatives intended to improve local knowledge, dialogue, and consensus around environmental issues. These initiatives would ultimately lead to more sustainable local behavior, consistent with the management plan. As will be explored later in this chapter, these efforts took the form of formal and informal environmental education, participatory environmental monitoring, and popular communications. Collectively these collaborative efforts represent a substantial contribution to the de-facto implementation of the management plan.

Contributions to Intangible Assets

CAMP-Lab's management plan implementation contributed to the intangible assets base in Pearl Lagoon in a number of ways. The PAR methods and collaborative process used in the development of the management plan

contributed significantly to local peoples' overall knowledge about the environment and ecosystems. Existing local environmental knowledge was recorded and broadly discussed, and it was supplemented by research conducted in conjunction with local people and by relevant knowledge from outside the region. This improved the depth of local peoples' understanding and increased the diffusion of knowledge throughout the communities. The approach also reflects the belief that both local and external knowledge are valuable to local communities for their contributions toward informing local decisions around the future of their environment.

Early efforts to obtain government approval for the management plan increased local human capacity relevant to the development of agency. It accomplished this by supporting local peoples' efforts to influence decision makers to support their management plan through workshops related to enhancing their negotiation skills. While efforts to influence municipal government to support the management plan undertaken directly by local people (not CAMP-Lab staff) were ultimately unsuccessful, the process of mobilizing built skills and confidence among community members that are potentially valuable tools for influencing decision makers on other issues in the future.

The project staff's successful codification of the management plan at the municipal level contributed to local agency in that the local staff gained significant experience and understanding of the process involved in the creation and

passing of municipal laws. This knowledge and experience contributed to increased agency capacity and therefore also increased the potential for future influence over the creation of locally desirable municipal law. In addition, the process contributed to the development of relationships between CAMP-Lab staff, ASDI and the municipal council, and the municipal environmental department, increasing the staff's ability to influence potentially powerful allies on environmental issues.

The process of creating and implementing the management plan for Pearl Lagoon contributed to the education and politicization of local people around environmental issues and rights. As a result, Pearl Lagoon people and communities are better prepared to influence policy and assert their legal rights related to the environment, and they are now more likely to do so. These changes represent a real contribution, by a development project, to the relative strength of local people and communities as co-producers of development in the sense suggested by Bebbington (2000) and Li (2001).

Challenges related to the area's geographic capital increase the importance of broad based active and tacit support from local people for the effective implementation of any law related to resource management in the area. The area's geographic isolation and the expense of transportation to and within the region mean that there is no authority capable of effectively policing environmental legislation. As a result, legislation that is not broadly supported by

local people will be of little value due to the lack of local adherence. This increases the importance of CAMP-Lab's core activities, educating and mobilizing local people for the development of effective environmental regulations.

CAMP-Lab Committees

One of the main components of CAMP-Lab's efforts were the CAMP-Lab Committees that functioned in eight of fourteen Pearl Lagoon communities. CAMP-Lab Committees are open to any member of the community. Meetings are announced in advance and people are reminded on the day of the meeting by local CAMP-Lab leaders or the project staff if they are present. Invitations to the meetings are extended to the entire community, not just the regular participants, and group membership tends to change over time (see CAMP-Lab participation, p. 82). These CAMP-Lab Committees discuss environmental issues, plan and work to solve environmental problems, and participate in CAMP-Lab staff initiated activities like forest and water monitoring.

CAMP-Lab Committees were identified as Boundary Partners for the project's OM monitoring and, during the OM process, an outcome challenge and twelve progress markers were developed for CAMP-Lab Committees. The data collected are included in this analysis of the Committees' activities. The data for these indicators as well as information about CAMP-Lab's related strategies were collected on three occasions, and the resulting information (along with data from a variety of other sources) is integrated into this analysis of the CAMP-Lab Committees' activities. Snapshots of CAMP-Lab Committees' progress based on these indicators can be found in Figures 20 and 21.

Outcome Challenge

CAMP Lab Committees have specific work plans for their environmental activities and are able to function with no support from CAMP-Lab. They have a good understanding of CAMP-Lab objectives and mission. They apply knowledge acquired in CAMP-lab workshops and transmit this knowledge to others in the communities. They are able to identify and solve environmental problems, and promote, monitor, and care for protected areas. They participate in monitoring activities. Committees also work in cooperation with the schools to make viveros (nurseries), and work along with students who are conducting investigations related to natural resources.

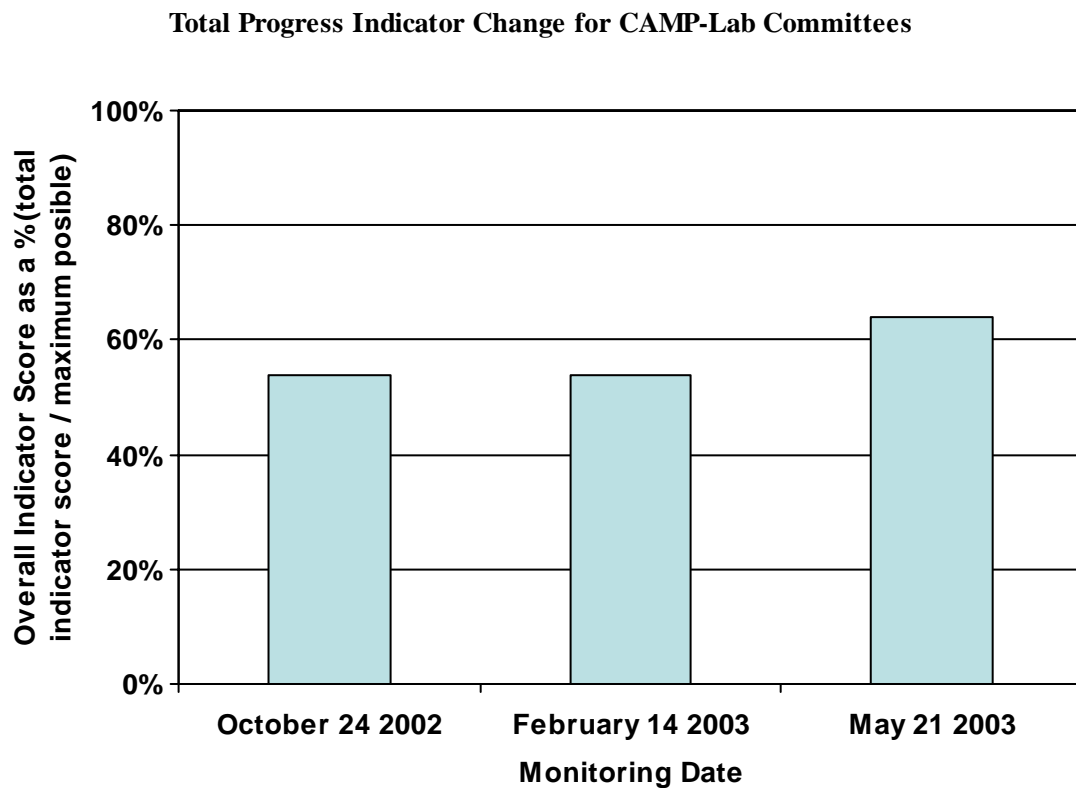


Figure 20: Total Progress Indicator Change for CAMP-Lab Committees

Progress Indicators

(See Appendix J)

Expect to see

- 1) Committees hold regular meetings with the help of a communal investigator.
- 2) Committees identify environmental problems in their communities.
- 3) Committees are involved in environmental activities and projects.
- 4) Committees coordinate their activities with other institutions.
- 5) Committees work with local students doing environmental research.
- 6) Committees maintain their own finances and budget.

Like to see

- 7) Committees work with the communal board.
- 8) Committees hold regular meetings without communal investigators.
- 9) Meetings are held between committees and communities to share information.

Love to see

- 10) Committees act as the environmental appendage of communal board.
- 11) Meetings are held between different CAMP-Lab Committees without communal investigators.
- 12) Committees look for funding for environmental projects.

Individual Progress Indicator Change for CAMP-Lab Committees

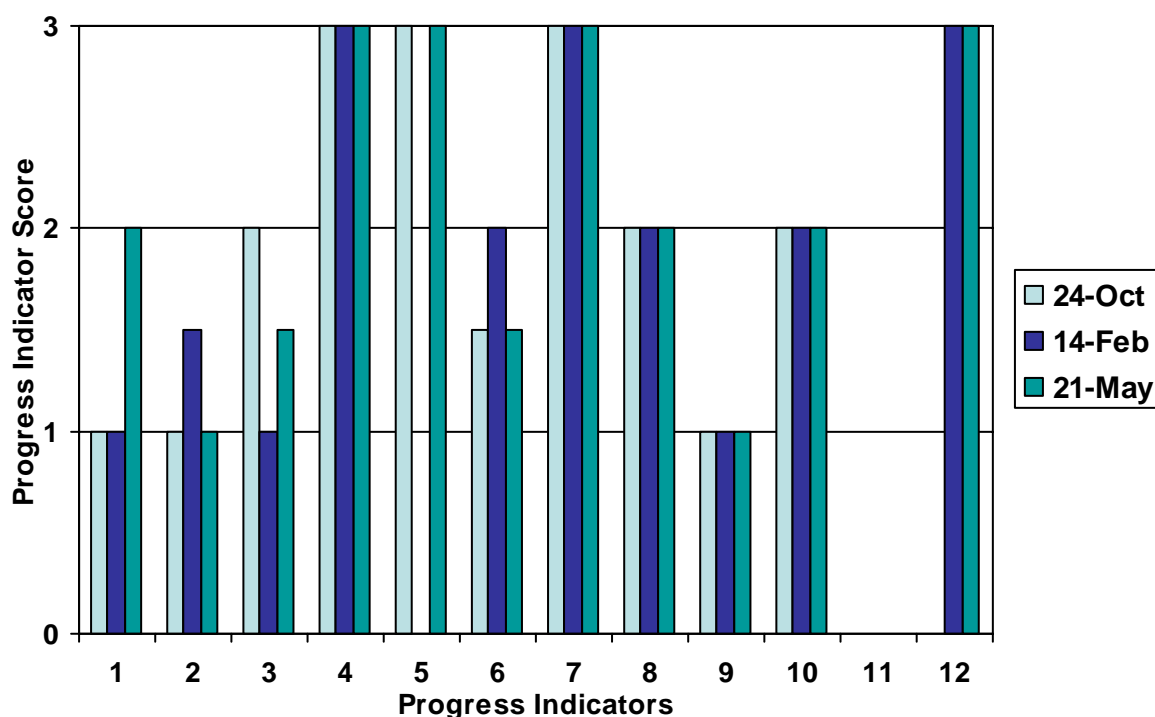


Figure 21 : Individual Progress Indicator Change for CAMP-Lab Committees

While the degree of progress toward achievement of individual OM indicators differed between communities, CAMP-Lab Committees have generally made steady improvements toward achieving their overall outcome challenges (see Figures 20 and 21). CAMP-Lab committee meetings are held regularly in almost all communities when communal investigators are available to assist (see indicator 1). The lack of an outboard motor during the monitoring periods (it was stolen) limited the number of trips that the staff could make to the communities and therefore the number of meetings. The staff began adapting to the lack of a motor in the second and third monitoring periods by taking extended trips to communities whose committees the staff identified during OM monitoring as needing additional support. In addition, the staff began using alternative transportation options traveling with other NGOs and the irregular commercial transportation that is available to some of the communities.

A number of the CAMP-Lab Committees held regular meetings independent of CAMP-Lab staff support (see indicator 8). In Kakabila community members combined CAMP-Lab committee meeting with the work of the communal board and other institutions like FADCANIC that were working in the area. In Orinoco, the CAMP-Lab committee meeting became a regular Friday activity, largely through the organizational efforts of an individual committee member who had recently completed studies at URACCAN Bluefields. Overall, these committees show some signs that they will maintain CAMP-Lab activities past the end of

formal project funding, working on their own, or in coordination with other institutions in the area, such as FADCANIC or Carl Bro who work with CAMP-Lab Committees, rather than forming their own independent groups in the communities (see indicator 4). In particular, CAMP-Lab Committees have been coordinating with FADCANIC on small infrastructure projects (proposed by the CAMP-Lab Committees and funded by FADCANIC) designed to contribute to local sustainable development.

There were occasional periods when regular meetings did not occur in some communities due to exceptional circumstances. One example is the case of the Haulover Camp-Lab Committee, which did not meet formally for a two month period, due to committee leadership difficulties and misunderstandings related to the relationship between it and the Radio Committee (also based in Haulover). CAMP-Lab staff made successful efforts to remedy this situation by clarifying the role and position of each of the groups and by encouraging coordination and overlap in people and activities. It should also be noted that while the Haulover committee had no formal meetings during this time, it did participate as a group in CAMP-Lab activities such as water and forest monitoring and in some of FADCANIC's activities. In addition, there were a number of committee members participating with Monica Schuegraf (a York University Project participant) in her sea grass monitoring research.

The frequency and quality of CAMP-Lab's direct work with the various communities through CAMP-Lab Committees were influenced by the availability of staff and the amount of funding available for transportation. In the early stages of the third IDRC funded phase of the project, CAMP-Lab staff included four communal investigators and a project leader. In 2001, after one year of the project's third phase, CAMP-Lab's other major funder, APN, ended its long involvement on the southern Atlantic Coast of Nicaragua.²⁵ As a result of reduced project budget, the number of communal investigators was reduced from four to two. Among the staff that left the project was the only person with formal environmental education (a forester), also the only Miskitu speaker. In addition, there was added pressure placed on staff resources when the project leader went on maternity leave for three months and was limited in her ability to work in the communities for substantially more time. While resources were available to replace her during her leave, and proposals were made for reorganization to compensate for these challenges, ultimately, no action was taken by CIDCA management, thus leaving the project understaffed and reducing its capabilities.

The end of CAMP-Lab's APN funding also meant that reduced money was available for transportation between communities. The cost of fuel for boat travel

²⁵ APN made an organizational decision to stop all of its work with organizations in Caribbean Nicaragua. Bill Found and I met with CAMP-Lab's APN project officer shortly before the end of their funding to encourage them to reconsider in the case of CAMP-Lab. Although the meetings ended positively, ultimately the APN funding was terminated as planned.

to all of the communities was roughly one hundred dollars U.S. (fluctuating with the price of fuel). In addition, as previously mentioned, the project's outboard motor was stolen in the final year of the project, resulting in additional costs and complications related to renting or borrowing another motor. One CAMP-Lab staff member pointed out in an individual interview:

. . . the amount of people [staff] and the distance you have to go in between one community and the next and the distance in economical term with what it involve to move from one place to the next. (Pat)

Shortly after the withdrawal of APN funding, there was a significant drop in direct work with CAMP-Lab Committees that could not be reached by walking (Awas and Raitipura are accessible by road only in the dry season).

When decreases in CAMP-Lab committee performance became apparent during OM monitoring, project staff eventually developed means to compensate for these deficits. CAMP-Lab staff shifted their patterns of visit and modes of transportation (as mentioned previously) to more efficiently make use of their time and available funding. In addition, the staff spent extended periods of time with CAMP-Lab Committees that had been neglected, and they enjoyed successes in reinvigorating the groups and strengthening their efforts on issues and activities related to the environment. Nevertheless, SWOT evaluations undertaken with the eight CAMP-Lab Committees and in Tasbapaunie revealed the lack of adequate visits by CAMP-Lab staff as a major weakness in the five

communities (including Tasbapaunie) most geographically isolated from the project staff who were working in Haulover.

Another challenge related to deficits in personnel was the lack of a Miskitu speaking communal investigator to work with the Miskitu communities of Awas, Raitipura, and Kakabila. When asked if he saw any “influence CAMP-Lab have on the way people behave?” Joe, a former CAMP-Lab communal investigator and Miskitu man from Kakabila, argued that overall these communities were more aware of natural resource issues and were therefore more inclined to take action related to them. Joe also pointed out that CAMP-Lab had a linguistic deficit in working with these communities.

Raitipura is a community where people speak Creole but they like to talk Miskitu. . . . [Oswaldo] cannot speak Miskitu so he can't be with the people the way he would want. . . . Miskitu people are very funny Mark, they will tell you a lot of things but the ideal things they are not going to tell you if you are not a Miskitu person. And I feel like that was maybe one of CAMP-Lab's weak point. (Joe)

By the end of the project, CAMP-Lab Committees in these communities were relatively strong and active -- especially in the case of Awas and Kakabila. The strength of the committee in Awas and Kakabila can likely be attributed, in part, to the fact the Eduardo had spent time as the school teacher in these communities and had the respect and trust of a number of the community leaders

who had been his students.²⁶ Nevertheless, it may have been possible to improve the quality of their participation if funding had been available for a Miskitu speaking communal investigator and if it had been possible to dedicate more time to these communities by overcoming barriers related to travel time and costs.

One of CAMP-Lab's strategies with CAMP-Lab Committees was the establishment of small funds for these committees to manage. CAMP-Lab Committees in five of the eight communities continue to maintain some type of independent funds for activities and emergency uses (see indicator 6). The initial fifty dollars US provided to each committee by the project, along with a money management workshop, was meant to be maintained by the committees for costs for meeting refreshments, and to build budgeting and money handling capacity in the committee. In some cases, this fund has increased substantially and is used to help cover costs related to items such as health emergencies and deaths in the community. The funds have also been used by committees for things like purchasing basic supplies for the local health centre and for donating to Hurricane Mitch relief efforts in other parts of Nicaragua. During SWOT activities, half of the committees who received this funding and training cited it as a major strength of CAMP-Lab.

²⁶ Eduardo was affectionately greeted as "Proffy" by his former students whenever he visited Awas or Kakabila.

In these committees, the fund is “worked” by members who are given small amounts to invest in productive activities and then return it with a set amount of interest. In some instances committee members work these funds individually, using the money for activities like buying and selling goods or investing in the supplies necessary to dry shrimp. In other instances, groups of people “work the money” through activities like bake sales or raffles. The main goal of this activity is maintaining or increasing the size of the core fund, but it also serves as a source of credit for local people. Currently one committee’s fund amounts to roughly U.S.\$700.

The most successful committees financially are located in communities that have historically had “societies” that formed a type of social safety net. When asked “what is a society”, Joe explained:

If you are into the society you get sick you have people to mind you and thing. If you die they give you your coffin. You get your clothes and they going to bury you. And these kind of society are what have been for many many years in these communities so for me these people always learn how to save money, how to make money and thing like that. So these are the communities that are stronger. (Joe)

This tradition of community saving transferred to CAMP-Lab Committee activities, creating the spin-off effect of another social safety net in these communities to deal with illness, death, and other emergencies.

CAMP-Lab Committees engaged in activities related to the identification of and dealing with environmental problems and undertaking projects related to the

environment have improved with some committees taking on more complex projects (see indicator 2 and 3). All of the CAMP-Lab Committees have been involved in basic environmental projects such as town cleaning, and a number have been involved in efforts such as creating tree nurseries, reserve forest areas, and small scale facilities for ecologically friendly tourism. Projects of this nature have included the installation of new benches in Haulover's Fine Pine Wood, which reinforce its status as a protected recreation area; and the creation of a shelter for tourists on the beach in Kakabila. Awas and Raitipura committees have engaged in efforts to improve the road to Pearl Lagoon, including the planting of trees to prevent erosion and provide shade. Awas currently has concerns about erosion along its shoreline, and the committee has been looking for alternatives and partners for efforts to prevent further damage. Some CAMP-Lab Committees have been actively and successfully involved in seeking small amounts of funding for environment related projects from FADCANIC and other institutions. This funding has helped to cover the cost of materials (e.g. construction materials, seedlings) that they need for these locally developed projects (see indicator 12).

In many communities, FADCANIC has relied on CAMP-Lab Committees to assist it with its work, rather than creating its own independent groups. The local leader of the Danish consulting firm Carl Bro that undertook part of the Atlantic Biological Corridor (CBA) project in Pearl Lagoon expressed a preference for

working with CAMP-Lab Committees in future activities rather than developing new groups. CAMP-Lab staff has supported and encouraged these collaborations by CAMP-Lab Committees through workshops on themes such as leadership, group organization, planning, and budgeting. Project staff have also assisted more directly with specific FADCANIC environmental activities when requested. It should be noted that this collaboration is not passive. CAMP-Lab Committees bring their experience, values, and agendas into these collaborations and, as a result, influence the plans, policies, and outputs of the groups with which they work.

CAMP-Lab Committees have also participated in CAMP-Lab monitoring activities of reserve forest areas and drinking water. These activities served to spark local peoples' interest and curiosity around related environmental issues, and they have led some young people to consider continuing their education after high school in fields related to these activities. York University MES student Monica Schuegraf worked with CAMP-Lab Committee members on participatory research related to the disappearance of lagoon grass.

Monica's research had a significant effect in terms of raising people's awareness of environmental change in the lagoon generally and raised the possibility of local engagement in useful environmental monitoring activities among community members. In particular, she involved a number of young people from Haulover directly in the conduct of her research, including the

process of extracting core samples of sediment and analyzing its content. This activity not only stimulated an interest in the particular issue at hand but in environmental research more generally. In addition, through her research, Monica also raised questions about the current and historic location of seagrass. She engaged community members through participation in community meetings throughout the lagoon and augmented that participation by arranging for groups of local people from CAMP-Lab committees to accompany her in the field to locate and analyze current remaining patches of seagrass.

The overall effect of this activity was to stimulate peoples' awareness of environmental change. The impact this research activity had was discussed in a group interview about collaboration between CAMP-Lab and York University.

After I start focus on it [Monica's research] I start wondering and remembering especially the grass up Wawashang . . . I remember I used to pass there in a sailing dory. There we had to cut grass to get across and [there were] those big flocks of birds duck water fowl and now that's really not there. And I really don't think that serious until she start making that research. (Adriene)

Monica's participation in the project is strategical in the sense . . . there is a lot of resources we have around here and the people of the communities . . . sometimes don't even think about it and the impact that this could have on the environment. I as a communal person know that there was seagrass here and I know that there was seagrass there . . . but we haven't been talking about why it's disappearing. I think its disappearing but the why is important. (Chris)

When asked if Monica's activities stimulated "other people [in the community] to think like that too?" Adriene opined:

I think so. I think some other people start thinking over it. We start talking with the people in Tasba Pauni in Orinoco and La Fe and I think here [Haulover] too, you know, you start wondering and say wait a minute what the heck. This was a reality that we really overlook we wasn't seeing it at all.

Eduardo commented that “she leave people in the communities thinking about what could really be the reason” for seagrass disappearance and encouraged interest in further monitoring the situation.

This partnership both helped Monica with her work and sparked the interest and concern of CAMP-Lab Committee members, who view the lagoon grass as a crucial habitat for young fish and shrimp. As a result, local people initiated some independent investigation in support of Monica's work and showed increased interest in her research as well as in research on other species of plants and animals.

CAMP-Lab Committees worked well with Communal Boards on environmental issues (see indicators 7 and 10). In smaller communities, there is a large degree of overlap between the communal board and the CAMP-Lab Committee which works to promote natural cooperation. In larger communities, the CAMP-Lab Committee is often consulted by the Communal Board on environmental issues and asked to participate in any activities related to the environment. CAMP-Lab Committees have also cooperated effectively with other relevant institutions working in their communities, most significantly FADCANIC, Acción Médica, and the local universities, URACCAN and BICU (see indicator 4).

As mentioned previously, the presence of other institutions in Pearl Lagoon has been an important part of strengthening CAMP-Lab's influence in the area by providing opportunities for enhancing CAMP-Lab impact through collaboration.

Contributions to Intangible Assets

CAMP-Lab's efforts to develop and strengthen CAMP-Lab Committees made several significant contributions to the intangible assets base in Pearl Lagoon. At a basic level, CAMP-Lab Committees represent a contribution to the structural social capital of the area, as cohesive local organizations with an interest in environmental issues. These groups have been increasingly used by other environmentally focused NGOs (such as FADCANIC and Carl Bro) as default community partners for their activities related to the environment.

These partnerships give some indication of the strength of the network that has been developed, and they represent a pathway for communities to exert more influence on these development actors. While some may view this integration as a potential avenue for co-option of CAMP-Lab groups by these institutions, I do not believe significant co-option occurred. In the case of FADCANIC, these cross over participants played an important part in formulating the nature of their participation and the goals of FADCANIC tended to fit well with the interests of CAMP-Lab members. In the case of Carl-Bro, their efforts were focused on gathering information about the environment and communities. The

involvement of CAMP-Lab participants with Carl-Bro represented an important opportunity to influence and contribute to the content of a report being created for a major bilateral donor.

The provision of a small start up budget and training in basic accounting to CAMP-Lab groups, as indicated above, has strengthened existing social capital in some communities to form the basis for improved small community social safety nets. While this strategy did not work well in areas where there was no tradition of this type of activity, it served to extend existing social capital in some communities. This initial experience may contribute to developing more successful efforts of this type in the future, particularly in other areas where no tradition has existed.

Work with CAMP-Lab Committees has contributed to local human capacity through local involvement in various workshops and monitoring activities. This has contributed to the overall improvement of environmental knowledge in the communities and local efforts to address environmental problems. Committees began identifying local environmental problems, such as erosion and deforestation, and in some cases took steps on their own to solve them. Efforts by some communities included approaching NGOs with funding proposals for small projects designed by local people to alleviate particular environmental difficulties, such as shoreline erosion. In addition, as noted earlier, the environmental interest sparked in part by CAMP-lab Committee activities played

an important role in encouraging certain young people to continue their education in related fields. This represents a medium to long term contribution to human capacity, and ultimately increased agency capacity in the Pearl Lagoon area, if and when these students return to their communities. Once again, this illustrates the importance of the presence of institutions like URACCAN and BICU in terms of strengthening the potential influence of CAMP-Lab.

CAMP-Lab Committees are an example of how an externally initiated PAR processes can contribute to the coalescence of a local group around a set of concerns that are latent in a community. This experience runs counter to Ferguson's (1994) assertion about the need for an appropriate identifiable group for useful engagement by academics in the third world. Overall, CAMP-Lab Committees represent an increase in local organizational strength in Pearl Lagoon that contributes to local capacities to work independently towards improvements in local livelihoods and engage effectively with other actors in the co-production of development efforts.

Deficits in geographic capital were intervening factors in limiting the effectiveness of the project's activities with CAMP-Lab Committees. Transportation costs to the communities prevented project staff from visiting as often as they wished to strengthen committee activities. This was aggravated to a certain degree by the harshness of the travel conditions that prevented the project leader from traveling regularly for a significant period before and after her

maternity leave. In addition, the multi-cultural, multi-lingual reality of the Pearl Lagoon meant that it was impossible to retain staff with sufficient language skills and cultural backgrounds to allow for optimal effectiveness in all of the communities.

CAMP-Lab Radio Program

The idea of using radio in the CAMP-Lab project was raised by community members in a CAMP-Lab inter-community meeting during the early part of the third phase of the project. The broad availability of battery powered radios in the Pearl Lagoon communities, the lack of a stable source of electricity, and a relatively low propensity of the people to read made radios the most accessible source of information and entertainment for many people in the area. The presence of a new radio station broadcasting out of Pearl Lagoon also contributed to the success of the radio program by enabling local people to participate directly in the project's one hour weekly broadcasts. During a group interview focused on the collaboration between CAMP-Lab and York University, a CAMP-Lab staff member raised in discussion the importance of the radio program's effect on project reach.

I always used to worry about how far meetings with the committee of CAMP spread . . . and I think what play a very important role is the radio program. . . . The radio program. . . carry the message beyond on to more people. This is always my preoccupation now because I always thinking about the massification of the project. (Adrienne)

The importance of the radio program in this regard was echoed by a local FADCANIC project staff member when speaking generally about CAMP-Lab's impacts:

This radio program that CAMP-Lab have is having a big impact. A lot of people listen to it, and it's a good thing because the people who you might not be able to reach personally, you reaching them in a different way. (Beth)

Radio offered one of the most effective means for CAMP-Lab to reach out to people in Pearl Lagoon who did not have the time or inclination to be directly involved in the project's activities. The popular communication methods used in the program's production -- including locally-developed contributions such as interviews, poems, songs, oral histories, and socio-dramas -- meant that it resonated with local people and provided a venue to voice their concerns in a variety of creative ways.

The development of the radio program in CAMP-Lab was heavily reliant in its early stages on collaborative efforts with York University. CAMP-Lab project staff described their early misgivings about developing the radio program during a group interview about collaboration with York University:

What we doing? We going to have a radio program but we don't know hecks about this. . . . We know we got the will and we want do it, but we no got the person, we no got the knowledge at the moment. We was terrified at the first. Like gee wisiker we could do this? I mean we going to bite off this I wonder if we know how to chew. (Pat)

I was a little skeptic about the radio because . . . I have never been in a radio station, I have never talk on a microphone on a radio station. How this be? What would it be like to make a program? So curiosity let me stick on and I was all around with [Christine] and finally I learn a new skill. (Chris)

In particular, a York University MES student, Christine McKenzie, played a central role in training and organizing the Radio Committee in its early stages, and Dr. Deborah Barndt contributed by co-facilitating a popular communications workshop with Christine.

The radio program gradually evolved into one of the key components of CAMP-Lab's efforts for a number of reasons. First, at a certain point in its development, the project required a shift towards management plan implementation efforts. The CAMP-Lab radio program provided a vehicle to encourage effective implementation by contributing to broad local knowledge and understanding of the management plan's content. Second, CAMP-Lab's reduced funding and staff put it in a position where its ability to visit the communities directly was diminished, and the radio program provided a useful means to maintain a connection. Finally, the radio program quickly proved to be very popular in the Pearl Lagoon area and became a vehicle for CAMP-Lab participants to stimulate discussion in the broader community and to attempt to pressure local politicians.

The radio program's emerging role as a key component of CAMP-Lab's efforts led to the inclusion of the Radio Committee as one of the project

Boundary Partners identified in CAMP-Lab's OM workshop. During the OM process, an outcome challenge and nine progress markers were developed for the Radio Committee. The data for these indicators, as well as information about CAMP-Lab's strategies, were collected on three occasions. The resulting information is integrated into an analysis of the radio program, along with data from a variety of other sources. A snapshot of the Radio Committee's progress based on these indicators is presented in Figures 22 and 23.

Outcome Challenge

The Radio Committee has an understanding of and skills in using popular communication methodology. They understand the objectives of the radio program and integrate the objectives and mission of CAMP-Lab into the program. They are well organized and self reliant with their own leadership and are able to continue radio programs in the absence of communal investigators. They use creative and varied ideas to help capture the attention of the people listening.

Total Progress Indicator Change for CAMP-Lab Radio Committee

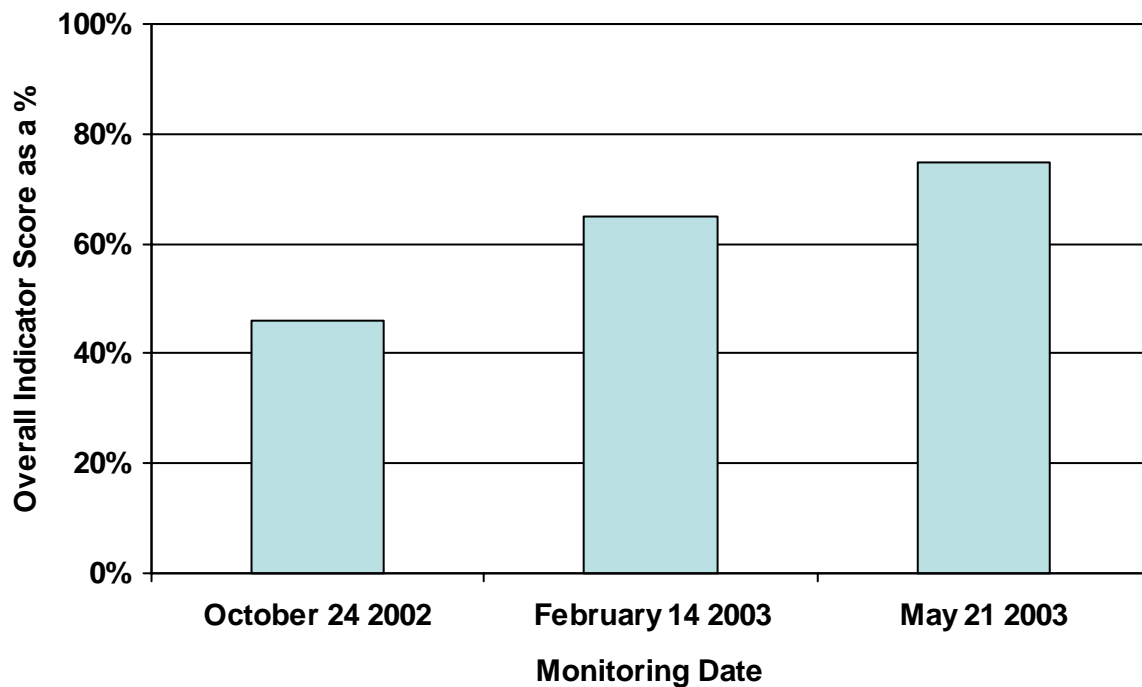


Figure 22: Total Progress Indicator Change for the Radio Committee

Progress Indicators

(See Appendix J)

Expect to see

- 1) The Radio Committee hold regular meetings.
- 2) The Radio Committee ensures that each radio program is relevant to management plan.
- 3) The Radio Committee uses popular communication methods in the production of the radio program.²⁷
- 4) The Radio Committee includes live interviews on the radio program.

Like to see

- 5) The Radio Committee produces a program consistently (weekly).
- 6) The Radio Committee ensures that each radio program is presented using a variety of techniques.
- 7) The Radio Committee shares their popular communications methods / skills with other people.
- 8) The Radio Committee ensures that voices from all of the communities are being heard in the radio program.

Love to see

- 9) The Radio Committee organizes its own shows without support from CAMP-Lab staff.

Individual Progress Indicator Change for CAMP-Lab Radio

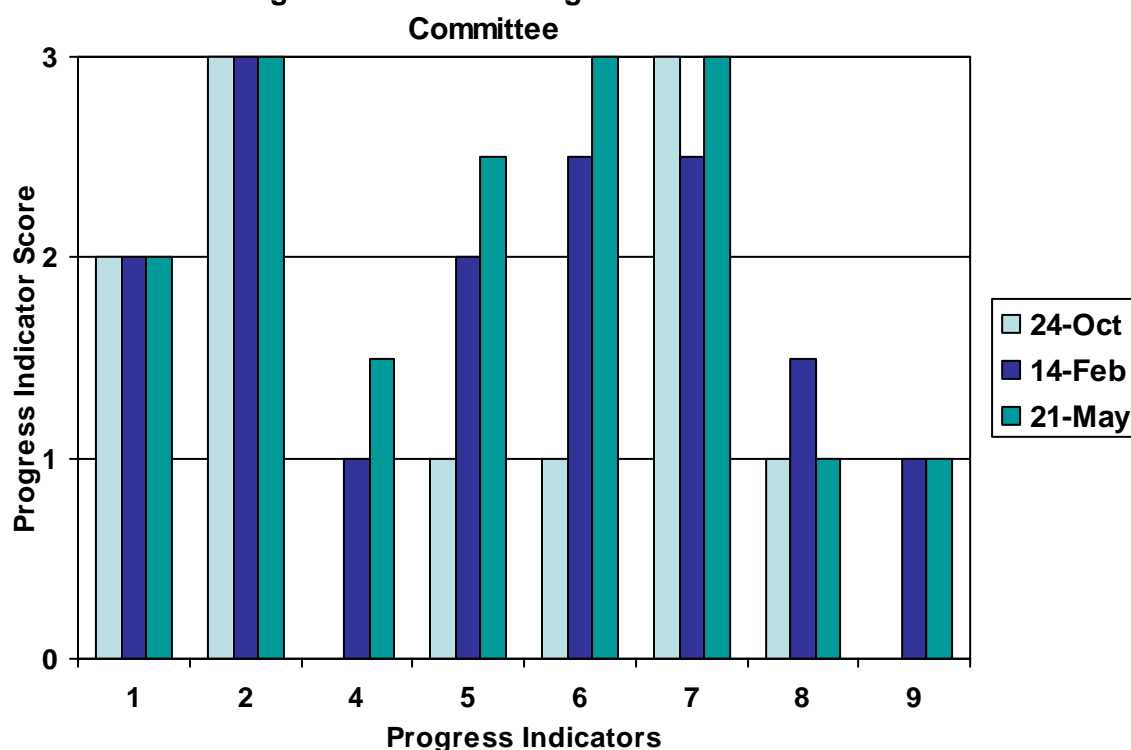


Figure 23: Individual Progress Indicator Change for CAMP-Lab Radio Committee

²⁷ Indicator 3 is measured as either a yes or a no, as it did not fit into the 0-3 scale. The indicator was yes for each monitoring period.

The Radio Committee made strong progress towards its outcome challenge (see Figures 22 and 23). It met consistently for planning and produced radio programs every week that the radio station was broadcasting (see indicators 1 and 5). During six weeks overlapping the first and second monitoring period, the power generator in Pearl Lagoon was not in service, so the radio station was not functioning and the program could not be broadcast. As mentioned earlier, a new generator was brought to Pearl Lagoon just prior to a Presidential visit in mid-October. During the third monitoring period the CAMP-Lab program did not broadcast during Semana Santa (Easter week) and during the Atlantic Baseball Series.²⁸

The overall objectives and mission of CAMP-Lab were consistently integrated into the radio program content through a weekly focus on one of the norms of CAMP-Lab's management plan (e.g., those related to gill net mesh size or deforestation along river banks) (see indicator 2). Whenever possible, the norm was integrated with local current events related to the environment and natural resources to increase its immediate relevance in the minds of the listeners. The decision to focus the radio program in this way was reinforced

²⁸ This is an annual tournament involving teams from throughout the RAAS and RAAN. The tournament is a major event (held in Pearl Lagoon in 2002) on the coast, and all the games were carried by the Pearl Lagoon station (monopolizing air time). In addition, one of CAMP-Lab's communal investigators, Oswaldo Morales, takes his annual holiday during this time to manage the Pearl Lagoon team.

when it was identified as an important priority during the course of developing CAMP-Lab's OM framework.

Within its radio program CAMP-Lab made use of popular communication techniques which placed local people -- especially young people from the village of Haulover -- at the centre of the radio program's weekly planning and execution (Tinkam-Moody and McKenzie, 2002). The radio program's thematic focus was on key components of the communities' resource management plan, often related to pressing local environmental issues. A member of the CAMP-Lab Radio Committee from Haulover explained what she saw as the importance of the radio program when asked generally about CAMP-Lab's influence in Pearl Lagoon:

The radio program is plenty . . . important because people learn plenty from us . . . about natural resources and what they should do for protect the soils, everything they should do to protect the shrimps. (Mary)

Similarly a community member working for FADCANIC explained how their institution sees the radio program as having influence over people on environmental issues:

You have a management plan now that you have write up and it's around the community and now you passing it by radio. And so people get to know by that what is the right and what is some of the things that you shouldn't do. So people start looking on some activities like a problem. (Beth)

Beyond its focus on the management plan, the program also provided a platform for local people to voice their concerns and opinions about broader environmental, social, and political issues, and to mobilize public opinion around these issues.

As the radio program progressed, and as previously mentioned, the committee integrated an increasing variety of popular communications techniques into its programs, including locally-developed contributions such as recorded interviews, poems, songs, oral histories, socio-dramas, and the use of live interviews with local people (see indicators 4 and 6). During the first monitoring period six techniques were used by the committee. By the second monitoring period eleven different techniques were in use, and in the final monitoring period, taped testimonies and live interviews were added for a total of thirteen different techniques.

The diversification of techniques used by the Radio Committee was encouraged through the use of an open checklist of techniques posted in the CAMP-Lab office. This list was periodically referenced while planning programs, and new techniques were added to the list as they were developed. The importance of using multiple techniques in the radio program was identified during the development of the OM framework, and the idea of using a checklist evolved when the first OM monitoring identified a deficit in the variety of techniques being used. The use of this type of checklist was duplicated in other

CAMP-Lab activities where other similar areas for improvement were identified in the project; most notably these included proper methods for water monitoring.

There was a consistent and successful effort to encourage involvement by new people in the radio program, thereby creating an influx of participants who could assist with the planning, production, and execution of the program (see indicator 7). There were at least two new participants during each monitoring period, involved in planning, live broadcasts, and the production of taped segments. Capacity building effects among participants in the Radio Committee reached beyond skills in radio, as explained by a high school student and on air participant in the radio program, who was asked about the personal impact that the program had for her:

For me it influence because for example at school they ask you for express yourself about natural resources and thing. So we done pass out that [on the radio] so we know it good for say it. . . . So it help at least me for communicate with next people. (Sue)

The development of general communications skills and confidence among the Radio Committee participants was a very important side effect of the radio program in terms of human capacity development. In addition, committee members involved in the program had an increased status in the communities, as people knowledgeable about the environment. As a result, they were occasionally called on for advice on environmental issues by community leaders.

Efforts to ensure that a broad range of people from the Pearl Lagoon communities were represented in each show were hampered by the expense and difficulty related to travel between Pearl Lagoon communities (see indicator 8). As a result, efforts to diversify the community voices heard on the program were largely opportunistic. The project staff took advantage of occasional trips to the communities for CAMP-Lab Committee meetings and the serendipitous appearance of people from other communities in Haulover on other business to acquire taped segments for the show. In addition the staff made use of interviews about the history of various Pearl Lagoon communities, taped for the project news letter Awake, as material for broadcast on the radio program.

Efforts to foster the Radio Committee's independence from CAMP-Lab staff resulted in the occasional show being executed without the presence of a staff member. As time went on, efforts to improve the Radio Committee's abilities and confidence in program planning were also encouraged by designating one show per month to be produced without CAMP-Lab staff support (see indicator 9). By the third monitoring period, the Radio Committee was producing an average of one show a month with only minor staff support in planning, and none in the actual broadcast. This progress came about at least in part through necessity as Eduardo was absent from Haulover for a number of weeks during this period (traveling to Canada and the other Pearl Lagoon communities). At the time of the third monitoring, Eduardo intended to continue encouraging the increased

independence of the Radio Committee from project staff in its show production. An indication of the Radio Committee's enhanced skill levels and status in the community was evident when its members (local youth) were asked by the radio station to host their own radio programs in time slots provided by the station.

The Radio Committee's progress can at least in part be attributed to the strong support that it received from CAMP-Lab staff and its York University partners. The facilitation and technical support provided by Christine McKenzie early in the development of the radio program, combined with the local knowledge and community organizing ability of the communal investigators, laid a strong foundation that allowed the Radio Committee to flourish and move towards independence from CAMP-Lab staff. The periodic monitoring of the Radio Committee's progress, using the OM methodology, served to maintain the staff's focus on the Radio Committee's outcome challenge and allowed the staff to target its efforts more effectively.

After the end of IDRC funding for CAMP-Lab, the continuation of the radio program was secured through an agreement with URACCAN. Radio time and basic equipment needs as well as a commitment from one of the communal investigators to continue voluntary support of the Radio Committee were obtained. Eventually, the radio program was able to re-secure substantial funding from the Danish International Development Agency (DANIDA), which recognized and acknowledged the value of the program.

Contributions to Intangible Assets

CAMP-Lab's radio program's effort had a significant influence on the intangible assets base available in Pearl Lagoon. It provided human capacity in the form of promoting a broader understanding of environmental issues by reaching a significant portion of the communities in a way that was informative and entertaining. The popular communications methodology used in the production of the program also gave local people an outlet to communicate their ideas and engage personally in ways in which they were comfortable. This provided a sense of local ownership of the program and gave it credibility in the eyes of local people.

The radio program contributed to human capacity building in terms of local skills related to radio. It increased the participants' confidence in talking about environmental issues in their communities and with authority figures, making them more likely to participate in debates and discussions that would influence local decision makers. Their program participation also gave them local status as individuals with environmental knowledge, giving them a degree of influence with other community members and local leaders. This contribution was somewhat limited to people in Haulover and Pearl Lagoon, causing some degree of jealousy among participants in other communities who wanted to have a more active role in the radio program. While the project staff tried to be innovative in integrating other communities' contributions into the program, the actual experience and

benefits of being live on air was limited by logistics to participants living near to the station.

The human capacity contributions of the radio program can be seen as a budding form of agency capacity among radio show participants, who were increasingly approached by local people to speak on their behalf about environmental issues. The show itself represents a tool for enhancing local agency as it provides a platform for local people to challenge decisions and actions or inactions of government or business, providing an effective tool to rally public opinion and influence decision makers.

CAMP-Lab's radio program efforts are an example of an effective mechanism that can be employed by small development project to help catalyze community concerns into more coherent and effective pressure on other development actors like politicians, bureaucrats, businesses, and NGOs. This once again represents a contribution by the project to the relative strength of local people in the co-production of development described by Bebbington (2000) and Li (2001)

The radio program, which could be heard in every community, also played an important role in overcoming problems related to geographic capital by providing a cost effective means of overcoming frictional distance and promoting dialogue between people regularly throughout the lagoon. The popular

communication methods employed by the program meant that it was accessible and encouraged contributors throughout the lagoon to communicate their ideas about environmental issues and voice their concerns. While issues related to geographic capital limited the degree of participation possible by people from outside Pearl Lagoon and Haulover, the project managed to include fairly regular contributions from participants throughout the lagoon.

The importance of the radio program as a tool for overcoming deficits in geographic capital was also important in terms of management plan implementation efforts. It provided a means to popularize the management plan throughout the lagoon, contributing to an increased possibility of local adherence to it and *de facto* implementation.

Environmental Education

CAMP-Lab's environmental education efforts in Pearl Lagoon were both formal and informal. Formal education efforts in Pearl Lagoon schools took the form of regular classes given by CAMP-Lab staff as part of the school curriculum. The schools involved included Pearl Lagoon's high school as well as primary schools in Pearl Lagoon, Haulover, and Orinoco. Informal efforts to educate people about the environment were based on the management plan effort, work with CAMP-Lab Committees, workshops, radio programs, newsletters, environmental monitoring activities, and various other CAMP-Lab initiatives.

Formal environmental education was started by CAMP-Lab in Pearl Lagoon schools in response to a request for assistance from a number of teachers. Environmental education had not previously been offered in the schools, so curriculum was developed by the CAMP-Lab staff (all former teachers), based largely on CAMP-Lab's activities and the management plan. The presence of CAMP-Lab in the schools was formalized through agreements with the regional delegate for education, and the lessons included participatory classroom work such as community mapping, field visits, as well as hands-on activities including water testing.

In addition to the direct involvement of CAMP-Lab staff in the schools, CAMP-Lab has also provided locally relevant environmental education resources for use by teachers in the form of its tri-annual newsletter, *Awake*. This publication was produced using methods of popular communication (such as locally produced stories, poems, etc.) and was written in the local language, Creole English. It included contributions from CAMP-Lab staff, students, and other community members in a variety of formats including articles, artwork, stories, and poems. The availability of this resource, reproduced in the local language and focused on local issues, was lauded by a number of Pearl Lagoon teachers as the only relevant and accessible course material they had to use for environmental education.

Overall, CAMP-Lab's efforts in environmental education have played a powerful role in increasing, especially, young people's awareness and understanding of environmental issues as witnessed in their increased ability to identify and discuss potential environmental problems and solutions. The effects are anticipated to grow stronger as young people influenced by CAMP-Lab begin to engage in leadership roles in their communities. There are early signs of this emerging influence in the increased number of students going on to study at university in fields related to the environment. In addition, a small number of students and teachers have already taken active roles in local environmental NGOs and have begun to participate in various levels of government. Overall, CAMP-Lab's environmental education efforts in Pearl Lagoon contributed to the medium and long term potential for successful management plan implementation by increasing local knowledge about environmental issues and related confidence in dealing with environmental decision makers.

The consistent role played by environmental education in CAMP-Lab's efforts led to the inclusion of students and schools as a project boundary partner in CAMP-Lab's OM workshop. During the OM process, an outcome challenge and eight progress markers were developed for the schools and students. The data for these indicators as well as information about CAMP-Labs strategies that were used to influence students and schools were collected on three occasions. The resulting information is integrated into this analysis of environmental

education, along with data from a variety of other sources. Snapshots of the schools' and students' progress based on these indicators can be found in Figures 24 and 25.

Outcome Challenge

Environmental education is a separate subject within the school given by teachers with specialized training in the field. Students are involved in extracurricular activities related to the environment. Good libraries of materials about the environment in Pearl Lagoon are kept in each school, including research done by local students. Students will become interested in environmental issues and go on to study for related careers. Graduating university students will return and make use of their education in the communities.

Total Progress Indicator Change for Pearl Lagoon Schools and Students

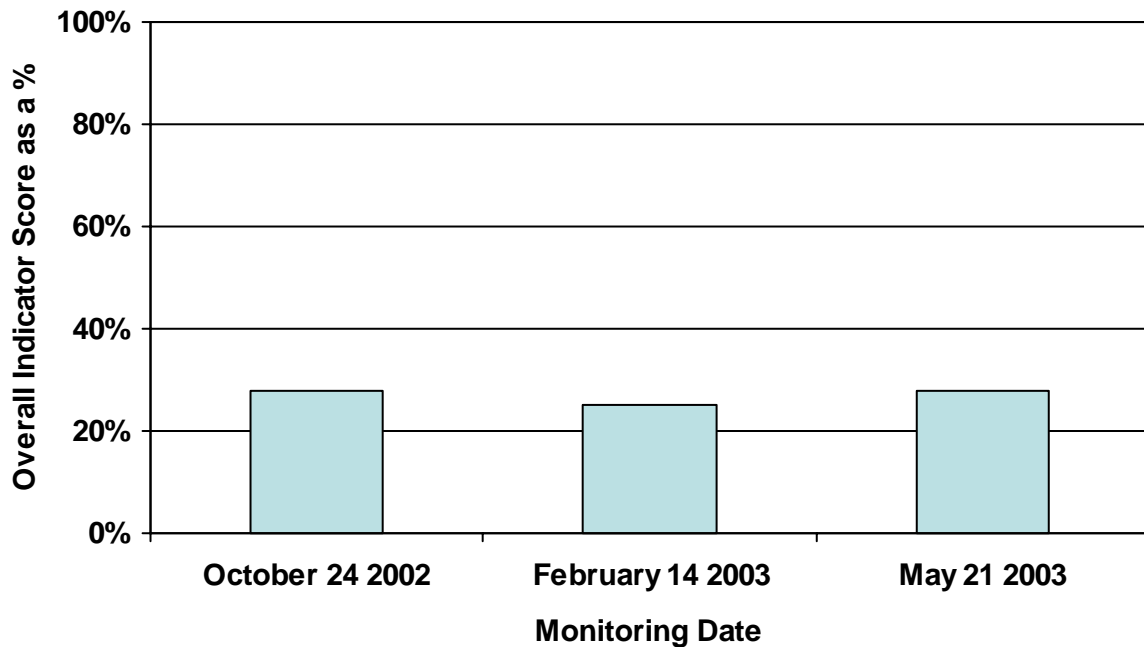


Figure 24: Total Progress Indicator Change for Pearl Lagoon Schools and Students

Progress Indicators

(See Appendix J)

- Expect to see
- 1) High school students are involved environmental field work.
 - 2) Schools save research done by local students about Pearl Lagoon in their library and make it accessible to other students.
- Like to see
- 3) Students continue their education after high school²⁹.
 - 4) Students return to do their thesis research in their community.
 - 5) Teachers have adequate training to give environmental education.
 - 6) Schools offer environmental education as a separate subject.
 - 7) Schools maintain adequate libraries.
- Love to see
- 8) Students return to work in communities after graduating university³⁰.

Individual Progress Indicator Change for Students and Schools

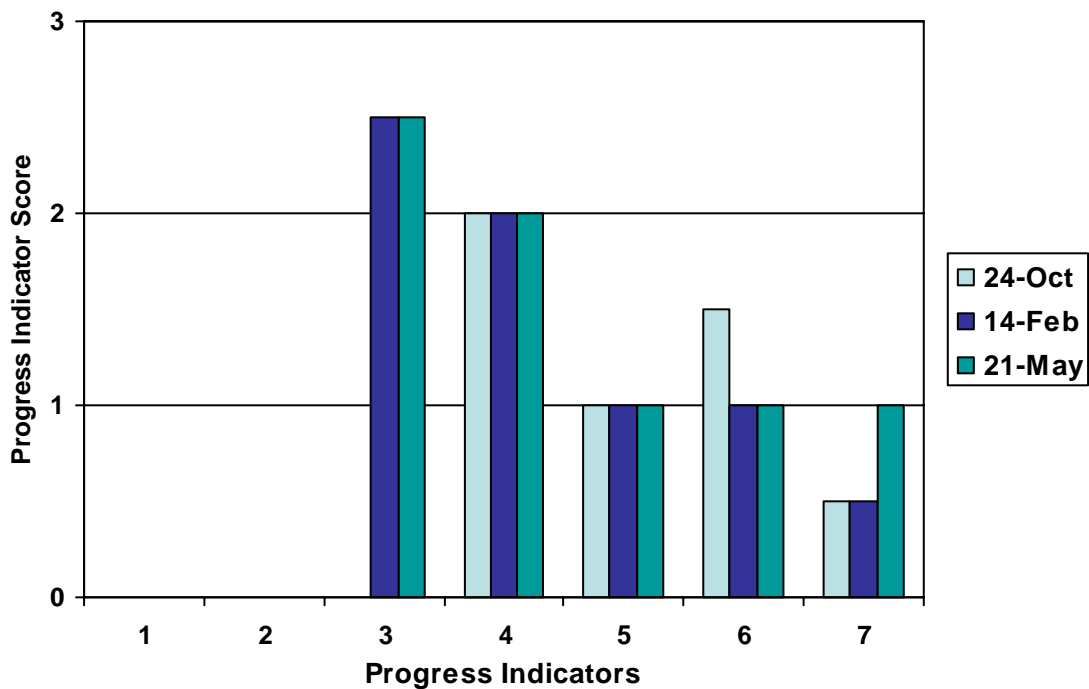


Figure 25: Individual Progress Indicator Change for Students and Schools

²⁹ No data was collected for this indicator during the first monitoring period and this data was not included in the overall totals.

³⁰ Indicator 8 is measured as a raw number. There is currently one student who has returned to work in the Lagoon after graduating from the university.

The progress indicator scores (see Figure 24 and 25) for Pearl Lagoon students and schools seem to suggest a lack of overall improvements for this partner during the monitoring period. Nevertheless, a number of positive influences of CAMP-Lab's efforts can be identified through closer analysis.

One example of this positive influence is the promising number of students (17) from the Pearl Lagoon and Orinoco high schools who are continuing their education in Bluefields or elsewhere at the post secondary level, with most focusing on subjects related to the environment (see indicator 3)³¹. These seventeen students represent just under half of those graduating from high school. CAMP-Lab staff and community members believe that CAMP-Lab has played a prominent role in influencing students to continue in school and to select a program related to the environment. Three URACCAN students from Pearl Lagoon who are nearing graduation have returned to the area to work on theses related to local environmental issues. Finally, one URACCAN student from Haulover has taken up a position as coordinator of FADCANIC's activities in Pearl Lagoon after completing her university education in Bluefields.

Most of the students beginning post secondary education were influenced in their decision to continue their education through their involvement in CAMP-

³¹ As a result of a lack of data from previous years, this information could not be included in the calculation of overall boundary partner progress.

Lab activities such as the CAMP-Lab Committees, the monitoring activities, CAMP-Lab staff's environmental education efforts in the schools, or working with Monica Schuegraf on her lagoon grass research. In particular, hands on monitoring activities proved very effective in stimulating young peoples' interest in further education related to the environment. Important activities included field trips to various forest areas to monitor transects and measure trees; freshwater monitoring that involved students doing analysis of fecal coliform content of well, river, and tank water; and sea grass monitoring which involved locating and getting samples of grass in the lagoon and taking core samples of the lagoon bottom.

Of six Pearl Lagoon students working on their theses, three have returned to Pearl Lagoon to complete their research and all six were previously involved with CAMP-Lab activities (see indicator 4). These students have also begun to assume informal leadership roles in their local CAMP-Lab Committees (Haulover and Orinoco) contributing the benefits of their education and energy to CAMP-Lab Committee work. In addition, they serve as positive examples for younger committee members, increasing their interest in further education.

The flow of CAMP-Lab participants to local universities and back into local NGOs demonstrates the importance of the opportunities presented by the presence of accessible higher education (URACCAN and BICU) on the potential for CAMP-Lab's efforts to contribute to change in Pearl Lagoon. Conversely, this

relationship may have also contributed to the interest in CAMP-Lab among young people who may have seen it as preparation for further education.

The practice of having CAMP-Lab staff offer formal environmental education classes in the Pearl Lagoon and Haulover schools temporarily ended during the monitoring period, due to uncertainty about project funding for the school year (see indicator 6). During this period of financial uncertainty, CAMP-Lab staff did not feel they could commit to a full year of regular teaching given that they would potentially need to find other employment that might not accommodate their teaching schedule. Nevertheless, project staff continued to give classes at the Pearl Lagoon and Haulover schools when they received specific requests from teachers. In addition, CAMP-Lab staff supported and encouraged local teachers to integrate environmental education in their curriculum, encouraging the use of the Awake newsletter as reference material for teachers (see indicator 5).

In 2004, as part of the DANIDA funded initiative, CAMP-Lab's formal environmental education activities resumed. At this time, activities were coordinated with the ministry of education in Pearl Lagoon to develop a formal environmental education curriculum for the area. This curriculum, which may be adopted throughout the region, was developed through a consultative process involving teachers, other environmental NGOs, and the mayor's office. It was

reviewed, revised, and approved in a one day workshop, organized by CAMP-Lab, involving seventy people from throughout the Pearl Lagoon municipality.

The influence of CAMP-Lab's education outreach on local environmental awareness and the tendency toward environmental activism in Pearl Lagoon were identified by a project staff member when asked to identify the "biggest effect of CAMP-Lab in Pearl Lagoon".

Since the project came in people are more aware of the environmental and ecological problems they are facing. We know this because we see people define the problems that they face, and they are not only identifying the problems that they face but they are also making ways how to solve these environmental problems. I mean at first probably somebody would have to come from outside to do that for them but they are doing it now. So this is because of CAMP-lab working along with these people. (Chris)

In response to a similar question, this idea was echoed by an academic colleague who had worked extensively in Pearl Lagoon with a number of organizations:.

[Compared to other parts of the region] People have just a much broader knowledge about what natural resources are what ecosystems are, why its important to protect certain types of ecosystems, how that effects their livelihood, and I think CAMP-Lab is . . . responsible for that. (Sarah)

There was a broad agreement among those interviewed that CAMP-Lab, especially its formal and informal education initiatives, has had a significant impact on environmental awareness and the increased tendency towards efforts to protect the environment among Pearl Lagoon people. In SWOT activities

undertaken with the eight CAMP-Lab Committees and in Tasbapaunie, all nine communities identified CAMP-Lab's contribution to increased environmental awareness as one of its major strengths.

Contributions to Intangible Assets

CAMP-Lab's environmental education efforts made several important contributions to the intangible assets base available to people in Pearl Lagoon. CAMP-Lab's formal environmental education was part of the curriculum in Pearl Lagoon schools, and it influenced local human capacity by increasing young people's understanding of the environmental issues faced by their communities. Educative efforts had an influence beyond the bounds of formal schooling as students graduated and moved on to other activities in their communities and also shared their knowledge with family and friends. Informal environmental education efforts, including the management plan efforts, workshops, seminars, and the radio program have also played a major role in increasing local people's knowledge of environmental issues, and their willingness to engage with local decision makers or businesses on these issues.

CAMP-Lab's environmental education efforts have also prompted many Pearl Lagoon students to continue their education past secondary school in areas relevant to Pearl Lagoon's environment and local sustainable development. This has the potential to contribute in the medium to long term in

the development of agency capacity, as these students return to work in their communities and take on leadership roles in local government or more senior jobs in environmental NGOs where they may have increased opportunities for exerting influence.

Ultimately, CAMP-Lab's environmental education efforts have shown early signs of contributing to what Krishna (2001) identified as a crucial form of local agency -- young educated local leaders who contribute to the community's overall ability to influence development actors and secure resources. While the full impacts of CAMP-Lab in this respect cannot be measured, as they will occur downstream from the project, there is evidence to suggest that CAMP-Lab will provide a significant medium to long term contribution in this respect. Once again this contributes to the relative strength of local communities in the co-production of development in Pearl Lagoon.

Deficits in geographic capital played an important role in the formal environmental education efforts, as the cost and time of travel limited staff's ability to work in all Pearl Lagoon schools. Efforts to mitigate this deficit were made by attempting to support teachers in more isolated communities in their environmental education efforts and by encouraging the use of CAMP-Lab's newsletter, *Awake*, as a resource.

The Shrimp Farming Seminar

One of the most unique and effective activities during CAMP-Lab's third phase was its collaboration in the development of a shrimp farming information seminar in October 2002. This event was based on concerns expressed by community members about the possibility of shrimp farming enterprises starting operations in the area. In July and August of 2002, Pearl Lagoon people heard rumors that the local seafood processing plant (Mar Caribe) might embark on shrimp farming. As a result of these rumors, the issue of shrimp farming was increasingly on the minds of local people, who had a vague understanding that the activity could have potentially negative environmental implications for the lagoon. While opinions about both the benefits and drawbacks associated with shrimp farming differed among community members, two key concerns prevailed. First, people made it clear that they did not have an adequate understanding of shrimp farming to make informed decisions about its desirability for their communities. Second, the majority of people did not trust the processing company nor the local authority to work in the best interest of the people of Pearl Lagoon (Hostetler and Schuegraf 2003).

Within this context, CAMP-Lab staff were asked for opinions on the subject. Recognizing their equally limited knowledge of shrimp farming, CAMP-Lab staff, along with York University graduate students working with the project, began developing the idea of hosting an information seminar to increase local

awareness of both the problems and benefits associated with this activity. Local CAMP-Lab staff began looking for support to fund and provide content for the seminar. At the same time, in Canada, CAMP-Lab's York University partners conducted library and internet research in an effort to gather information and develop materials suitable for the seminar and to locate international support for the event.

The central objective defined for the seminar was to provide the communities of Pearl Lagoon with accessible information about the potential social, environmental, and economic impacts of shrimp farming on their communities so that they could engage with groups interested in this activity in a more informed and cohesive way. This was accomplished by: 1) providing participants with visual and descriptive examples of other communities' experiences with shrimp farming in different global locations; 2) providing accessible data about shrimp farming experiences in other locations, including scientific and socio-economic data, and; 3) giving community members space to voice their uneasiness and pose questions about shrimp farming to both experts with detailed knowledge of the subject and the decision makers ultimately responsible for deciding the future of shrimp aquaculture in Pearl Lagoon.

The seminar took place on October 21-22, 2002. It was facilitated and organized by CAMP-Lab and funded by ASDI through the Pearl Lagoon mayor's office. In addition to the financial support provided by ASDI, UCA provided a

shrimp farming expert from its aquaculture research facility in Puerto Morazan, and the local universities URACCAN and BICU both provided local aquaculture specialists with Masters-level training to add content. Key materials for the seminar were acquired or developed by the project's partners from York University, including a video, "*Shrimp Fever*", examining the impacts of shrimp farming in Ecuador, and posters that provided images of the shrimp farming process and posed crucial questions for consideration by seminar participants.

CAMP-Lab staff viewed collaboration with York University and other institutions in this event as crucial to its analytical richness and effectiveness in stimulating debate and engaging decision makers. During the course of individual interviews exploring collaboration between various institutions on the shrimp farming seminar, project staff described the group dynamics and their impact in the following ways:

You don't have knowledge of here like the people do. The people don't have knowledge on what shrimps farming is and how it works. So put the things together. The people have the privilege to make the analysis of what is really shrimps farming, what could really happen and what could be the impacts both economically and ecologically. (Chris)

I think it was a good team work you know because we are from the zone as CAMP-Lab staff and everyone know we are no shrimps farming expert. We had this expert from UCA, we had someone from URACCAN, but I think also when we tell the people that we had backup from this Canadian university who we had been in contact with because we recognize our weakness in the area. I think that also giving some credibility to the whole thing. (Pat)

Collaboration with York University and local educational institutions increased the quality of the seminar's content and provided well-rounded, accurate information about the possible effects of shrimp farming. CAMP-Lab staff also believed that collaboration provided legitimacy to the event in the eyes of the sponsor and various levels of government who agreed to participate.

Collaboration with York University and other academic institutions also played an important role in gaining economic support from ASDI, which in turn stimulated participation among various government entities. During a group interview, one staff member pointed out, when asked to elaborate on his views about the role of government participation in the seminar:

The collaboration of the municipal government was key to the stuff. . . . We had them participating directly inside of the meeting which was something that help the people from communities. After doing the analysis right in front of these people, the decision was taken not only by the people of the community but the municipal government . . . in coordination with the people of the communities. (Chris)

Government involvement was crucial to shifting the effort from an exercise that provided information to local people to one that created space for local people to directly influence decision makers and demand accountability.

The seminar involved approximately 60 people, including: at least two people from each community in the lagoon; the mayor and vice mayor of the municipality; regional councilors; representatives from the central government – ADPESCA (fisheries) and MARENA (environment); municipal and regional

natural resource authorities; local universities URACCAN and BICU; ASDI; the local radio station; and Mar Caribe, the company that wished to develop the farm.

After introducing the video “Shrimp Fever” -- which details the devastating experience of shrimp farming in Ecuador during the 1980s -- a representative of Mar Caribe commented that this was a video about “*how not to do shrimp farming*” and that the company planned to use sustainable farm methodology based on a program being developed in Belize. The participants from the company left the seminar while the video was being played. Mar Caribe representatives did not return even when, at the encouragement of participants, they were contacted by the mayor. The failure of the company to remain and explain to the workshop participants their more “environmentally sustainable” proposal for a farm served to aggravate the remaining participants who saw this behavior as disrespectful.³² It also shaped and fostered peoples’ already significant skepticism about the motivation and sincerity of the company.

Local people’s views of Mar Caribe and its motives are evident in comments made by participants about the impact of the seminar. When asked “how did you see the shrimp farming seminar?” during the course of an individual

³² Time for the company to present its plans had been programmed into the event from the beginning.

interview in his house, a participant in the seminar and active CAMP-Lab member pointed out:

After we had that thing [seminar] here I haven't heard anyone talking about shrimp farming again and you know Jorge Morgan [the company owner] is vexed. Yea because I believe Jorge had already taken out how much money he would be making for the year. This thing was just like a bucket of cold water thrown over him. (John)

The skepticism about Mar Caribe's motives, while aggravated by the company representative's behavior in leaving the seminar, has roots in the company's history in the area.

It was generally understood that the company's processing facility near Pearl Lagoon Town ignored the communities' concerns about pollution, and it did not do enough to create more value added processing in the plant to create more jobs. When asked "How did you see that shrimp farming seminar", one community member and former employee of APN described in detail his view of the company's history in the area and then summed up his feelings about Mar Caribe's aspirations for shrimp farming in the following way: "since they have treat us that way with this [fish processing] plant, what they would have done if they had gotten shrimp farm? They disrespect us now and they would have disrespect us forever" (Paul). This kind of local historical context and experience informed local people's analysis during the seminar and illustrates the importance of effective community participation in this sort of decision. It is illustrative of the potential impact of opening up political space for people to

assert their views and defend their interests on the basis of local and outside knowledge.

The main concerns raised by participants in reaction to the video were: 1) the desire for proof that local people, and not just the farm owners, would get benefits from shrimp aquaculture; 2) the possible destruction of local ecosystems that currently support fisher people; 3) the fear that shrimp farming may aggravate ongoing and contentious land claims issues; 4) the concern that shrimp aquaculture would be a repeat of other experiences with extractive industries (i.e., bananas and lumber) that provided jobs in the short term but contributed to future environmental degradation; and 5) questions about what would become of the farm and the land when the company eventually abandons it.

The second session of the first day of the seminar involved small group discussions about potential benefits and problems that could arise from shrimp farming in the area. The general conclusion of this session was that the people did not have enough information to be able to decide “yes” or “no” to a shrimp farm. They had heard a great deal about the negative aspects of shrimp aquaculture and little about positive ones. The participants wanted more information to enable them to make informed decisions. In addition, people expressed clearly that: 1) the government decision making process on the issue should be transparent; 2) they believed that the decision whether or not to have a

shrimp farm was not the government's decision but the people's decision, and; 3) if a farm was approved, it must be sustainable and environmentally friendly so the land would not be ruined for future generations. One active participant in CAMP-Lab's activities stated that "in Nicaragua all they do is exploit the people here" and that we should "think deeply over how it really should be". A number of people suggested that more workshops be organized to offer more insight and information from different experts who could speak about recent technological innovations.

The second day of the workshop focused on the technical aspects of shrimp farming. It included an extensive talk and a question and answer period by a UCA expert involved in shrimp farming research in the town of Puerto Morazan on the Pacific Coast of Nicaragua. In addition, there was a short presentation by the director of one of the local universities' research departments,³³ who earned his MSc, in part, through studies undertaken at the same Puerto Morazan facility. At one point, the UCA expert commented on the uniqueness of the seminar, stating that in his experience communities had never been consulted and informed this thoroughly before the creation of a shrimp farm.

³³ This is the equivalent of a university research office.

The local university expert proposed that the universities and the government get together to try an experimental shrimp farm and pledged his university's cooperation. This offer was answered by a prominent local participant who replied "thank you but no, we need to have more studies, more meetings, and hear more experts before we do a pilot project; this seems as if it needs to be studied out good". This comment reflected the open but cautious approach to shrimp farming that most of the participants in the seminar took away with them.

The participants in the seminar expressed appreciation for the opportunity to consult in advance about the future of shrimp farming -- "before they were exploited". Many commented that this was the first time they had ever had such an opportunity in relation to the development of a new industry. The importance of this effort, in terms of encouraging accountability among local politicians, was analyzed in this way by an academic colleague engaged in work on political processes in the Pearl Lagoon communities:

[Local people] need mediated space where there are other actors . . . who can put pressure on different officials to pay attention to what the community members are saying and to be responsive to them. . . . When you create a space like the shrimp farming workshop you are . . . forcing elected officials to be accountable to their constituency. Normally they are not [accountable] but in that kind of space they have to be because they know they can't get away with anything.
(Sarah)

The effectiveness of the seminar in stimulating this type of accountability among local politicians was evident in a statement by the vice mayor. Previously one of

the major promoters of the shrimp farm, the vice mayor was recorded as saying that “no decision will be taken outside of your participation. And I think that’s why you’re here because we are thinking of taking a decision yes or no, and we want to have your participation inside this decision.” In an effort to encourage follow through on this promise, his statement was publicized in a CAMP-Lab newsletter and broadcasted on the radio program.

Following the seminar, CAMP-Lab made extensive efforts to share the seminar information and to extend discussion on the topic throughout the Pearl Lagoon communities. The CAMP-Lab radio program dedicated a show to the topic of shrimp farming by playing a number of taped segments from the seminar and exploring many of the issues raised there. Another local radio personality, who attended the seminar, dedicated two full one-hour shows to shrimp farming, further informing the communities about what took place at the seminar.

In the week following the seminar, CAMP-Lab staff visited all the Pearl Lagoon communities with the posters and the video from the seminar, providing a mini-version that lasted an hour (or two hours when including the video, shown only where power was available) and covered much of the key information. Finally, the next edition of CAMP-Lab’s *Awake* was dedicated largely to the issue of shrimp farming, providing yet another channel for local people to acquire more information about the subject.

CAMP-Lab's shrimp farming seminar had a significant impact on the future of the activity in the region. The effort clearly stalled the plans of the company, at least temporarily. It also ensured that any future moves towards shrimp farming in the region would not take place without extensive negotiation – that included well informed community members -- about environmental, economic, and property rights issues. The impact of this event in terms of local politics and decision making is particularly important, unique, and far reaching. The experience provides a local model for opening up space for local people to confront and influence various levels of government on issues that can seriously impact on their livelihoods. This ideal prompted an academic colleague to comment “that one workshop -- that one meeting -- had a huge impact on the whole process in the region” (Sarah).

Moving beyond the issue of shrimp farming, the seminar provided a possible model for greater local influence over decision making and government transparency and accountability in Pearl Lagoon. In post-seminar interviews with CAMP-Lab staff and other project participants, a number of topics for possible similar events were raised, including pressing local issues such as land demarcation, oil exploration, and basic information about the legal rights and responsibilities of various levels of government. While the shrimp farming seminar demonstrates that this type of activity and impact is possible, the experience also suggests that such an event requires an established local entity

as the driving force. Such an entity requires not only the ability to identify local issues and to mobilize the population around them but also to access outside support, including money, information, human resources, and influential partners that can encourage government participation.

Contributions to Intangible Assets

CAMP-Lab's shrimp farming information seminar was a unique contribution to the enhancement of intangible assets in Pearl Lagoon. It contributed to local understanding of shrimp farming and enhanced local human capacity. Most importantly it provided a space in which local people had access: 1) to relevant information in a variety of accessible formats, as well as direct access to experts on the activity; and 2) to relevant decision makers in a setting where they had to pay attention to local concerns and would be held accountable both by local people and important observers such as NGO representatives.

This event amounted to the creation of an agency space for local people where they were at least temporarily able to exert influence over important local decision makers on an issue of great concern. It is also interesting to note that the event was recognized by several distinct groups as a "first". Local people acknowledged the event as the first time that they had been given such an opportunity to play a role in deciding the future of a new enterprise in the area. Similarly, the shrimp farming expert from the UCA remarked that he was

unaware of a case where communities were so fully consulted and informed before a shrimp farming enterprise began.

This shrimp farming seminar falls in line with Ferguson's (1994) second prerequisite for academic engagement -- demands from progressive groups in society for information to support their efforts. However, it is the presence of CAMP-Lab in the Pearl Lagoon area, as a trusted local entity with outside support, that provided the opportunity for: 1) this request for information to be made and 2) for the information to be presented and distributed in an effective and far reaching way. In this instance, the work of outside academics in a small scale PAR project contributed to local ability to access important information and the political space to use that information more effectively to engage with business and government. This ultimately represents a significant concrete example of CAMP-Lab's contribution to local peoples' influence over the co-production of development in Pearl Lagoon.

Pearl Lagoon Communities

A key component of assessing the overall influence of CAMP-Lab in Pearl Lagoon involves the examination of the ways in which behaviours related to resource management have changed in the communities. There were three boundary partners related to the communities identified in the OM workshop: communal boards which are elected by the community, fishers and farmers, and

the communities as a whole. Due to limited time and resources available for monitoring activities, key components of these boundary partners and their related progress indicators were collapsed into one boundary partner, which was then monitored by CAMP-Lab. As in the case of other boundary partners, the data for the communities' indicators, and information about CAMP-Lab's strategies and practices related to them, were collected on three occasions. The resulting information is integrated into my analysis of the influence of CAMP-Lab on Pearl Lagoon communities, along with data from a variety of other sources. Snapshots of the Pearl Lagoon communities' progress towards the above outcome challenge, based on these OM indicators, can be found in Figures 26 and 27.

Outcome Challenge

Pearl Lagoon Communities respect the norms of the management plan and act as its eyes, ears, and mouth. People in the communities are environmentally conscious and think about the environmental impacts of their activities. Communities' activities are ecologically and economically sustainable. Fishers and farmers apply environmentally friendly technology and have access to fair markets. Communal boards are proactive in efforts to protect the environment, are well organized, and have transparent finances. The communal boards have strong leadership and promote coordination on environmental issues with other institutions and between communities.

Total Progress Indicator Change for Pearl Lagoon Communities

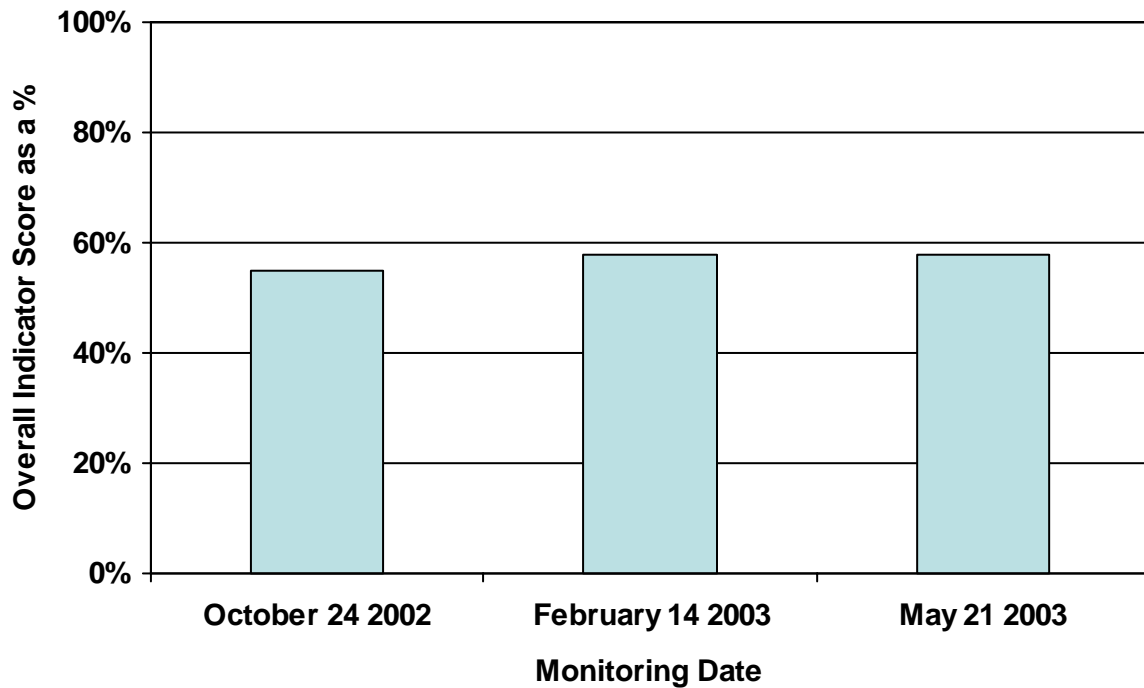


Figure 26: Total Progress Indicator Change for Pearl Lagoon Communities

Progress Indicators (See Appendix J)

Expect to see

- 1) Community members rebel against actions that are not friendly to the environment or natural resources.
- 2) Communal boards have systematic and open meetings in the communities.
- 3) Communal boards coordinate their efforts with other institution working in the area.

Like to see

- 4) Communities establish and carrying out regulation and activities to protect and enhance their environment and natural resources.
- 5) Fishers avoid the use of environmentally harmful gear.
- 6) Farmers limit their use of chemical products.
- 7) The communities create, respect, and protect reserve forest areas.

Love to see

- 8) Intercommunity Committees work to solve conflicts between communities.
- 9) Communal boards have consistent and transparent reporting about board projects and finances.
- 10) Communal board budgets are made using methods that include active participation by the broader community.

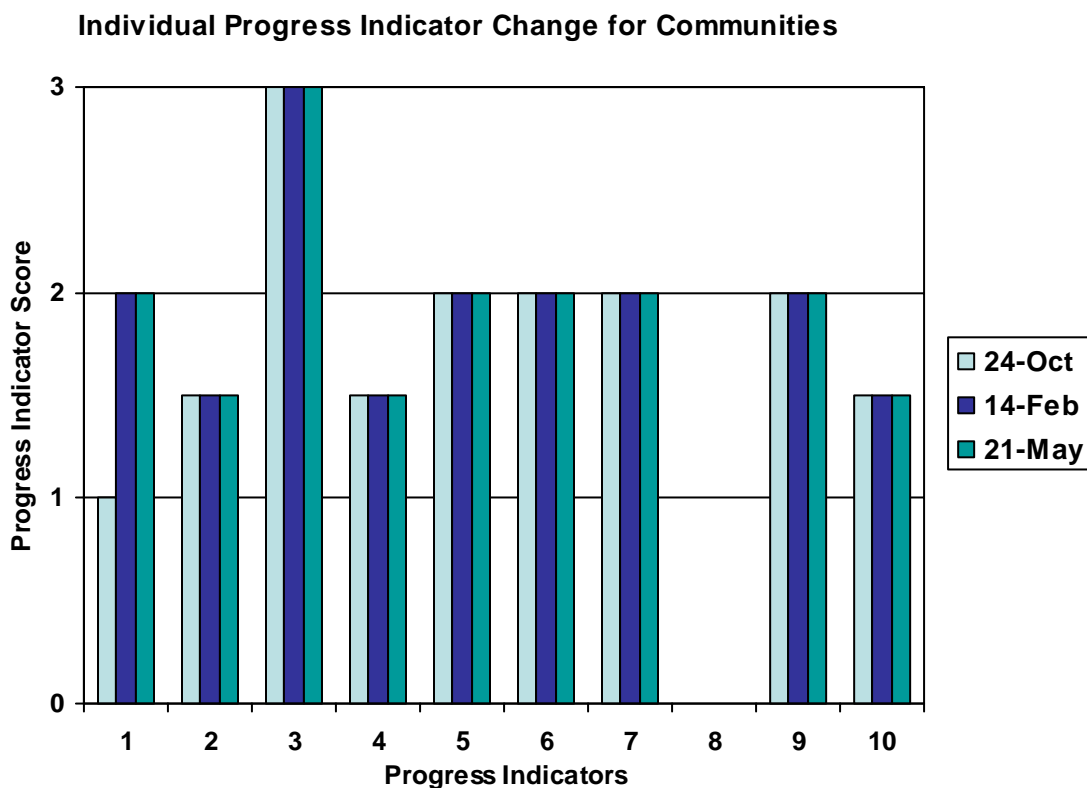


Figure 27: Individual Progress Indicator Change for Communities

The progress indicator scores for the Pearl Lagoon Communities indicate a small overall progress towards their outcome challenge over the monitoring period (see Figure 26 and 27). While the overall OM indicator scores for the Communities remained almost unchanged, closer analysis of the situation, incorporating CAMP-Lab strategy and practice data and other sources of information, suggests a number of ways that CAMP-Lab's activities have had a positive overall influence on Pearl Lagoon communities. One of the most important achievements that can be strongly linked to CAMP-Lab activities is an increased awareness and understanding in the communities of the environment and ecosystems from which they make their livings. When asked his general opinion about "what CAMP Lab has done in Pearl Lagoon", a former employee of APN suggested that the project "left a scar in the future generations that our environment should be clean and we should . . . protect what we have" (Paul). Similarly, when asked during an individual interview "do you see changes in the way people think about the environment", a CAMP-Lab staff member describes what he saw as the changes that have occurred among community members as a result of CAMP-Lab activities:

After going around and talking to people and seeing different reactions from people, we find out that yes we are doing a lot of things because even the people we don't work with directly, people who we have had [only an] indirect influence on . . . [have] a lot of awareness around what is the use and protection of the environment and natural resources. So if we go to practically all the communities - and in some we don't have strong influence -- this is something

that is really strong. . . . These people become very outspoken and become a strong voice in these communities towards what is the protection of natural resources. (Adrienne)

An improved understanding of ecosystems and environmental issues among the local people has led to shifts towards more sustainable environmental behavior and an increased assertiveness in efforts to prevent environmentally damaging activities (see indicator 1). CAMP-Lab's activities have contributed directly to this improved environmental knowledge, assertiveness, and ability to engage relevant decision makers.

A number of actions have been taken by community members against activities they understand to be environmentally damaging. One ongoing struggle of the community has been the prevention of illegal logging on community land. In July 2001, prior to the beginning of CAMP-Lab's use of OM, there was a major incident involving a logging company that was attempting to remove 2,300 logs from community land with invalid permits. Community members stood watch for three nights waiting for the logs to pass by (they were being floated out). When they did, the communities of Pearl Lagoon and Haulover intercepted and collectively took possession of the logs with multiple pangas and canoes traveling out into the lagoon to bring them to the community to be used for local benefit. While reportedly the national level government encouraged the return of the logs to the company that had cut them, the municipal government took the side of the people, supporting their expropriation of the logs and imposing fines

against the logging company (McKenzie 2001). Subsequent examples of this ongoing struggle took the form of confrontations between loggers and a number of the Pearl Lagoon communities. These confrontations usually involved community members traveling to logging camps, both alone and with the police (whenever possible), to stop this illegal activity.

Other recent actions have included the blocking of the removal of dolphins from the lagoon area for aquariums and protests against environmentally unsound changes to the road between Kukra and Pearl Lagoon being pursued by the Kukra Hill Sugar company. In addition, local people have successfully attempted to prevent new settlements from being established along the lagoon by Nicaraguans from outside the area, enlisting the help of the mayor and police in these efforts. Fire prevention, efforts to limit sand mining, a self-imposed ban on sprat (sardine) fishing (because of concerns about food chain implications), and successful lobbying to remove cattle from some communities due to concerns about fecal contamination of drinking water round out the impressive type and broad scope of issues in which local people have become involved.

Most fishers and farmers make efforts to use environmentally friendly technologies and methods whenever possible,³⁴ at least in part because of CAMP-Lab's educational efforts (see indicators 5 and 6). Overuse of chemical pesticides or fertilizer in farming has been fairly limited and is discouraged by many in the community. Local farmers have also tended to push for the maintenance of traditional agroforestry techniques that tend to be sustainable rather than the creation of grazing lands that takes place on the encroaching agricultural frontier.

Most local people are against the use of destructive fishing techniques, such as the use of fine mesh gill nets and trawling in the lagoon. While there are exceptions to this norm (especially in the case of trawling), nevertheless, there is increasing community pressure on those who violate these rules. Community members are becoming more assertive in confronting violators and demanding action from police and the mayor's office who, under pressure from constituents, have begun to fine the worst offenders. This combination of community pressure and official sanction is likely to become increasingly effective with the passing of the municipal ordinance that codifies the management plan and its norms around fishing practices.

³⁴ Many farmers use traditional pest control techniques rather than chemical alternatives. For example, people tie a live poisonous toad on an ant hill to eliminate the infestation. The ants eat the toad and this (apparently) results in the destruction of the ant colony.

Communities have also been involved in a number of efforts to preserve stretches of land, both to maintain biodiversity and to protect these areas from encroachment by outsiders. The communities of Haulover, Tasbapauni, and Kakabila have established reserve forest areas, including 40 manzanas of latifolia forest in each community³⁵ and a large section of pine savanna in Haulover (see indicator 7).

With assistance and encouragement from CAMP-Lab Committees and staff, these reserve areas have been approved by the communal boards and the mayor's office. In Haulover, some difficulty has arisen with people clearing small parts of the reserve areas for agriculture, but the areas are typically respected by most people. With support from CAMP-Lab, the communal board and mayor's office have addressed difficulties with incursion into these areas. In the case of Kakabila, some individuals began "trailing" (demarcating) sections of forest as additional reserve forest areas. More recently, Kakabila decided to trail all of their community's land in an effort to prevent incursions from the agricultural frontier. Community members in Kakabila visit their community land on a regular basis, and they have successfully (and peacefully) convinced trespassers to leave on more than one occasion.

³⁵ 1 manzana equals 0.698896 hectares.

Although OM indicators focused on the communal boards were relatively positive, they showed no improvements (based on these indicators) over the evaluation period. During all three monitoring periods, five of nine communities had regular open monthly meetings of the communal board, two had meetings less frequently, and two (La Fe and Haulover) were without functioning boards due to internal conflicts (see indicator 2). All of the functioning boards coordinated their efforts with other institutions that were working in their communities (see indicator 3). Finally, of the four communal boards that had their own finances, three had regular transparent accounting practices and encouraged active participation by the broader community in spending decisions during open meetings (see indicators 9 and 10).

CAMP-Lab made efforts to improve local leadership planning and the transparency of communal board finances by including the community board in a variety of workshops that were given to CAMP-Lab Committees. In the case of Tasbapauni, communal board members requested and received special training from CAMP-Lab in planning and financial administration, which they have begun to implement. Overall, however, CAMP-Lab's ability to strengthen the communal boards in Pearl Lagoon is limited by a history of exploitation and co-optation or corruption of local leaders that continues to affect local politics. These challenges seriously limit the possibility for CAMP-Lab's efforts to quickly achieve significant improvements in the related OM indicators.

The most important success during this phase of CAMP-Lab was community pressure that stopped the development of shrimp farming in the area until the possible ecological, social, economic, and political consequence of the activity are better understood. CAMP-Lab's initiatives (as described earlier) resulted in a critical mass of public opinion against shrimp farming. This activity was important both in terms of its exploration of environmental implications and the example it provides for future efforts to influence government decision makers and the behavior of business.

In addition to increased environmental consciousness and observable efforts on the part of local people to improve and protect their environment, there is also a substantial observable increase in the population's efforts to lobby and influence government policy and actions on these matters. One of the most common views expressed by community members about the central government is evident in these statements by local people responding to the questions about local peoples' relationships with the government:

We don't have much interest in working with the government because we don't get nothing from the government. (Ernest)

Government has never complied with the people's expectations. They have made so much promises around here . . . and we haven't seen anything positive out of it. (John)

While this popular sentiment remains strong and is rooted in years of government neglect and abuse of the region, there is a growing and observable assertiveness

related to protection of the environment and local control over natural resources aimed at all levels of government.

One of the key ingredients for effective lobbying by the Pearl Lagoon communities is the degree of unity among the different communities concerning environmental issues. There was a degree of skepticism among interview participants about the extent of the influence CAMP-Lab could have on improving difficult inter-community relations. The common sentiment was that the history of rivalries and conflicts between communities, that as recently as the Contra War in the late 1980s involved violent confrontation, made high degrees of co-operation and trust difficult to achieve. When asked if they thought that “CAMP-Lab had any effect on relationships between different communities?” a CAMP-Lab staff member commented:

With these strong conflict that have ages going on between some communities, it really would take a lot more. It would need us to focus . . . a project on conflict resolution. (Pat)

At the same time, however, there was a general sense that a significant set of common interests on issues related to the environment and community rights provided a strong basis for collaboration and superseded inter community tensions. Their perception of CAMP-Lab’s role in nurturing opportunities for collaboration was described by two community members. During individual interviews, when they were asked if they thought “Camp-Lab had an effect on the

way people in the communities deal with each other?”, the community members commented:

These [CAMP-Lab] committees are bound by solidarity because they are saying the same thing when you go to Kakbila when you go to Marshal Point, when you go to the communities that there are CAMP-Lab committee, you will find that unity of seeing the thing. (Paul)

We always used to have difficulties . . . to get cooperation and now you know like there is no barrier now. We are facing problems together and looking solutions for them. So I feel like it kind of bring us a little bit closer together, all of the communities, because you know now these people feel like they have someone [CAMP-Lab] they could give there seed to help them solve their problems. (John)

While significant issues of trust remain between communities, through its activities, CAMP-Lab played an important role in identifying common interests and providing an outlet for related discussion and action.

Changes in local people’s responses to environmental difficulties and related government inaction were the focus of a number of people’s reflections.

When asked if people were more inclined to take actions related to the environment, Chris, a CAMP-Lab staff member argued:

People are more prepared . . . in the sense of . . . taking care of the environment and also their rights as a people. Because one of the thing is that the people learn that whatever is here belong to them. At first they would talk about the government. “The government isn’t doing this, the government isn’t doing that”. Now people start doing things on their own, sometimes with the help of these organizations that are working inside [the communities]. Before, they would simply say we can’t do anything. As somebody said, people’s eyes have been opened. (Chris)

Ted, a former CAMP-Lab staff member echoed this belief when he was asked in an individual interview at his home if he saw “communities taking a stronger stand with government?”

People start out now to reclaim their rights. I feel that and I have seen that. Its not like one time people just come and abuse. You know people are getting right to the track now and saying this is mine and here we have to put a stop. (Ted)

When asked the same question, Paul, a community member and former employee of APN stated:

I would say yes as far as the regional government. Now people will get up and tell you what they understand, what they see . . . I see the relationship [to CAMP-Lab]. Now people are more outspoken, people are more representative, they are more participative and all the rest through the same CAMP-Lab Committees, through the same dealing with the problems of their own. I see there are a lot of young people and people now who will be at a meeting and say the thing as it is. (Paul)

Local views about lack of government responsiveness to their needs have not changed substantially. However, people are better informed about issues related to the environment and natural resources and are more confident and willing to speak out and take action either to apply pressure on the government or to contribute to solving the problems.

Many of these instances of environmental action and local resistance have become broader based and better organized through the use of radio -- including CAMP-Lab's program -- as a way of informing the population about problems and

by encouraging public debate and action. In addition to CAMP-Lab's own radio efforts, a CAMP-Lab participant from Pearl Lagoon hosted his own program that dealt with issues related to the environment and government. As another CAMP-Lab member argued, this is important "because you can't look on [environment] as isolated because them [the government] is what control" (Beth).

Contributions to Intangible Assets

CAMP-Lab contributed in a number of ways to the overall intangible assets base in the Pearl Lagoon communities. A general increase in outspokenness and assertiveness among community members on issues related to protection of natural resources can be traced, at least partially, to the knowledge and organizational strength CAMP-Lab brought to the communities.

CAMP-Lab also contributed to local social capital by fostering a degree of unity between local communities around natural resource issues that transcended (to a certain extent) long standing traditional conflicts based on ethnic and personal rivalries. The combination of improved local knowledge, and consensus and collaboration between communities about environmental issues, contributed to the communities' collective ability to apply pressure on local decision makers over issues related to securing more sustainable livelihoods. Overall, these efforts have served to increase the strength of the communities in

Pearl Lagoon in relation to other actors who are involved in the co-production of development and the future of the region.

Chapter 8: CAMP-Lab's OM Experience

In its final year, CAMP-Lab's OM monitoring was a very successful and productive part of CAMP-lab's activities. Even though it was used for a relatively short length of time, OM refocused the project's efforts in a way that contributed substantially to its effectiveness. It did this by providing a forum for staff self-reflection and learning that was immediately absorbed (and welcomed) into CAMP-Lab's planning and activities. OM also contributed to the collection of useful data about the project's influence in Pearl Lagoon that was integrated into project reporting. If OM had been implemented earlier in the project, I suspect that the project's efforts would have proceeded more efficiently and resulted in greater progress towards implementation of the management plan, entrenchment of community groups, and stability for the radio program.

In the case of CAMP-Lab, OM has proven itself to be a useful tool to illustrate the influence that the project has had on its partners in the Pearl Lagoon Basin. The methodology has been conducive to the development of a variety of meaningful indicators for which data can be collected with relative ease and summarized concisely. This data can then be used as part of an effective story about the project's influence on its boundary partners, and, by extension, progress towards the project's vision over time. As a result, OM has provided a means of demonstrating CAMP-Lab's contribution to the local development

agenda as it is defined in the project's vision and mission, and it has provided a potentially useful tool for contributing to its accountability needs.

CAMP-Lab's OM experience demonstrated the usefulness of the method as a consistent source of project self reflection and improvement. It helped solidify the project's vision and mission, which had become blurred over time, as the project staff fell into patterns of work that were familiar and comfortable but in some cases were neither reactive to changing circumstances nor well focused on the project's objectives. By clarifying the project's vision and mission, OM helped to re-focus project activities in a way that was logically linked to its vision and mission. In addition, the collection of OM data provided a regular opportunity for staff reflection and modification of their efforts and activities.

Much of the effectiveness of OM in this regard is rooted in the process of developing the monitoring framework. The process of developing CAMP-Lab's OM framework had a number of impacts on its effectiveness as a tool for project learning. First, as previously mentioned, the process resulted in a monitoring framework that is, for the project staff, largely free of traditional monitoring fears related to externally imposed monitoring and evaluation. In the context of an exchange between staff members in the group interview about OM's flexibility, one staff member offered:

I think Outcome Mapping help us a lot. Most people when we work anywhere we think on evaluation that is the most fearing thing.

Everybody scared of that, scared of evaluation but this method also help us not to scare because on the road we our self automatically go making our auto evaluation. (Adrienne)

Staff concerns and inhibitions that often accompany project monitoring efforts, such as fears of external judgment, criticism, and ultimately job loss, were significantly reduced. They were replaced by positive feelings rooted in the idea that the monitoring process would help the project learn from its mistakes and increase the value of its work in terms of the project's vision and mission as set out by the staff and other participants in the process of developing the OM framework.

The idea of reframing evaluation in this way, to eliminate fears and focus on improvement associated with the activity, became a focus in the early stages of the development of the OM framework. Adrienne's comment is likely reflective of this process. It was my experience (in data the compilation and analysis process undertaken with the staff) that they became increasingly comfortable with the process of constructive criticism of their efforts over time. While they occasionally were defensive about the result of their monitoring, they were able to overcome this tendency through a group process of data collection and analysis. This reflective group process included occasional reminders by those involved (including myself) that the process was not about "being perfect in the present" but using the results and experience to determine how to make collective efforts more effective in pursuit of the project's broader goals. Overall, this project

learning mindset was not natural for the project staff, and it understandably took a conscious effort on their part to fully integrate it into their monitoring activities. The fact that the PM&E process included space to provide contextual information that explained indicator outcomes, most likely, also contributed to the staff's level of comfort with assigning low ratings to OM indicators since they had a fair opportunity to explain the results.

The fact that project staff, in conjunction with other local actors, played a central role in the creation of the vision, mission, and related indicators was valued by project staff. When I asked staff to identify an example of the kind of activity in which OM helped, one remarked: "I think the good thing with Outcome Mapping is that setting it up is something we could control. We could define our variables" (Pat). The staff involvement in the process of indicator development meant that they bought into the connection between the indicators and aspirations set out in the project's mission statement. This high degree of staff ownership and control over the creation of the monitoring framework resulted in a strong commitment by staff to engage in monitoring activities through the collection, compilation, and analysis of data. It also resulted in an increased commitment to respond to the results of the monitoring because they truly believed it was a reasonable reflection of progress towards the achievement of their own goals.

The process of Boundary Partner identification, indicator selection, and development of indicator evaluation scales was accomplished through a participatory process involving a broad range of people either from, or familiar with, Pearl Lagoon. The depth of local knowledge and understanding possessed by the participants in CAMP-Lab's OM workshop led to a monitoring framework that integrates a deep understanding of the Pearl Lagoon context and reflects local priorities. This resulted in a monitoring framework which served to strengthen the project, both by helping target its efforts more directly at local priorities as well as by ensuring that its goals were realistic within the local context and considered important by the project staff.

Rooting the development of indicators within the project's vision and mission statements led immediately to a great deal of reflection by CAMP-Lab staff on the project's activities and direction. This proved to be a useful mechanism to focus the project's efforts, giving them a solid basis in local priorities related to development and the environment.

The rationale for undertaking OM monitoring activities was understood and valued by staff who reflected on CAMP-Lab's OM efforts in this way when they were discussing its benefits during a group interview:

It's not a test where either you fail it or you pass it. It's a test to know how much road you done walk already, how much road there is to walk, how you could walk this road and with who? (Pat)

This staff investment in OM is important because the changes in project activities that resulted from the monitoring were understood by them as enhancing the project's effectiveness in moving towards long term goals that they valued. As one staff member suggests:

I think [OM] help us put down goals, you know. We set out how far we want to reach then go measuring our self to see how far along our expectations we come and how much more of a push we need to go ahead. (Pat)

This focus on broader project goals often does not result from more traditional monitoring efforts. In instances where monitoring serves the formal need of donors, without significant “buy in” by the people engaged in the monitoring, the resulting remedial action is often focused on improvement of the indicators rather than a more holistic effort to improve the project. While the efforts of CAMP-Lab resulting from OM monitoring were also focused on improvement indicators, there was an understanding among the staff that improvements in indicators were a “means to an end” rather than “the end itself”.

CAMP-Lab's experience with OM has also led to a number of useful lessons and observations for the methodology. One of the important issues for any kind of monitoring, including OM, is the amount of time and resources (both human and financial) available for monitoring. When I asked the staff how often they would want to do monitoring if we were to continue, the staff quickly agreed that every three months would be preferable. One of the project staff explained:

I think every three months is a good time. It's enough time for if you doing anything negative at all you could straiten it out, and enough time for give you chance to see things moving (Pat).

While it is important not to overburden project staff with monitoring activities, the staff believed it was important to monitor frequently enough to address project difficulties or deficits as they occur. It is my opinion, however, that actual implementation of a quarterly monitoring schedule would prove challenging without a staff person with time dedicated to organizing evaluation meetings and undertaking further data organization and analysis³⁶.

It also became evident during monitoring that different boundary partners required monitoring on different timetables. For example, many of the indicators related to students' and schools' monitoring were only useful once a year in a schedule linked to the school year, while monitoring of the indicators related to CAMP-Lab Committees or the Radio Committee could be done productively a number of times each year.

Project staff used various strategies to make monitoring less time consuming. These strategies involved integrating OM data collection into project routines. This was accomplished through the re-introduction of standardized forms to fill out after meetings in order to capture the relevant data, the use of a

³⁶ Though the course of CAMP-Lab's OM activities, these responsibilities were handled by me.

log book to record information about other CAMP-Lab activities, and the collection of radio show plans. One of the other key elements of improving monitoring efficiency over the long term is the creation of a framework for data compilation and analysis. In the case of CAMP-Lab, an initial version of such a framework was developed. There was, however, insufficient time in the project to test its use by the project staff. As previously mentioned, I suspect that undertaking this part of the OM process (notwithstanding an established framework) would have been a challenge for staff given, their time and resource constraints.

While efforts to minimize the costs of monitoring are useful, it is also important to recognize that monitoring, such as OM focused on project learning, provides an avenue to conserve and maximize the effectiveness of available resources. The process of engaging in OM data collection at CAMP-Lab helped the staff to identify areas of weakness and allowed them to better target available time and resources to move the project ahead more efficiently. One CAMP-Lab staff person remarked that:

You can look at a specific thing inside of the project that this type of evaluation has been helping create, helping the work. [For example] it's a way to go bettering the condition and the quality of radio program. (Chris)

In the case mentioned here, the process of OM data collection led to concerted efforts to include multiple popular communications techniques in each radio

program. This component was identified as an important element of the radio program when the outcome challenge was created for the Radio Committee. OM monitoring identified deficits in this indicator, which resulted in the creation of a checklist that was consulted during radio program planning, which in turn led to a corresponding and nearly immediate improvement in this aspect of the radio program. OM's contribution to this more efficient use of project resources allowed it to recoup, in part, the resources used to engage in monitoring.

During the initial use of the monitoring framework, flaws in indicator scales were discovered, and opportunities for and barriers to the collection of information were encountered. In order to address these issues, the development of indicator scales and the information sources used in the monitoring are better conceived as an evolutionary process that takes place during the early monitoring sessions rather than being determined in the initial OM workshop. This flexibility in the monitoring criteria was viewed as beneficial by staff members, one of whom suggested that OM is:

something that you could go changing. You go using it a first time and seeing how well it suit to the type of project you have . . . and you come back the second time maybe you include some next thing in your work what wasn't there. (Pat)

The process of modifying indicators early in the implementation of OM reflects an improved understanding of the methodology, as well as changing insights into data collection issues and into the project itself. Overall, the project staff valued

the idea that the monitoring framework could be changed to reflect shifting realities and priorities in their work. The potential for change was valued as an important component of OM's ability to strengthen their efforts.

In addition to modifying OM early on in its use, a periodic review and updating of indicators, evaluation scales, and boundary partners is useful, as a result of the shifting social, political, and economic circumstances in which projects like CAMP-Lab operate. Such review processes help to maintain the relevance and effectiveness of OM monitoring in terms of project learning mandates. However, change frequency must be considered carefully, based on the particular project's needs and an effort to strike an appropriate balance between OM's usefulness for project learning and its use as an accountability tool.

One potential problem with substantial changes to the monitoring framework is that it may diminish the usefulness of OM as a tool for meeting a project's accountability needs due to a decreasing ability to compare indicator scores over time as they are revised. As a result, the usefulness and appropriate frequency for a review process will be dependent on: 1) the relative importance of OM for learning versus accountability in the particular project; 2) the pace of local change affecting the relevance of the monitoring framework; and 3) the capacity of the particular project to undertake reviews and make changes. One way of partially addressing this difficulty would be to use both the old and

updated monitoring framework at the time revisions are made so that comparability is maintained between chronological monitoring periods.

The OM methodology as it was used in CAMP-Lab fit easily within the co-learning or collective action approach to participation -- as outlined in McAllister's (1999) taxonomy of approaches to participation (see Figure 9 p. 82) -- providing an effective structure within which local people, project staff, and outsiders could work together to define the project's vision, goals, and action plans. In addition, the methodology reflects engaged political ecology's emphasis on incremental efforts that deal pragmatically with short term development challenges while keeping sight of a longer term vision for the future which is seen locally as desirable (Bryant 1997; Bryant and Bailey 1997; Bebbington 1996). If a development project is participatory in terms of setting project goals and action plans, then it follows that the development of criteria for monitoring and evaluating the project must be similarly participatory to root it in the same priorities, logic, and values. Without this kind of participation in the design and implementation of monitoring, it would be of little value either for project learning or project evaluation.

Overall, participation in monitoring and evaluation represented a key element of a more empowering pro-politics approach to development projects. If monitoring and evaluation -- including the selection of the criteria against which projects are to be judged -- are not significantly devolved to a local level, then the

overall direction of development projects will remain structurally controlled by outside forces increasing the projects vulnerability to the “anti politics” effects described by Ferguson (1994).

Finally, it must be reiterated that the OM framework was used only during the last year of the project. Therefore, it might be argued that, beyond the demonstrated capacity of the method for data collection, the results of the monitoring are inconclusive. To this argument I would respond by referring the reader back to the very high levels of satisfaction expressed by CAMP-Lab staff (see chapter 9) with regard to OM's role in project learning and subsequently the strategic management of project efforts.

Chapter 9: Conclusions

Contributions to Intangible Livelihood Resources

This dissertation set out to illustrate the effectiveness of small scale participatory projects in contributing to locally valued sustainable livelihoods. It does this by documenting the effectiveness of mechanisms used by CAMP-Lab in the enhancement of intangible livelihood assets like social capital, human capacity, and agency in Pearl Lagoon. Imbedded in this was the argument that outside academics and development practitioners can play a useful role in supporting projects by contributing skills in accessing, generating, and disseminating information that is relevant, and at times crucial, for local peoples' efforts to improve their lives in a sustainable way. CAMP-Lab provides a case in which a small project integrated the skills, knowledge, and goodwill possessed by a strong local project staff with locally relevant research and communications skills of university graduate students and faculty. This effort contributed to the enhancement of the intangible asset base of the area as well as both short and long term prospects for local livelihood enhancement.

My findings contradict Ferguson's two criteria for useful engagement by academics in efforts to alleviate poverty which are: 1) identifiable groups representing movements of empowerment and 2) demands from these groups for specific skills and information to support their efforts. The CAMP-Lab

experience demonstrates that PAR research can play a particularly useful role by contributing to the development of local groups that coalesce around concerns and issues that are latent in their communities.

Concerns about resource management and protection were present in Pearl Lagoon, but they had not coalesced into action by identifiable groups that focused on collective solutions before the creation of CAMP-Lab. As Adrienne, one of the CAMP-Lab communal investigators suggested regarding the idea of a management plan for Pearl Lagoon, *“in silence it were out there”*. CAMP-Lab played a role in organizing community groups around latent local concerns about the environment and contributed to placing the concerns in a broader context, helping local people to identify possible remedies for problems, including a management plan.

The CAMP-lab experience supports Mohan’s (2001) contention that recognizing the limits to local knowledge provides grounds for useful contributions by participatory researchers. In the case of CAMP-Lab, particular deficits in important knowledge and skills were identified by at least some in the communities (e.g., radio program production and shrimp farming knowledge). Further, local people generally valued contributions from outside that contributed to filling these voids. This does not mean that outside knowledge was privileged over local knowledge; rather, outside knowledge contributed to a richer local understanding of problems being faced by the communities which was useful in

helping them identify paths forward. All activities undertaken by CAMP-Lab stemmed from community analysis based on local priorities, knowledge, and participatory research, together with relevant academic information from outside the area. This process resonates with the concerns of Bebbington (1996), Bryant (1997), and Bryant and Baily (1997) that the construction of alternatives to the status quo should be pragmatically rooted in a local context both to help deal with short term problems and to build necessary foundations toward long term aspirations.

The creation and enhancement of either cognitive or structural social capital -- as defined by Uphoff and Wijayaranta (2000) -- that cross over communities is a challenge in a setting such as Pearl Lagoon, with a long and recent history of conflict. However, CAMP-Lab contributed to local structural social capital through the development of environmentally focused community groups (CAMP-Lab Committees) in eight Pearl Lagoon communities. The fact that these committees are called on for support by other environmental organizations is a testament to their organization and effectiveness in the Pearl Lagoon setting and an indication of the broadening of the project's influence.

The development of cognitive social capital was more problematic. CAMP-Lab, however, played a role as a catalyst for local concern about environmental issues and helped to transform these concerns into a degree of local consensus, effectively providing a basis for broad local co-operation between communities

on activities related to environmental issues. CAMP-Lab's activities took on the role that Bryant (1997) identified for engaged political ecology, namely, helping to identify shared interests, political aims, and strategies for potential actors in a coalition to subvert the political and economic and environmental status quo. CAMP-Lab's experience, therefore, also supports Bryant and Bailey's (1997) contention that participatory research has practical implications for political engagement by political ecologists.

CAMP-Lab's effort made a contribution to local human capacity development in the form of an improved local understanding of the environment and ecosystems, especially the possible impacts of environmental degradation and relationships between different parts of the ecosystem. The improved understanding contributed to the coalescence of local public opinion around the need for resource management, and it played an important role in emergent broad based willingness and capacity of local people to apply pressure on decision makers with regard to environment and natural resource issues.

CAMP-Lab also contributed to the base of local skills available to people for the generation of environmental knowledge, its dissemination, and its use for influencing decision makers. The project helped to introduce the idea of environmental research into the communities as a way of contributing to more informed environmental decisions. It also contributed to local communications skills through workshops on negotiation and conflict management as well as

training and activities related to popular communications. Finally, the project contributed to the development of negotiating capacity and a general confidence among a number of local people in confronting environmental decision makers, based on a better understanding of the issues through training and experience in negotiations facilitated by CAMP-Lab.

These contributions to human capacity can be characterized as a somewhat limited, but important, immediate contribution to what Krishna (2001) termed “agency capacity”. The project contributed to the development of local leadership with an improved ability to influence key actors outside the region (government, influential NGOs, etc.). In particular, the CAMP-Lab staff, who are local people, have a broadened experience and confidence in dealing with influential actors from outside the region. This improved agency capacity resulted from extensive workshop participation; active participation in national and international conferences; and interactions with various government institutions and NGOs. All of these activities contributed to the project staff’s ability to interact effectively with relevant (not to mention, powerful) NGOs and government representatives who have influence over environmental decision making.

The deficit in institutional support from CIDCA for the CAMP-Lab project during this period limited and slowed CAMP-Lab’s ability to make progress on its management plan codification efforts. At the same time, CAMP-Lab’s provision of

opportunities for local staff to engage in these efforts led to increases in their skills and ability (related to agency) that remained in the communities past the end of the project. This experience for local staff was made more effective through the support of York University participants in the project, who acted as resources without pushing the type of larger external institutional agenda that may have come from the more agenda driven effort of a larger organization like CIDCA. I contend that this circumstance had the effect of leaving behind a greater degree of agency capacity by the end of the project than would have been the case if external agents driven by an institutional agenda had been central to the project leadership during this time. Conversely, there was a negative effect on the immediate ability of the project to interact smoothly with actors outside the Lagoon to develop allegiances or to lobby higher level decision makers in government or influential NGOs. Maintaining this balance between strong participation and local control over project activities with effective project communication and relationship building capacity outside of the local area represents a significant challenge for participatory projects like CAMP-Lab.

Longer term improvements in local agency capacity in Pearl Lagoon (beyond CAMP-Lab staff) were beginning to emerge from CAMP-Lab's influence on local young peoples' decisions to continue with post secondary education related to the environment. One of CAMP-Lab's original participants has completed her university education at URACCAN in forestry and is co-ordinating

another local NGO in Pearl Lagoon, providing some opportunity for her to influence the environmental agenda of that organization. This position also gives her more ability to influence environmental decisions generally in the area. In the longer term, CAMP-Lab's influence on local students to continue their education should contribute to local agency as these individuals gradually take on more important roles in their communities. This will improve agency capacity in Pearl Lagoon as the number of local people with external legitimacy (respected education and communication skills) in community leadership and powerful NGO positions is increased.

CAMP-Lab's experience also points to other mechanisms for contributing to local influence over environmental decisions that impact on the possibility of enhanced and sustainable local livelihoods. CAMP-Lab's radio program, using popular communications methods, provided a platform for local people to open discussion and debate on environmental issues that they viewed as important. The radio program's open discussion of these issues -- heard by a broad segment of the population -- had the ability to stimulate local debate and contribute to popular pressure on environmental decision makers to act in line with local people's objectives. In addition, it contributed to these objectives being informed by local research and relevant academic information as well as local knowledge.

Perhaps the most interesting activity of CAMP-Lab, in terms of improved agency and local claims making capacity, was the shrimp farming seminar. This event provided a space in which local people could make informed analysis and preliminary decisions about a pressing environmental issue based on a combination of local and academic knowledge and direct input from “experts”. The participation in the event of outside “experts” and various universities (including York University) from an outsider perspective (for example, government and large NGOs), lent legitimacy to the debates and subsequent conclusions reached by local people. The participation of powerful NGO actors and the follow up communication of the seminar content through workshops, radio broadcasts, and the Awake newsletter, placed significant pressure on political decision makers to recognize local demands on the issues and follow through on statements and promises to consult them on future decisions. The creation of this type of democratic space provides a model for the development of similar opportunities for local communities in order to amplify the influence they are able to exert over decision makers.

The model for opening up democratic space for local influence over the decision making process that the shrimp farming seminar represents avoids, to a certain extent, the danger of instrumental simplification that Li (2001) identifies in CBNRM efforts. The process avoided simplification by providing a transparent forum involving diverse local voices that openly analyzed and discussed the

issue in the presence of decision makers, NGOs, and experts on the issue. In addition, substantial opportunities for local engagement through discussion and critique in the wider Pearl Lagoon communities were made available after the event.

Bebbington (2000) and Li (2001) view local engagements with development as efforts at co-production to transform processes and institutions of development for their own purposes. CAMP-Lab activities generally, and in particular the shrimp farming seminar and radio program, represent effective efforts to provide the communities with leverage in this co-production. Such activities enabled local people to steer these processes and institutions in directions that they saw as conducive to desirable sustainable livelihoods in their communities. These results represent a significant contribution to the mechanism for development policy influence identified by Carden 2004. In particular, they contribute to relationship building, local dissemination and use of research, and the strengthening of organizational and individual capacity for research and policy influence (See Figure 15 number 3-7). In this sense, CAMP-Lab has made substantial overall contributions to what Leach, Mearns, and Scoones (1999) termed “local claims making capacity” based on an improved ability to influence relevant development and environmental actors on policy issues.

Geographic Capital

Deficits in what Bird and Shepherd (2003) termed geographic capital play a crucial role in Pearl Lagoon in efforts to move toward sustainable livelihoods. The remoteness of the region, both in terms of frictional distance and the cost and difficulty of transportation, limit the livelihood options available to local people. In addition to this physical isolation, the area is marginalized from the rest of the country, both culturally and politically, making it difficult to exert influence over national level decisions that affect the area.

In addition to the more general impact of deficits in geographic capital on sustainable livelihoods in the area, there are also significant implications for projects such as CAMP-Lab. Frictional distance between the various communities who share the Pearl Lagoon ecosystem significantly increases the costs of adequately integrating these communities into a project's efforts. The cost of travel between the communities was prohibitive to the project's ability to engage these communities in the organization, training, and planning activities of CAMP-Lab Committees. The importance of integrating these types of space time considerations in project planning is stressed by Found (1999).

While ideally the goal was to have CAMP-Lab Committees functioning largely on their own, there was a need in the early part of the project for significant interaction and facilitation to assist with group establishment. Ongoing

support related to changing conditions and addressing occasional difficulties in group dynamics was also a necessary component of the project's mandate. Groups were established and proved fairly resilient and active in eight communities, but their efforts could have been improved by more frequent visits from CAMP-Lab staff. I speculate that the project could have been usefully extended to other communities if resources in terms of transportation and staff were available. CAMP-Lab made useful, creative strides towards compensating for this problem through the use of popular communications methods on the radio. The effort provided a relatively cost effective way to expand the project's reach to include more people and all of the Pearl Lagoon communities without having to establish a physical presence in the communities.

Beyond limiting the project's ability to work in the different Pearl Lagoon communities, the area's overall isolation presented challenges in terms of establishing and nurturing partnerships. Especially, early in the project's third phase, communications between York University partners and CAMP-Lab in Pearl Lagoon were challenging. The lack of adequate telephone or internet service limited the ability of local staff to collaborate with York University. This situation eventually improved when Internet communication was made available in the Pearl Lagoon radio station and a telephone office was opened in Haulover. Nevertheless, both these modes of communication were dependent on the availability of electrical power, which could be severely limited for long stretches

(three months on one occasion). In addition, the telephone service in Haulover was inconsistent because the telephone's owner would leave the village occasionally for significant stretches of time, making the service unavailable.

Communication challenges in Pearl Lagoon were compounded as a result of inadequate personnel support from CIDCA that was significantly less than what was called for in the project proposal. This CIDCA support was to have come from the NGO's director in Managua and its sub-director in Bluefields, and it was supposed to assist in project management, planning, reporting, and communication. Unfortunately, CIDCA was only able to provide part of this support when its core funding was cut, eliminating the position of sub-director in Bluefields. This loss was compounded by the project staff's deficit in relevant computer skills that could have helped compensate for reduced support from CIDCA. The lack of communication capacity and infrastructure limited the project's ability to foster stronger supportive relationships with other NGOs or similar groups operating in the region or other parts of the world. Opportunities to develop these types of relationships with related IDRC efforts elsewhere were not fully explored. Ultimately, this reduced the opportunities available to the project to extend its funding from the IDRC or elsewhere and to more fully consolidate its achievements with extended or expanded efforts.

Functional Lessons for OM

CAMP-Lab's use of OM proved to be an effective tool to promote project learning. The development of the OM framework, based on the methods outlined in Earl, Carden, and Smutylo (2001), was effective in two key ways: 1) it established staff comfort with monitoring, and; 2) it ensured that monitoring was both locally relevant and useful.

The process of developing the OM framework contributed to the establishment of a significant degree of comfort with the monitoring activity among project staff, allowing critical reflection on the successes and failures of the project's strategies and activities upon which they were able to act quickly. As a result, the project staff were able to modify their activities in a more timely manner, increasing their effectiveness in assisting boundary partners to meet their outcome challenges. The staff's intimate involvement in defining what was going to be monitored (why and how) and linking this monitoring activity explicitly to the long range project vision rooted in local priorities instilled the understanding among staff that the primary purpose for OM monitoring was to strengthen the project's efforts rather than to critique their activities.

Strong local involvement, including that by project staff, in the establishment of Boundary Partners, outcome challenges, and progress markers meant that these tools were both locally relevant and considered by the staff to be useful,

reasonable, attainable, and fair in the local context. This inclusive process also avoided the problem of externally imposed evaluation criteria that often do not reflect local priorities, as identified by Mohan (2001).

The use of OM in CAMP-Lab served as a regular reminder to staff about the long range project - goals that, prior to the establishment of regular monitoring, could get somewhat lost in day to day project routines that often become established and gradually evolve without critical reflection and modification. OM served as a reminder to staff of the outcomes that should be evident from the project and as a timely indicator to them that adjustments in their activities may be necessary. According to Found (1999), staff engagement and responsiveness as well as objective reflection are key results generated from monitoring. The obvious benefits of OM monitoring in CAMP-Lab, during the short time it was used, allows me to speculate that it had the potential to contribute substantially to the success of the project over a longer time frame.

CAMP-Lab's experience with OM has also led to a number of useful lessons and observations for the methodology. During the process of using the monitoring, it became apparent that different Boundary Partners required monitoring on different timetables. For example, as noted earlier, many of the indicators related to students and schools monitoring were only useful once a year in a schedule linked to the school year, while monitoring of the indicators

related to CAMP-lab Committees or the Radio Committee could be undertaken productively a number of times a year.

Early efforts by CAMP-Lab to use its OM monitoring framework revealed flaws in indicator scales as well as opportunities for and barriers to the collection of information. The staff and I used this early experience to modify the framework and improve its effectiveness for subsequent monitoring periods. As a result, in practice, the development of indicator scales and the information sources used in the monitoring is better viewed as an evolutionary process that takes place during the first few monitoring sessions rather than being determined in the initial OM workshop, as outlined in Earl, Carden, and Smutylo (2001).

The method for quantification of results described in Earl, Carden, and Smutylo (2001) was not useful in the context of CAMP-Lab. Attempts to reflect graduated indicator scales through this method would have been overly complicated and arbitrary, as described below. In the case of CAMP-Lab the number of indicators and their dispersal between categories did not match that which was prescribed by Earl, Carden, and Smutylo (2001), and accurate graduated ranking of indicators proved difficult. As a result, this method of quantification did not provide adequate flexibility to accommodate the type of data that CAMP-Lab generated. While the method prescribed in Earl, Carden, and Smutylo (2001) may prove productive in some efforts to use OM, many similar initiatives could face comparable difficulties to those faced by CAMP-Lab.

The use of simple percentages in the quantification process adopted by CAMP-Lab's OM evaluation may provide a valuable alternative model for these cases, providing useful grounds for comparison over time and more flexibility in terms of the types of data that it can accommodate.

The changing social, political, and economic circumstances in which projects like CAMP-Lab operate make regular reviews and updating of indicators, evaluation scales, and boundary partners necessary for OM to maintain its usefulness as a tool for project learning (encouraged by Earl, Carden, and Smutylo 2001). Such a review process will help maintain the relevance and effectiveness of monitoring in terms of project learning, but it presents a potential challenge for gathering comparable numerical data over the length of the project. At the same time, if project circumstances change so drastically that these indicators are of little value for project learning, then they will also hold little real value for project accountability purposes.

The usefulness and appropriate frequency for a review process, as argued earlier, will be dependent on: 1) the relative importance of OM for learning versus accountability in the particular project; 2) the pace of local change affecting the relevance of the monitoring framework; and 3) the capacity of the particular project to undertake reviews and make changes. One avenue that would partially address this difficulty is to continue to use the initial framework, while introducing the new, updated monitoring framework at the time revisions are made so that

comparability is maintained between chronological monitoring periods. This may not be useful -- or possible -- if a particular progress indicator or boundary partner has become irrelevant.

In the case of CAMP-Lab, OM proved to be an effective tool for project learning and the collection of simple quantitative data about the project's influence in Pearl Lagoon. However, it must be emphasized that quantitative data derived from OM progress indicators has only limited value in the absence of contextual information that explains the reasons for change (or lack thereof) and the strategy and performance information that describes the project's role in these changes. CAMP-Lab's experience with its shrimp farming seminar clearly points to the need to supplement OM evaluation with deeper analysis of exceptional project activities when they occur. Similarly, the greater effectiveness of some CAMP-Lab committees can be better explained when the history of the organizational efforts in different communities is taken into account.

For the period it was used in CAMP-Lab, OM provided an excellent tool for project self evaluation and planning, valued by the project staff. The nine month time frame over which CAMP-Lab used OM limits the lessons that can be derived from this experience, however, there are a number of indicators to suggest that the method would have contributed to strengthening the project over a longer time frame. First, project staff did not find the collection of monitoring data to be overly taxing, and they enthusiastically engaged in the collection and review of

data which often provided them with new insights into their past work and sparked ideas for future efforts. Second, near the end of the project, staff also expressed enthusiasm for continuing with monitoring and interest in reviewing/ revising the progress indicators if the project was extended. Finally, one of the main critiques that project staff had about the use of OM was that it should have been initiated earlier in the project.

The limited time frame in which CAMP-Lab used OM did not allow for the handing over of more monitoring responsibility to the project staff. I speculate, however, that the staff could have eventually taken on the aggregation of the OM information on their own, especially after a framework had been developed to streamline this activity. More detailed analysis of the data during the nine month period would have been difficult and taxing on staff time and likely would have required a significant time investment on the part of the project leader, which was not available. Neither did the nine month time frame for OM use in CAMP-Lab allow for experimentation with modifying indicators over the life of the project, either to establish methods for modification or to attempt to address accountability issues.

Structural Lessons for OM: Comparability and Power

While Outcome Mapping proved to be particularly useful in terms of project learning for CAMP-Lab, there are a number of important barriers to scaling up

the method. CAMP-Lab's participatory method for choosing boundary partners, progress markers, and the data used to measure them may be problematic from the perspective of some donor institutions. This is because CAMP-Lab's choice of indicators in its OM and the criteria by which these indicators were evaluated was based on local subjective logic that does not necessarily coincide with the priorities and logic of donor institutions, or more traditional approaches to evaluation and social science.

The indicators selected by CAMP-Lab in the intentional design stage of OM were framed as graduated markers of project progress that ranged from easily achievable goals to goals that are potentially extremely challenging to achieve. In this way, the selection of indicators and levels of progress within them helped to focus project efforts and provided reasonable ground for the project staff and outsiders to gage the project's progress on what local people defined as their priorities.

Uphoff's (1989) argues that his approach to participatory self evaluation of PPP (which has some similarities to OM) was most useful for monitoring progress of individual projects by comparing results of sequential evaluations in the same project. Uphoff (1989) posits that such an approach may also have some value for comparing similar projects that are familiar to each other and implicitly use each other as standards for comparison. However, he cautions that

“the further one stretches comparison across space or over time”, the less confident we can be that the criteria used are actually comparable.

The challenge to the comparative value of this type of PM&E data, for cross case analysis that Uphoff (1989) identifies, is rooted in the growing disparity in subjective decision making criteria that occurs as projects are further separated by time and space. In response, he proposes a partial remedy for this eventuality involving the integration of a group of core indicators to be measured subjectively across projects in addition to locally specific indicators. A similar approach is possible within an OM framework.

To undertake the intentional design process of OM in a way that is more conducive to meeting the cross case comparability needs of donors, their priorities, and information needs could be integrated more directly into the intentional design stage. This balance could be achieved through direct involvement of donors in the intentional design stage as stakeholders³⁷ or through the specific inclusion of donor priorities within the process.

A move toward donor accountability, in this sense, may have repercussions in terms of the local empowerment implications of a PM&E process. In part, this

³⁷ This type of stakeholder integration is actually encouraged within the method as it is proposed by Earl, Carden, and Smutylo (2001); however donors were not available to participate in the case of CAMP-Lab.

impact occurs by taking away a degree of freedom in M&E design from local participants and placing it in external hands, thereby increasing project vulnerability to the anti-politics effects identified by Ferguson (1994). Such a solution to the problem of comparability may be acceptable, in terms of its impact on local control, if the donor priorities and information needs that are included are deemed acceptable to local participants and not simply imposed (Uphoff 1989). To minimize this threat he proposes that final decision making authority over what is included in self evaluation approaches should be left to local actors. Nevertheless, Uphoff suggests that this addition of outside criteria to “self-evaluation represents a compromise with the principle that this methodology ‘belongs’ to the groups and not to the Programme” (1989: 23).

Ultimately, a move toward donor accountability concerns in PM&E (such as OM) presents a potential challenge to the learning function of the method. In this scenario, local participants shift from a focus on learning and self improvement, to a focus on demonstrating improvements in externally defined criteria. This potential shift in emphasis from a desire to *be* better -- to the need to *appear* better -- has significant practical implications for its role in project improvement. This shift in focus decreases the incentive for honest, self critical evaluation in the OM process (Carden 2000; McAllister 1999; Richie-Vance 1996). It should be noted, however, that this shift also diminishes the value of data collected through OM for cross case comparison that is valued by donors. Therefore, to maximize

the value of both the learning and accountability aspects of OM, it is important to avoid the implication that potential reward or negative repercussion may emanate from the PM&E process (Guijt 2000; Upholf 1989).

In the case of CAMP-Lab, control over the contents of the evaluation framework was left largely in the hands of local people, including the project staff. As a result, the OM process led to an increased sense of control by the staff over project management and decision-making. At the same time, this shift was at least in part, made possible by the high degree of autonomy that the project staff already enjoyed in their work. As a result, the impacts of OM in CAMP-Lab do not represent a shift in the previously existing power structure in the sense Probst (2002) suggested was unlikely to occur through PM&E alone. Rather, the experience can be viewed as an exercise in reinforcing previously existing autonomy and focusing and documenting activities in ways that local people prioritize. The degree to which power over the project was shifted to the local population (outside the staff) in the CAMP-Lab case was more limited since, due to time and resource constraints, substantial involvement beyond project staff occurred only in the design stage.

OM's role as a tool to influence external actors through collection and analysis of data could not be evaluated because of the limited time frame of implementation. However, I believe that the value given to the data by outside institutions would vary depending on the orientation of the particular institution to

the type of locally subjective data that CAMP-Lab's OM process generated. The OM process, however, did contribute to the project staff's ability to think more strategically in efforts to exert influence over other actors in the area in an effort to achieve project goals.

Closing the Loop

The task of "closing the loop" -- defined by the IDRC as "*an approach to programming and projects that seeks to ensure the awareness, understanding, and ownership of research outputs by decision-makers at all levels*" (IDRC 2002) -- was one of the more challenging aspects of the CAMP-Lab project. The participatory nature of the project, strongly rooted in local priorities and aspirations, was made possible at least in part by the central role played by local people (including staff) in project strategizing and planning, day to day project activities, and the relatively hands off approach taken by the non-local CIDCA hierarchy. At the same time, this lack of full engagement by CIDCA meant that there was a project deficit in skill sets and time needed to contribute to effectively "close the loop". The project lacked strength in its ability to publicize project successes, to engage with potential allies or collaborators in government or other NGOs, and to influence policy makers.

York University collaborators assisted with some efforts to "close the loop" by assisting with project communications and networking, coordinating efforts to

publish project results as contributions to IDRC-sponsored publications, and organizing conference participation that included project staff. Much of this effort to close the loop was also made possible by IDRC, which presented a number of opportunities for the project staff and York University collaborators to engage in publication and conference activities (see Appendix B).

The more challenging aspect of closing the loop for CAMP-Lab was rooted in its lack of appropriate human resources which could network, lobby, and influence decision makers in Nicaragua, either in the government or the broader NGO community. While this deficit was in some respects beneficial (in that control of the project remained local rather than succumbing to outside agendas), it also meant that efforts took longer than might have been the case if the project staff were more skilled and experienced in influencing decision makers. The challenge presented by this conundrum is finding (and financially affording) local leadership with time to dedicate to the project, with access to relevant decision makers locally and nationally, with the skills to influence them, and with the willingness to cede much of the project decision making power to participatory processes. Meeting this list of requirements is not impossible. Arguably, these skill sets were available to CAMP-Lab from the CIDCA director, David Bradford, and sub director, Noreen White, before their departure from CIDCA in 2000 and 2001 respectively. Nevertheless, these skills are in high demand by better funded NGOs working in the area, who also tend to be less committed to deep

participation. The challenge then, for a project like CAMP-Lab, is to attract and recruit such individuals and actively engage and retain them.

The project's capacities and activities related to closing the loop improved as the project matured. By CAMP-Lab's end, the project staff's skills in these activities were more developed through their collaboration with York University, their participation in conferences and workshops, and the experience that came from their involvement in the successful codification of the management plan. In addition, near the end of the project, CIDCA hierarchy devoted more time and energy to CAMP-Lab's efforts, especially those related to the management plan codification, as they viewed it as a key outcome for the project and one that would be viewed as a success from the outside. More consistent efforts to close the loop over the length of the project would have made CAMP-Lab more effective and they might have contributed to prolonging and expanding the project, resulting in greater consolidation of project gains. This consolidation could have been achieved through: 1) extended management plan implementation efforts (post codification); 2) further follow up and entrenchment of the radio program; 3) an opportunity to replicate the model provided by the shrimp farming seminar with other local environmental issues, and; 4) time to fully capitalize on the new relationships with the municipal government and ASDI that were developed near the project's end.

Final Reflections

The experience of CAMP-Lab demonstrates the significant influence that small projects supported by outside academics and development practitioners can have on the intangible assets base available to communities such as Pearl Lagoon. The project made modest, but meaningful contributions to social capital, human capabilities, and agency in Pearl Lagoon by integrating a strong, local, knowledgeable, and respected project staff with the research, organizational, and communications skills of York University graduate students and faculty. This integrated team worked together on locally requested research and activities.

CAMP-Lab's efforts yielded results in terms of increased local control over livelihood assets and facilitated more potent avenues for local people to participate in the decision-making and/or influence decisions related to the environment. The CAMP-Lab management plan, radio program, and shrimp farming seminar are illustrative examples of tangible increases in local control over livelihood assets. The downstream influence of CAMP-Lab -- in terms of human capacity and agency -- is likely to grow as local students (who were encouraged and motivated by CAMP-Lab activities) return to contribute experience and education to the social and political fabric of their communities. Early evidence of this influence can be seen in the number of CAMP-Lab participants who are studying at the local Universities, in fields related to the

project's efforts, and who have taken positions in government and other local NGOs.

Contrary to Ferguson's (1995) characterization of development projects as inherently "anti-politics", this work demonstrates that development efforts focused on intangible assets can be decidedly pro-politics, increasing the abilities of local communities to engage effectively in the co-production of development with government, business, and other NGOs. Given the likelihood of increased local engagement with these entities in the context of globalization, projects aimed at improving communities' ability to do so more effectively and on their own terms become crucial components of promoting locally desired and sustainable livelihoods.

The CAMP-Lab experience demonstrated the effects of deficits in geographic capital on efforts to promote sustainable livelihoods (Bird and Shepherd 2003). The remoteness of Pearl Lagoon had significant implications on the financial and human resources required and available for CAMP-Lab to effectively carry out project activities in Pearl Lagoon. In addition, CAMP-Lab's geographic isolation negatively impacted on the project's overall ability to strengthen and develop relationships with supportive partners outside the region, placing further limits on the project's potential. Developing measures to overcome a deficit in geographic capital requires careful consideration in the context of project planning -- as suggested by Found (1999) -- as well as

appropriate innovative solutions to mitigate the effects of geographic isolation that can hamper a project's efforts.

CAMP-Lab also contributed a case study for the implementation of the OM monitoring and evaluation method at the project level. Although OM was implemented over a fairly limited time frame in CAMP-Lab, it served as a useful and user-friendly tool for project learning, clearly contributing to the project's effectiveness in its final year, and demonstrating potential for longer term usefulness.

In addition to its project learning role, CAMP-Lab's use of OM generated quantifiable data – based on progress indicators -- for project reporting that could illustrate changes in its boundary partners' behavior over time, and it provided a corresponding narrative that illustrates the project's contribution to these changes and identifies other variables that have influenced them. Overall OM makes some progress toward usefulness for donor accountability needs, generating data that is comparable within a particular project over time. OM's locally subjective approach to designing the M&E framework has distinctly pro-politics implications for local control over development activities. At the same time, it presents challenges in terms of cross case comparability and demands for high degrees of arms' length objectivity that may be required by some donors.

CAMP-Lab's use of OM also identified functional challenges related to data collection and quantification and provided tentative solutions for them. In this way, CAMP-Lab's experience with OM provides useful lessons for the methodology as a tool for the dissemination of research result to policy makers -- one of the mechanisms for development research policy influence identified by Carden (2004) (see Figure 15).

Initially, CAMP-Lab's ability to contribute to "closing the loop" in Nicaragua was fairly limited by the dearth of existing local capacity to influence Nicaraguan policy or decision makers. This capacity was somewhat improved by the end of the project, as the CAMP-Lab staff's abilities in this regard improved through training and experiences made possible by the project. Beyond Nicaragua, CAMP-Lab's York University participants played a strong supporting role in "closing the loop" by assisting with project communications, networking efforts, and collaboration on a variety of conference presentations and publications. The IDRC contributed directly to these efforts by providing avenues for articulating and communicating CAMP-Lab project experience and learning in publications and conferences. Ultimately CAMP-Lab's efforts to "close the loop", especially in the Nicaraguan context, were somewhat limited; however, the project has contributed significantly to the long-term development of local skills that will contribute to "closing the loop" in the future.

Appendices

Appendix A

Mark Hostetler CAMP-Lab Participation in Nicaragua

<i>Year</i>	<i>Months of Travel</i>	<i>Duration in Weeks</i>	<i>Purpose</i>
1997	January - July	26 weeks	Research and Project Participation
1997	October - November	9 weeks	Research and Project Participation
1999	November	2 weeks	Phase 3 Planning and Proposal Writing
2000	October - November	4 weeks	Project Management and Research
2001	February - March	6 weeks	Project Management and Research
2001	July	3 weeks	Project Management and Research
2001	November - December	3 weeks	Project Management and Research
2002	July	4 weeks	Project Management and Research
2002	October - November	3 weeks	Project Management and Research
2003	February	3 weeks	Project Management and Research
2003	May	3 weeks	Project Management and Research

Appendix B

Conference Participation and Publication

Year	Method	Description	Support
2000	Book	Christie P.; Bradford, D.; Garth, R.; Gonzalez, B.; Hostetler, M.; Morales, O.; Rigby R.; Simmons, B.; Tinkam, E.; Vega, G.; Vernooy, R. and White N. 2000. Taking Care of What We Have: Participatory Natural Resource Management on the Caribbean Coast of Nicaragua. IDRC / CIDCA-UCA Managua, Nicaragua.	IDRC
2001-2004	News Letter	Awake No.1-7. Developed and Edited by Nicaraguan Project staff and York University Students and Faculty	IDRC York
2001	Conference Participation	Morales, O. and Hostetler, M. 2001. CAMP-Lab and Community Based Natural Resource Management in Pearl Lagoon. Presented at the IDRC – IOI Community Based Coastal Resource Management Conference, Merida, Mexico June 18-23. Oswaldo Morales and Mark Hostetler presenting	IDRC
2002	Book Chapter	Hostetler, M. with Garth, R., Morales, O., Simmons, B., Tinkam, E.. 2002. "Coastal Area Monitoring Project and Laboratory (CAMP-Lab) in Atlantic Nicaragua: An Overview" in CBCRM-Program, Balancing People and Resources: Interdisciplinary Research and Coastal Areas Management in the Wider Caribbean. Heredia, Costa Rica: IOI-CFU-Laval-IDRC: Ch. 3.4, pp. 335-358.	IDRC York
2002	Conference Participation	Tinkam, E and McKenzie, C. Popular Communication on Nicaragua's Caribbean Coast: Mobilization with Diverse Groups? The Center for Popular Education and Participatory Research Conference: Communities in Action Politics and Practice of Everyday Struggle. University of California, Berkley February 2002.	York IDRC
2003	Conference	Christine McKenzie and Eduardo Tinkam Presenting 2 week Popular arts Conference at York University Eduardo Tinkam Participating	York
2004	Book Chapter	Deborah Barndt and Christine McKenzie Organizing Hostetler, M., Simmons, B., Morales, O. and Tinkam, E. 2004. "Development and Implementation of a Resource Management Plan: Lessons From Caribbean Nicaragua" Participatory Research and Development for Sustainable Agriculture and Natural resource Management Sourcebook Volume 2: Enabling Participatory Research and Development CIP-UPWARD / IDRC (forthcoming).	IDRC York
2004	Conference Participation	Hostetler, M. 2004. Outcome Mapping and Monitoring Some Issues to Consider. Outcome Mapping Users Conference, Lima, Peru, October 18. Mark Hostetler presenting and Eduardo Tinkam attending	IDRC

Appendix C

OM Workshop Attendance

Name	Institution	Home	Attendance
Claribell Gof Araan	CAMP-Lab Committee	Orinoco	All Days
Eduardo Tinkam	CAMP-Lab Communal Investigator	Haulover	All Days
Ramon Guevara	CIDCA	Managua	All Days
Gerardo Peret Avellas	CBA (Corredor Biológico Atlántica) / Carl Bro	Bluefields	All Days
Oswaldo Morales	CAMP-Lab Communal Investigator	Pearl Lagoon	All Days
David Bradford	CBA / Carl Bro (ex CIDCA Director)	Bluefields	All Days
Monica Shuegraf	CAMP Lab/York	Toronto	All Days
Donna Hammond	CBA / Carl Bro	Pearl Lagoon	All Days
Bertha Simons	CAMP-Lab Project Leader	Bluefields	All Days
Marnie Tinkam	FADCANIC (CAMP-Lab Participant)	Haulover	All Days
	(Fundación para la Autonomía y el Desarrollo de las Costa Atlántica de Nicaragua)		
Lydia McCoy	MECD (Ministry of Education)	Pearl Lagoon	All Days
Roberto Cutbert	Consejo Municipal	Haulover	Days 2, 3
Pedro Ordóñez	CAMP-Lab participant	Peral Lagoon	Days 1, 3
Ray Garth	CBA / Carl Bro (ex CAMP-Lab Communal Investigator)	Kakabila	Days 2, 3
Mark Hostetler	CAMP-Lab/York	Toronto	All Days

Timing

Monday July 15	10:30 - 5:10
Tuesday July 16	10:00 - 5:20
Wednesday July 17	9:00 - 5:10

Appendix D

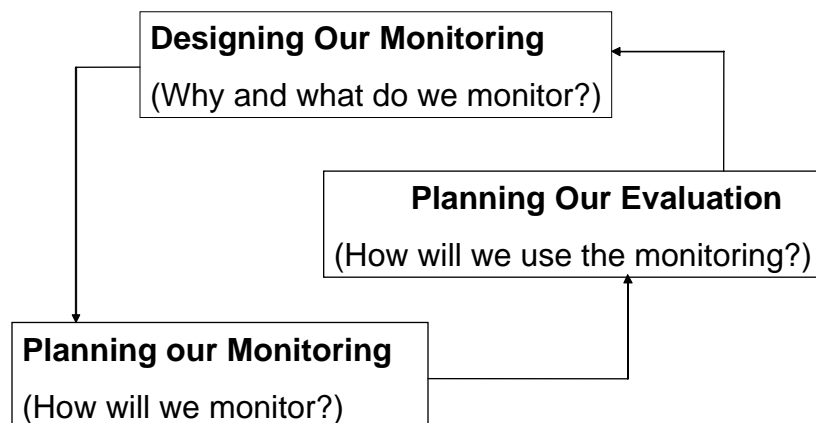
Outcome Mapping Workshop Power Point Slides

OM Core Ideas

What is Different About Outcome Mapping

- OM views **development** as a **complex process** involving many actors and influences that are often outside a project's control.
- OM does **not** attempt to claim **causality** for changes.
- OM focuses on monitoring a project's **influence on the behavior** of the individuals or groups it works with.
- OM's primary goal is **project learning**, with a secondary emphasis on accountability.

Three stages of OM



OM Stages and Steps

Designing Our Monitoring

- What are CAMP-Lab's dreams for Pearl Lagoon (Our Vision)?
- How will we contribute to achieving CAMP-Lab's dreams for Pearl Lagoon (Our Mission)?
- Who are our partners?
- What do we hope our partners will accomplish?
- How will we know if our partners are making progress?
- What are our strategies to help out partners?
- What do we do as a group to make our work stronger?

Dream Statement

What are CAMP-Lab's dreams for Pearl Lagoon?

- What would total success for CAMP-Lab look like?
- What changes will have happened in Pearl Lagoon?
- What would people and organizations be doing differently?

Mission Statement

How will we contribute to achieving our dreams for Pearl Lagoon?

- How can CAMP-Lab best contribute to our dreams for Pearl Lagoon?
- What does CAMP-Lab need to be like in order to contribute to our dreams for Pearl Lagoon?

Boundary Partners and Their Progress

Who are our partners?

- What people or groups do we work with directly?
- Which groups or individuals are we trying to influence so as to contribute to the dream?

What do we hope our partners will accomplish?

- Ideally, in order to contribute to our dreams for Pearl Lagoon what will our partners be doing differently?

How will we know if our partners are making progress?

- How will we know if they are moving towards the goal?
- What will milestones be?

Project Strategies

What are our strategies to help our partners?

- What are the strategies we use now to help our partners contribute to the dream?
- What other strategies might help our partners contribute to the dream?

Project Organizational Practice

What do we do as a group to make our work stronger?

- What do we do as a project to remain effective?
- What other things could we do as a project to improve ourselves?

Appendix E

OM Workshop Staff Follow Up Attendance

Name	Institution	Home
Eduardo Tinkam	CAMP-Lab Communal Investigator	Haulover
Oswaldo Morales	CAMP-Lab Communal Investigator	Pearl Lagoon
Monica Schuegraf	CAMP Lab/York	Toronto
Bertha Simmons	CAMP-Lab Project Leader	Bluefields
Mark Hostetler	CAMP-Lab/York	Toronto

Timing

Thursday July 25 9:00- 5:00

Appendix F

Interview Guide: Intangible Assets Contributions Interviews

- 1) What do you think have been the effects of CAMP-Lab in Pearl Lagoon on:
 - a) people?
 - b) the environment?
 - c) relationships within the communities?
 - d) relationships between communities?
 - e) relationships between the communities and government, businesses, and other outsiders?
- 2) Can you provide any examples of CAMP-Lab's influence in Pearl Lagoon?
- 3) Can you provide any examples of the way CAMP- Lab has influenced people's behaviour in relation to the environment?

Appendix G

Interview Guide: OM Participant/User Interviews

- 1) Describe your experience using OM with CAMP-Lab.
- 2) From your experience what have been the benefits of OM?
- 3) From your experience what have been the problems with OM?
- 4) Has CAMP-Lab ever changed its strategies based on information it gathered using OM? What were the results of this?
- 5) If you were to change anything about OM what would it be?
- 6) Would you recommend using OM in the future? Why / why not?

Appendix H

CAMP-Lab DIPAL Management Plan Comparison

Issue	DIPAL	CAMP-Lab
Fisheries		
gill net mesh size	-4 inch with the exception of mackerel and mullet nets to be used in times of high productivity to be specified by the government	-4 inch
shrimp nets	-2.25 with the exception of sea bob nets used in times of high productivity	-1.5 inch
shrimp size	-71-80 per pound	-60-70 per pound
fishing in canals	-only with line and cast net	-none -specify no sinking of nets in canals
outsiders	-no fishing by outsiders	-no fishing by outsiders
registration	-register fisherman and boats	
sardines	-2.25 inch nets	-no massive fishing for species
motors	-70 hp max	
limits to sea		-no industrial boats within 5 miles
area	-3 mile to sea 5 miles around cays	-5 miles to sea (no industrial boats) 15-20 around cays
see international law	-turtle, porpoise and manatee	-turtle, manatee and Jamaican traps
coral		-no removal of dead coral
lobster diving		-no lobster diving
lobster season		-closed February-May

waste water		-no disposal of waste fish or contaminated water
Pine Forest		
nurseries		
protected areas		-pinar pine ridge
reserve areas		-fine pine (no extraction)
external sale		-none
extraction approval		-MARENA, mayor, communal leader
use limits		-no settlement or agriculture in Fine Pine Wood, Pine Ridge and Pinar
fire prevention		-controlled burn every 3 years 15 foot fire trails around pine areas cleared 2 times a year
Rain Forest Rivers		
no new harvesting /deforestation		-no cutting within 100 m of Patch Nari or Wawashang rivers no cutting within 50 m of their tributaries
reforestation		-with timber and fruit trees in 100 m wide stretch in already existing agro areas along these rivers with goal of preventing soil erosion
hunting rules		-prohibited mountain cows, alligators, caiman (tura), mackaw, turkey (caraxo) because of scarcity and endangered species status
fishing		-only hook and line in rivers
Mangrove and Sliko		
fuel wood		-dry fuel wood gathering permitted only for community members

cultivation		-cultivation of rice and dashine permitted in the sliko, provided it is considerable distance from the water edge in order to avoid soil erosion
Swamp and Highland Forest		
new pasture land		-no new pasture land except in the case of extreme need of local community members
fences		-dead or live fences between live stock and farming areas to prevent nomadisms
reforestation		-fruit and timber trees should be planted on farms that have none
timber extraction		-extraction of santamaria, lechemaria, cedar, sleeping, school, mahogany among others, for local or communal consumption only
hunting		-only for local consumption
timber harvesting		must include forest management plan including regeneration
new plantations		-must have proper permission -must be prepared to make the most possible use of timber cut for this purpose
General Rules		
prohibited species		-no cutting ibo and saba
reforestation		-3 seedlings for each tree felled 4 years of maintenance
Information drawn from MIFIC Acuerdo Ministerial No. 043-98 (DIPAL's Plan) and Normative Management Plan of Pearl Lagoon Municipality Natural Resources (CAMP-Lab's Community Plan) respectively.		

Appendix I

Norms from Normative Management Plan Of Pearl Lagoon Municipality Natural Resources

Extracted from Normative Management Plan of Pearl Lagoon Municipality Natural Resources (1999).

IV. TYPE OF USE AND NORMS

4.1 Pine and savannah area

The savannah is a uniform natural system, both at a geological as at a biodiversity level. It is of a complete sandy composition with a thin layer of organic waste that comes from plants and animals that lives in these areas. Natural pastures are predominant in the Pearl Lagoon basin savannas, but we can also find an association, also natural, of pine and oak and some papta clusters. The pines present dense RODALES along the Caribbean Coast, but they *get* thin as you advance to the south limit of these localized in the savannas on land belonging to the Pearl Lagoon communities. The wild life found in the savannas and *congenital* forest formations is limited to a modest representation of birds, mammals and reptiles among others.

The importance of this ecosystem, is given by the historical significance that these represent for the communities in the area and the genetic/natural importance which they represent for science. Also it is considered for this area,

total restrictive norms, due to the fact that studies made inside actual RODALES indicates that these are areas that should be consider specifically for protection, given this an integral meaning (Savannah, Pines and wildlife).

4.1.1 Type of uses

- Hunting (deer, armadillo, iguanas, land turtles, tigers, give-nots, crocodiles and birds)
- Extensive cattle raising (cows)
- Firewood collection
- Charcoal burning/making
- Timber harvesting
- Collecting Savannah grass for homemade matters
- Recreation area used by churches on Holy Week period
- Collecting fruits such as cashew, crabu, buhu
- Papta strips for lobster traps and house construction
- Some rivers are used for bathing and as a place where women do their laundry
- Sand mining for construction
- As garbage deposit
- Cutting sticks for fences
- Planting vegetables
- As research area
- For tourism

4.1.2 Norms

- The municipal authority jointly with the communities will establish nurseries to reforest the pine savannah area
- The communities are to carry out controlled burning every tree years – Burning should be done in February
- Fine Pine Wood must be declared as a reserve area
- Pinar and Pine ridge must be declared as protected areas
- It is prohibited to issue permits to cut Pinewood for sale outside the municipality

- Any permit to extract wood will be issue jointly by the leader of the community, the mayor and MARENA
- It is prohibited to carry out agricultural activities and the creation of settlements in Fine Pine Wood, Pine Ridge and Pinar
- Fifteen feet firetrails will be establish around the pine areas and these should be cleaned twice a year

4.2 Uses And Norms For The Rain Forest

We can define tree type of uses for rainforest

- Hunting
- Timber harvesting
- And the opening of spaces in the forest for agriculture and establishment of cattle;

there are also other uses of less importance, or that does not affect much the physiognomy or appearance of the forest, among these we can mention:

- Harvesting of fruits
- Gathering of medicinal plants
- Tourism
- And the burning of wood to obtain charcoal

Both the forest which grow in the swamps as the ones that develop in the highlands or non inundated areas are continuously crossed by creeks and rivers which serve as base for characteristicals formations denominated riverside forest. These type of forest are develop along any type of wide enough water in movement, serving as cover along the rivers until it reaches the river mouth.

Other characteristical formations can be found in swampy areas, as conclusion of the lower parts of the rivers, the lagoons and coast near the sea waves; mangroves and sliko can be mentioned among these two well defined structures.

4.2.1 Type of use

4.2.1.1 Hunting

It is a common ancestral activity carry out in the forest area included in the management plan and it is important for different reason to mention this. The ethnic, Creole and Mestizo communities, have hunting vocation.

In the swamp forest you can hunt: iguanas, deer, wild boar (wari), tigers, tiger cats, white face monkey and howling monkey (baboon), alligators, tura, parrot (maka), among others. In higher ground forest you can also find deers, wild boar, white face monkey, tigers and tiger cats, but also, mountain cows, cuash, armadillo, rabbits, squirrels and give-nots. Some of these species have been over exploited and now are on the point of extinction, specially the mountain cows and tura.

4.2.1.2 Timber Exploitation

The communal people, up to our days, have used lumber in the construction of their houses and other infrastructures necessary for the

communities. However, also from time ago the forest resources in the community lands contemplated inside the management plan have being exploited, such is the noticeable scarcity of mahogany existing. According to the people this is due to the directed and uncontrolled exploitation on this specie.

Now, the commercialization of certain species of lumber both from swamp and highland forest is actually a common practice. In the swamp forest we can frequently find santa maria, leche maria, saba and sleeping; meanwhile in the highland forest there is sam wood, cedar, mahogany, ibo, sleeping and Maypole can be found.

4.2.1.3 Agriculture and cattle raising

The creation of small agriculturing areas both in slika areas for planting rice and dashine and in highland for the planting of basic grains, coconuts, *musaceas*, sugar cain, fruits and the making of pasture for cattle raising, are activities that everytime go creating bigger spaces or clearings in the forest. They are two agricultural practices well define, that excersise different forms of pressure upon the forest: the autochthonous agriculture, practice by the indigenous groups in the communal lands and the one practiced by the Mestizos along the agricultural frontier towards and inside the communal lands.

This is the most destroying practice that if not address adequately, specially because it changes almost definitely the forest, which in turn, affects the area's

landscape, favor migration and accelerate the disappearance of various species of plants and animals, in most cases of commercial value.

The other secondary practices such as: collection of fruits, collection of medicinal plants and coal burning, exercise almost no pressure upon the forest, except in the case of coal men upon the ibo threes, which, if not treated, could represent a potential danger for this species in the near future.

4.2.2 Norms

4.2.2.1 Regarding the riverside forest

- Beside the Kurinwas, Wawashan, Patch and Ñari river it is totally prohibit the harvesting of timber, felling of threes for agriculture or pastures in an area of 100 Mts. wide along each edge of these rivers, beginning from the river head until their mouth.
- In the tributary or branch of the rivers mentioned above, the same activities are prohibited in a stretch of 100mts (50mts each side) wide and along these until their mouth.
- The small agricultural plantations and cattle raising already established along the above mentioned rivers must definitely include reforestation of the rivers edge that should progressively advance until it covers a stretch of 100 Mts. along the rivers. Preferable this should include the planting of timber and fruit threes; in order to avoid the continuos lose of the soil that these activities provoke along the rivers.
- Activities such as hunting, gathering of fruits and medicinal plants are absolutely permitted both in the riverside forest as in all the other type of forest formations inside the communal lands to be managed.
- Inside the land considered by the management plan it is prohibited the hunting of species such as mountain cows, alligators, caiman (tura), mackaw, turkey (caraxo) because they can hardly be found inside the communal lands or they are considered endangered species.
- In the rivers mentioned above it is permitted to fishing only with hook and line. The use of cast net, seine, gill nets, explosives and any other type of poison resulting from chemicals or poisonous plants are completely prohibited.

4.2.2.2 Mangrove and Sliko

- In mangroves it is permitted the harvesting of dry wood for firewood only to the people from the communities and for survival. Inside communities where there is tradition to capture any food resource this is permitted, meanwhile it does not have any negative impact for the species captured.
- It is permitted to plant rice and dashine in the sliko, but leaving a considerable distance from the water edge in order to avoid the erosion of the soil.

4. 2.2.3 Swamp and Highland Forest

- It is prohibited the massive opening of virgin forest with the intention to plant or create pastures. This is an activity permitted only in case of extreme need and permitted only for the autochthonous group from the area.
- There must be a division between farming areas and livestock with dead or live fences in order to maximize resources and avoid nomadism which is dangerous for these lands
- It is a requirement that the establish farms must plant fruits and timber trees that has none, due to improper practices carry out in the past.
- It is permitted the falling of timber trees such as: santamaria, lechemaria, cedar, sleeping, school, mahogany among others, but only for local or communal consumption. It is prohibited the commercialization of the species of timber mentioned above.
- It is permitted the hunting of animals, except for mountain cows and tura (alligator), for family consumption and in a restrictive form for the sale in the communities.
- An exception to the above law can be observed if the animal is caught in farming areas.
- In case of timber harvesting, you must have a forest management plan that includes the natural regeneration of the affected species and the exclusion of the felling of seedbed trees in some cases.
- It is completely required that the virgin forest intervened for the establishment of small plantations should be sustainable developed regarding the timber trees felled. The people who do this type of activities must have permission and be properly prepared to make the most of the fell trees. This norm is subject to the norms, which makes reference to the massive felling of the virgin forest or with mature characteristics.

4.2.2.4 General Norms

- It is prohibit the cutting of Ibo and saba

- Three seedlings of the same species of each fell tree must be planted in the case of the timber harvesting and/or charcoal burning
- Give maintenance to reforested areas with seedlings for, at least, a space of four years as minimum.

4.3 The Lagoon

4.3.1 Types of Use

4.3.1.1 Fisheries

The communities settled beside the lagoon have always lived of the fishing activities as their main resource. Their effort is dedicated to scale fishing and capture of white shrimps. Details about these activities and the species that are captured traditionally can be found in the hidrobiological characterization at the beginning of the document. For scale fishing, both gill net, mostly four inches mesh size are used during the rainy season and hook and lines during the dry season. For shrimps catching they use trawl nets and cast nets. the first ones are prohibit to used inside the communities by the communal leaders.

4.3.1.2 Communication and Transport

This is another use for the lagoon and it's very important. Given the lack of road/land communication in the region, water plays a fundamental role in this sense; all transport is made trough aquatic via. The municipality is connected with the neighboring municipalities trough water: with Bluefields trough the canal that begins in the Escondido river and goes on beyond Sandy Bay Sirpi,

community belonging to the Desembocadura de Rio Grande municipality. All year, freight boats, pangas and canoes travel up and down the lagoon, communicating the different communities nearby and also used for artisanal fishing. To facilitate the movement of transport, they had to dredge the lagoon during the building period of the intercommunication canal.

4.3.2 Norms

- It is prohibited the use of gill nets and mesh size less than four inches
- Prohibit capturing shrimps that are above 60 to 70 tail/pound inside the lagoon
- Limit the capture of shrimps inside the lagoon to the use of hand nets and *trawl hand net*
- Prohibit trawl nets inside the lagoon. This is an activity that will be permitted to the artisanal fishermen, but under the restrictions of the norms contemplated for the three nautical miles or artisanal fishing area.
- The mash size of trawl nets will be of 1.5 inches
- Prohibit fishing with hook and lines and nets in the canals and small lagoons nearby, been these migration areas or serve as breeding place or hatchery of diverse species of both commercial and ecological importance within the lagoon.
- Among the lagoons mentioned, declare some of them, known for been areas of highly productivity, as reserve or breeding or hatchery area.
- Sardines should not be captured massively inside the lagoon due to the fact that they serve as food for several other species of commercial value that can be found inside the lagoon during certain life period.
- Prohibit the sinking of gill nets at the mouth of the canals such as: Moncada canal, Tasba Pouni canal, the canal connecting Top Lock lagoon with Rio Grande and Pearl Lagoon Bar. These are migratory routes and most species inside the lagoon pass part of their life either in completely fresh water or in sea water close to the lagoon.
- It is prohibit completely for fishermen that do not belong to the municipality to fish inside the lagoon, the same also goes for foreigners
- It is prohibit throwing waste of fishes resulting from the processing of big quantity of fishes produced by the enterprises settled around the lagoon

- It is totally prohibit, the deposition of filthy or sewage water resulting from the combination of oil, fuel, among others produced by the transport inside or that travels through the lagoon.

4.4 Three Nautical Miles (Artisanal Fishing Area)

This is a considerable diverse area; it has direct influence on the estuary waters of the lagoon. Given the characteristics of the continental platform, the communities fishing area (artisanal fishermen), can be extended over the three regulated miles.

4.4.1 Type of use

4.4.1.1 Fishing on the cays

Near the cays, the artisanal fishermen, capture turtles, lobsters and scale fish. The distance the fishermen cover goes beyond the three miles (around the cays), sometimes reaching up to thirteen (13) miles.

The lobster fishermen practice the used of traps, free diving and with tanks; even when diving with tank, their life is in danger, because they do not follow international diving regulations. They dive down 50 Mts. Without any equipment that indicate to them the time they are suppose to be at this depth, and they carry out their monthly activities for a minimum of 20 days uninterruptedly.

Regarding sea turtle, these are captured with harpoon and actually with special constructed nets. The communities, which dedicate themselves to turtle

fishing, are mainly Tasba Pouni and Set Net, but they are communities inside the lagoon that also direct to this type of fishing such as: Kakabila, Pearl lagoon and Haulover.

According to recent scientific researches, the way the turtle are captured actually may be endangering the species (specially the green turtle). Individuals under the reproductive size are been captured. In the case of the hawks bill turtle, the actual amount capture is insignificant in comparison to other years.

Regarding scale fishing, shark are capture with long line and gill nets multifilament with bait tie on to the meshes (directed fishing). Also they fishing two or three species of snapper, barracudas, kingfish and hog fish and two or three species of jack. For their capture they generally use hook and rarely, traps for fishes.

4.4.1.2 Fishing in front of the beaches

They catch shrimps along the beach; for this they use trawl nets, seine net and cast net. At least three species of shrimps are captured including the one known as sea bob.

4.4.1.3 The Cays

These serve for fishermen camping sites; they stock their products, sleep and cook their food on the cays. They are stock center of the sea products

processing enterprises: one on the Kings cays and two on the Pearl Cays. Also generally they collect coconuts and wilks for their food.

The cays have serve lately for recreation and actually they have been a growing interest to implement tourism on them. On account of this interest a foreigner, of greek extraction, acquired five of the seven cays, this gave way to a series of protest by the communal leaders, because these cays are consider communal patrimony that can not be sold or lease out.

Finally, Mar Caribe enterprise is built upon the full-up of the dead corals found around these small islands.

4.4.2 Norms

- The industrial boats are prohibited to work inside an establish five-nautic miles, which correspond to the artisanal fishermen
- It is establish that the artisanal fishing zone around the cays will be 15 to 20 miles
- Given the conditions of the coral reefs present in the area it is completely prohibit the access of industrial fishing boats in the artisanal fishing zone around the cays
- It is completely prohibit the diving system to capture lobster
- It is prohibit the extraction of dead corals from these islands due to their importance in the conformation and protection of the cays
- A close season for lobster must be observe from february untill may each year
- In relation to the use of jamaican traps and the capture of sea turtle and manatees, both national and international laws make references for their regulation and protection. The use of jamaican traps in the management area mentioned is practically null

4.5 Coastal Line

The coastal line is used as a form of communication between the communities situated at the edge of the sea, through which the communal people go to look for their food, also they form groups to go looking for other products such as lumber, fuel, etc, which are washed up on the beach by the tide.

The communal people can easily put their nets into the sea to capture fishes; also the communities collect cockles (*donax* sp.) which are used, also, for self-subsistence.

In the peninsula that separates the lagoon, agriculture is practiced, both by communities at the edge of the lagoon, as by the ones on the edge of the sea. The main products cultivated are rice, sugar cane, coconuts and *musaceas* (plantains, bananas, etc) and certain tubers like cassava, also you can find fruit trees like breadfruit, mangoes and citrus.

There are specific fishing periods on the coastal line that implies the installation of stationary nets, make circle with nets and manual trawling for the capture of certain species of scale fish. They use cast nets and trawl nets with motorized boats to capture white shrimps and sea bobs.

Two of the communities (Tasba Pouni and Set Net), are established along the marine coastal line, meanwhile the others can be found on the west margin edge of the lagoon, (been these the most due to the fact that they are conditions favourable for the subsistence of the inhabitants).

4.5.1 Uses

- Sand extraction for house construction
- Collecting fire wood (mangrove)
- Collection of cockle for self consuming
- Recreation area (Awas), they are areas visited by people from the nearby communities, from Bluefields and also from the pacific region during holidays.
- Recreation area (paddle and sail dory races, etc
- Means of inter-communal communication; between communities such as Orinoco-Marshall Point and Raitipura – Awas.
- To defecate on the edge of the lagoon (this practice has diminish considerable in the last years, but it is still maintain in some communities).
- Deposit of solid garbage

4.5.2 Norms

- It is prohibited to extract sand in the cannal and lagoon margins
- It is prohibited the sand extraction in front of the communities
- Prohibit the construction of latrines on areas cover with water along the coastal line
- It is prohibit the deposition of garbage on the margins of the lagoons front of the communities, even tough the garbage can delay the erosion of the coastal line, this is an ugly activity which tends to give a bad image to the touristic potential of Pearl Lagoon coast lines
- It is prohibited defecating in open air or inside the lagoon
- It is prohibited the deposition of solid or liquid waste coming from fabrics or enterprises. In any event these must be properly treated before been dispose of.
- Prohibit the cutting of trees in front of the communities and to the edge of the lagoon, because if this sort of activities continues, it promotes the erosion of the superficial soil layer (lost of coastal line).

Appendix J

CAMP-Lab Committees' Progress Indicator Data

Data and Comments for Monitoring 1 (Oct. 24th 2002) , 2 Feb. (14th 2003) and 3 (May 21st 2003)

Indicator 1

Committees hold regular meetings with the help of a communal investigator.

Source of Information:

Meeting logs

Scale:

(Fair) less than once a month

(Good) once a month

(Excellent) twice a month

Monitoring 1) Lack of outboard motor has meant that there has been only one trip to the more distant communities in the past 3 months. As a result meetings with communal investigators have been limited.

Haulover	2 times a month
Awass	1 time a month
Raitipura	1 time a month
Kakabila	1 time in 3 months
La Fe	1 time in 3 months
Brown Bank	1 time in 3 months
Orinoco	1 time in 3 months
Marshall Point	1 time in 3 months
Tasbapauni	1 time in 3 months

Monitoring 2) Office work related to the news letter and planning and a lack of travel funds during certain periods has limited the staff's ability to travel to all of the communities. Special efforts were made to reinvigorate the committees of Brown Bank and Kakabila through three day stays by a communal investigator.

Haulover	4 times in 3 months
Awass	1 time a month
Raitipura	1 time a month
Kakabila	1 time a month
La Fe	2 times in 3 months
Brown Bank	1 time a month
Orinoco	2 times in 3 months
Marshall Point	2 times in 3 months
Tasbapauni	2 times in 3 months

Monitoring 3) The lack of outboard motor continues to limit the number of visits. However, staff made extended trips to the communities of Kakabila, La Fe, and Brown Bank and Tasbapauni making use of alternative transportation in an effort to strengthen these committees.

Haulover	2 times a month
Awas	1 time a month
Raitipura	1 time in 3 month
Kakabila	2 times a month
La Fe	1 times month
Brown Bank	1 times month
Orinoco	1 time month
Marshal Point	1 time a month
Tasbapauni	2 times in 3 months

Evaluation for Monitoring 1-3: 1) Fair 2) Fair 3) Good

Indicator 2

Committees identify environmental problems in their communities.

Source of Information:

Meeting logs, Workplans

Scale:

(Fair) Listing environmental problems.

(Good) Discussion of implication the problems identified.

(Excellent) Discussion of causes of problems identified and potential solutions

Monitoring 1) Awas and Kakabila have been discussing the need for closed season on Lagoon fish.

Monitoring 2) Questions about sea grass disappearance have come up in most committees through the work of an MES student from York. The need for town cleaning was also raised in a number of committees. Other issues raised included the need to protect mangroves and the problems of the agricultural frontier and damaging farming practices.

Monitoring 3) Issues that were raised by committees include cleaning of the lagoon edge, deforestation on the lagoon edge, and issues related to upcoming land demarcation.

Evaluation for Monitoring 1-3: 1) Fair 2) Fair/Good3) Fair

Indicator 3

Committees are involved in environmental activities and projects.

Source of Information:

Log book, Anecdotal information from staff and the committees

Scale:

Subjective based on # of activities, plus description of activity (determined in monitoring meeting).

(Fair)

(Good)

(Excellent)

Monitoring 1) All of the committee have been involved in town cleanup and some have been involved in other more difficult projects.

Haulover	Cleaning, creation and maintenance of nurseries for fruit trees
Awes	Fencing for animals to limit filth – Planting on the road to prevent erosion
Raitipura	Planting on the road to prevent erosion
Kakabila	Creation and maintenance of nurseries for fruit trees (4 people in group 2 working individually)
La Fe	Cleaning, Protection of Santa Maria tree discussed but no action taken (anecdotally whole town took part)
Brown Bank	Cleaning (according to written records this took place 3 times with 11, 14 and 7 people respectively)
Orinoco	Cleaning and finding previously planted mahogany trees (anecdotally “plenty people were involved”)
Marshal Point	Cleaning (anecdotally 30 People were involved), a snake infestation had limited other activities (11 reported bites 1 death)

Monitoring 2) Orinoco and Haulover’s activities have decreased during this time.

Haulover	Nursery work continues but not as strong.
Awes	Planting pine trees efforts to remove farm animals from the town
Raitipura	Efforts to plant trees for preventing erosion
Kakabila	Plants distributed from the nursery, efforts to start a nursery for medicinal plants.
La Fe	Town cleaning
Brown Bank	Town cleaning
Orinoco	none
Marshal Point	Planed for cleaning

Monitoring 3) All committees have been involved in town cleanup and some have been involved in other more difficult projects.

Haulover	Fine Pine cleaning, Water Monitoring
Awass	Town cleaning
Raitipura	none
Kakabila	Creation and maintenance medicinal plant nursery cleaning of beach area for possible tourism
La Fe	Town cleaning
Brown Bank	Town cleaning
Orinoco	Town cleaning and creation of a nursery
Marshall Point	Town cleaning

Evaluation for Monitoring 1-3 1) Good 2) Fair 3) Fair-Good

Indicator 4

Committees coordinate their activities with other institutions.

Source of Information:

Ask in Meetings, Work Plans

Scale:

Based on the percentage of relevant institutions working in their communities that they are coordinating with.

(Fair) 25%

(Good) 75%

(Excellent) 100%

Monitoring 1) CAMP-Lab Committees coordinate with all other relevant institutions working in the area. The strongest relationships are with FADCANIC and Acción Medica

Monitoring 2) The relationship with between FADCANIC and CAMP-Lab Committees has become stronger as FADCANIC is now relying on the CAMP-Lab Committees for their local agenda efforts.

Monitoring 3) The relationship with FADCANIC continues to be strong and both Acción Medica and URACCAN have agreed to take on the cost of some of the activities of CAMP-Lab.

Evaluation for Monitoring 1-3: 1) Excellent 2) Excellent 3) Excellent

Indicator 5

Committees work with local university students doing environmental research.

Source of Information:

Logbook, Workplans, Copies of resulting research

Scale:

Based on the percentage of students whose research was assisted by CAMP-Lab Committees.

(Fair) 25%

(Good) 50%

(Excellent) 75%

Monitoring 1) There has been some work done with students who are CAMP committee members.

Monitoring 2) There has been none of this activity in the past three months because local students fieldwork on their thesis has not been occurring. Opportunities should arise to work along with URACCAN students who have received funding for there research from CAMP-Lab.

Monitoring 3) There has been some work done in Haulover with two students who are writing there thesis on the sustainable use of Fine Pine.

Evaluation for Monitoring 1-3: 1) Excellent 2) None 3) Excellent

Indicator 6

Committees maintain their own finances and budget.

Source of Information:

Inquiry with individual committees.

Scale:

(Fair) 50%

(Good) 75%

(Excellent) 100%

Monitoring 1) Five out of eight (62.5%) committees carry their own funds. Haulover Committee is planning to reestablish its fund through sales from its nursery.

Haulover	no
Awas	no
Raitipura	no
Kakabila	yes
La Fe	yes
Brown Bank	yes
Orinoco	yes
Marshal Point	yes

Monitoring 2) Haulover has established a small fund from the sale of plants from the nursery. Six of eight committees have funds now (75 %).

Haulover	y
Awas	n
Raitipura	n
Kakabila	y
La Fe	y
Brown Bank	y
Orinoco	y
Marshal Point	y

Monitoring 3) Five out of eight (62.5%) committees carry their own funds. Haulover committee has had difficulties related to leadership and does not have a fund.

Haulover	no
Awas	no
Raitipura	no
Kakabila	yes
La Fe	yes
Brown Bank	yes
Orinoco	yes
Marshal Point	yes

Evaluation for Monitoring 1-3: 1) Fair – Good 2) Good 3) Fair - Good

Indicator 7

Committees work with the communal board.

Source of Information:

Inquiry at CAMP-Lab Committee meetings.

Scale:

(Fair) 50% of Committees

(Good) 75%

(Excellent) 100%

Monitoring 1) All CAMP-Lab committee's currently cooperate with the community boards.

Monitoring 2) CAMP-Lab committee's currently cooperate with the community boards in every community but Haulover where there currently is no functioning board.

Monitoring 3) There is currently no functioning board in Haulover but the process of selecting a new board is underway. Many of the communities have significant overlap between the communal board and the Camp Lab committee.

Evaluation for Monitoring 1-3: 1) Excellent 2) Excellent 3) Excellent

Indicator 8

Committees hold regular meetings without communal investigators.

Source of Information:

Work Plans, Log book, inquiry in CAMP-Lab committee meetings

Scale:

(Fair) Happens

(Good) Once a Month

(Excellent) Twice a Month

Monitoring 1) Orinoco and Haulover have meetings without the communal investigators. In the case of Haulover communal investigators are invited by the committee to attend the meetings.

Haulover	2 per month
Marshal Point	1-2 per month
Orinoco	2 per month
La Fe	2 per month
Brown Bank	1 per month but declining
Kakabila	no meetings lately
Raitipura	no
Awas	no

Monitoring 2) Kakabila and Orinoco meet regularly without the communal investigator. Kakabila's meetings combine CAMP-Lab activities with other institutions and activities ongoing in the community. Orinoco has increased its meetings to one per week on Friday. This is at least partly due to the efforts of a member who finished her studies at URACCAN in Bluefields.

Haulover	No official meetings (problems with Committee leadership) but strong participation in activities like water monitoring occurs.
Marshal Point	No (Plans to use neighboring Orinoco committee to stimulate more activity)
Orinoco	Have begun weekly meetings in the last month
La Fe	1 in November none this year
Brown Bank	2 per month
Kakabila	2x per week for CAMP-Lab related work
Raitipura	No meeting

Awasi 1

Monitoring 3) Orinoco and Kakabila both have regular meetings without the communal investigators. In the case of Haulover there has been tension between the CAMP-Lab committee and staff related to jealousy of time spent with the Radio Committee that is also based in Haulover.

Haulover	1
Marshall Point	2 in three months
Orinoco	every week
La Fe	1 per month
Brown Bank	1
Kakabila	2 per month (all organizations in the community)
Raitipura	0
Awasi	1

Evaluation for Monitoring 1-3: 1) Good 2) Good 3) Good

Indicator 9

Meetings are held between committees and communities to share information.

Source of Information:

Workplans

Scale:

(Fair) Happens

(Good) Every 6 months

(Excellent) Every 3 months

Monitoring 1) This happened once in Haulover and once in Awasi related to efforts to improve the road.

Monitoring 2) This happens occasionally in Kakabila, Haulover and Awasi. In the smaller communities separate meetings to share information are somewhat redundant because of the large percentage of the population involved with CAMP-Lab Committees.

Monitoring 3) This happened in Kakabila and Awasi.

Evaluation for Monitoring 1-3: 1) Fair 2) Fair 3) Fair

Indicator 10

Committees act as the environmental appendage of communal board.

Source of Information:

Inquiry during visits to communities

Scale:

(Fair) Some Role
(Good) Strong Role
(Excellent) Official Role

CAMP-Lab Committees are often consulted by the communal boards when environmental issues arise. In addition in smaller communities there is often overlap between communal boards and committees. None of the committees have an official place as the communal board's environmental appendage.

Evaluation for Monitoring 1-3: 1) Good 2) Good 3) Good**Indicator 11**

Meetings are held between different CAMP-Lab Committees without communal investigators.

Source of Information:

Workplans

Scale:

(Fair) Happens
(Good) Once a year
(Excellent) Twice a year for each committee

Monitoring 1) None

Monitoring 2) Efforts underway to have Orinoco committee strengthen the Marshal Point committee in this way.

Monitoring 3) Orinoco is interested in Meeting with both Marshal Point and Haulover (they want to take part in a Radio program).

Evaluation for Monitoring 1-3: 1) None 2) None 3) None**Indicator 12**

Committees look for funding for environmental projects.

Source of Information:

Workplans, General Knowledge

Scale:

(Excellent) If it happens

Monitoring 1) None

Monitoring 2) CAMP-Lab Committees in Awas and Raitipura have been look for money for trees to plant on the road and to build a breakwater to slow erosion. Kakabila committee has asked for and received material help for a project to fence of their nursery and create a barrier for animals to reach the beach that they hope to promote for Easter tourism. This has been occurring more at least partly due to small amounts of money available from FADCANIC for projects.

Monitoring 3) Awas is looking for assistance in building a breakwater to help prevent erosion. Kakabila is looking for help with a number of small projects.

Evaluation for Monitoring 1-3: 1) None 2) Excellent 3) Excellent

Further Information

1) Monitoring Oct. 24th 2002

Changes

Haulover meetings are being called by the committee itself, who invite the communal investigators to attend.

Eduardo has encouraged this behavior using the outcome challenges as a motivator for this group.

Communal investigators have been unable to visit many of the communities as frequently as before. This has led to some decline in activity of committees in these communities.

The lack of a functioning outboard engine (it was stolen) for transportation combined with the reduction in staff size by 40 %.

Lessons and Future Plans

There are continuing efforts to reactivate an old motor.

2) Monitoring Feb. 14th 2003

Changes

Change over in some CAMP-Lab Committees.

Beginning of the School year causes turn over in CAMP-Lab Committees as student participants move to Bluefields to go to University.

Student return from University to Orinoco will help strengthen the Orinoco committee.

Efforts to strengthen Haulover CAMP-Committee through returning University students have not been as successful due to conflicts over leadership in this committee.

In some committees CAMP-labs work has been limited by strong pushes by other institutions to get their work done. This has included long workshops for a Ford Foundation project run through the two universities and the work of the Biological Corridor. This slows some of the CAMP-Lab specific efforts as many of the participants are active in all of these activities.

Lessons and Future Plans

Further efforts will be made to strengthen weaker CAMP-Lab Committees through longer visits by staff members to help with planning and organization and through efforts to cross over activities between neighboring communities like Orinoco and Marshal Point.

3) Monitoring May 21st 2003

Changes

Relations with the communal boards have been strengthened

Kakabila's group has been getting stronger due to Eduardo's extra efforts in this community.

There has been increased cooperation between FADCANIC and CAMP-Lab Committees. FADCANIC has begun working directly with CAMP-Lab Committees to organize and help carry out their activities. This has included the funding of small projects.

Tasbapauni communal Board has a strong connection with CAMP-Lab as a result of training that they received from CAMP-Lab at their request.

There has been a difficulty with the Haulover CAMP-Lab Committee that is at least partially related to tension and jealousy over the amount of attention that is received by the Radio Committee that is also centered in Haulover.

Lessons and Future Plans

The committees with stronger links with the community boards have become more effective.

Extra staff time spent organizing committees that are faltering has proven very effective.

CAMP-Lab Radio Committee's Progress Indicator Data
Data and Comments for Monitoring 1 (Oct. 24th 2002) , 2 Feb. (14th 2003) and
3 (May 21st 2003)

Indicator 1

The Radio Committee has regular meetings.

Source of Information:

Log Book

Scale:

(Fair) 2 per month

(Good) 3 per month

(Excellent) 4 per month

Monitoring 1) Between August 19th and October 9th, 2002 there was no program because of a lack of power to run the radio transmitter, as a result, formal meetings were held seven out of twelve weeks and two informal meetings during the power outage to continue interest.

Monitoring 2) The committee met ten of thirteen weeks. There were three weeks that the radio did not broadcast due to a power outage.

Monitoring 3) The Radio Committee has met all but one week, often more than one time per week.

Evaluation for Monitoring 1-3: 1) Good 2) Good 3) Excellent

Indicator 2

The Radio Committee insures that each radio program is relevant to management plan.

Source of Information:

Eduardo's Note book

Scale:

(Fair) 50%

(Good) 65%

(Excellent) 85%

Monitoring 1) The team decided to ensure relevance to the management plan by choosing a management plan norm each week as at least a partial theme for the program.

Monitoring 2) Every week a management plan norm is selected to be included in the program.

Monitoring 3) The radio program has covered all the management plan norms in previous shows and is beginning to review them. In addition, the program has begun to link current events related to the environment and natural resources with elements of the management plan.

Evaluation for Monitoring 1-3: 1) Excellent 2) Excellent 3) Excellent

Indicator 3

The Radio Committee uses popular communication methods in the production of the radio program.

Source of Information:

Written show plan

Scale:

A variety of popular communications methods have been used in each show
Yes or No

Evaluation for Monitoring 1-3: 1) Yes 2)Yes 3) Yes

Indicator 4

The Radio Committee includes live interviews on the radio program.

Source of Information:

Written show plan

Scale:

(Fair) 1 per month
(Good) 2 per month
(Excellent) 1 per show

Monitoring 1) No live interviews have occurred.

Monitoring 2) Two Live interviews were included during this period

Monitoring 3) There have been five live interviews including Monica Schuegraf (a graduate student from Canada) , Ensworth Fox (the person in charge of natural resources for the municipal government), Robert Cutbert (regional councilor), and two URACCAN students working on a thesis related to the sustainable use of Fine Pine.

Evaluation for Monitoring 1-3: 1) None 2) Fair 3) Fair-Good

Indicator 5

The Radio Committee produces a program consistently (weekly).

Source of Information:

Log Book

Scale:

(Fair) 2 per month

(Good) 3 per month

(Excellent) weekly

Monitoring 1) Radio programs have happened every week in which the radio station was broadcasting.

Monitoring 2) The radio program happened nine of thirteen weeks because the station was not broadcasting for three weeks due to a blackout. In addition, there was no show on Christmas day.

Monitoring 3) One show was missed during Easter week and one was reprogrammed on a different day during the Atlantic Baseball Series held in Pearl Lagoon.

Evaluation for Monitoring 1-3: 1) Fair 2) Good 3) Good-Excellent

Indicator 6

The Radio Committee insures that each radio program is presented using a variety of techniques.

Source of Information:

Written show plan

Scale:

(Fair) 5 per month

(Good) 7 per month

(Excellent) 10 per month

Monitoring 1) Techniques used in the radio program include songs, socio dramas, poems, taped interviews, round tables, and stories. Due to this monitoring the team has posted a list of various Popular Communications techniques in the office to refer to while planning the show. New techniques can be added to the list as ideas arise.

Monitoring 2) Eleven different techniques were used during this period.

Monitoring 3) Testimonies and live interviews were added to the repertoire.

Evaluation for Monitoring 1-3: 1) Fair 2) Good / Excellent 3) Excellent

Indicator 7

The Radio Committee shares their popular communications methods / skills with other people.

Source of Information:

Log book, written show plan

Scale:

(Fair) 1 every 3 months

(Good) 1 every 2 months

(Excellent) 1 every month

Monitoring 1) Three new on the air people and one planning person have taken part in the show during this period.

Monitoring 2) There were two new participants in this period.

Monitoring 3) There were two new people involved in creating socio drama and a number involved in taped round table discussions.

Evaluation for Monitoring 1-3: 1)Excellent 2) Good/Excellent 3)Excellent

Indicator 8

The Radio Committee insures that voices from all of the communities are being heard in the radio program.

Source of Information:

Written show plan

Scale:

(Fair) 4 per month

(Good) 6 per month

(Excellent) 8 per month

Monitoring 1) The ability to include participation from all communities has been partly hindered by the current lack of an outboard motor for CAMP Lab to travel to other communities. Contributions have been used from seven communities during this period but most participation has come from Haulover and Pearl Lagoon.

Monitoring 2) Communities included were Marshal Point, Kakabila Awas, Rocky Point, Haulover, Pearl Lagoon.

Monitoring 3) Haulover, Pearl Lagoon, Awas and Rocky Point participated during this time period. The communal investigator did not have an opportunity to get input from elsewhere because of three weeks of travel to Canada and preparation for that travel.

Evaluation for Monitoring 1-3: 1) Fair 2) Fair/Good 3) Fair

Indicator 9

The Radio Committee organizes its own shows without support from CAMP-Lab staff.

Source of Information:

Eduardo's notes, Written show plan

Scale:

(Fair) 1 per month

(Good) 2 per month

(Excellent) 4 per month

Monitoring 1) This has not occurred.

Monitoring 2) Three radio shows were done without the presence of the communal investigator.

Monitoring 3) The Radio show was done by the committee alone on some occasions but they have not planned a show alone yet. Eduardo will be encouraging the committee to do this at least once a month from now on.

Evaluation for Monitoring 1-3: 1) None 2) Fair 3) Fair

Further Information

1) Monitoring Oct. 24th 2002

Changes

A lack of power in Pearl Lagoon for a five-week period meant that there was no radio show.

Bluefields' radio stations' signals have become weaker resulting in more people tuning in to the local station and increasing the number of listeners for our program.

A new participant in the program began copying the style of a Bluefields' station resulting in some complaints from the audience and other radio show participants.

Lessons and Future Plans

Imitation of the Bluefield's radio show has been stopped.

A decision was made to make a conscious effort to diversify the techniques used on the radio program by creating a checklist (posted in the office) of techniques, that can be consulted each week by the committee, and added to as new ideas are developed.

2) Monitoring Feb. 14th 2003 Changes

A Spanish language program has been started on Fridays in an effort to reach Mestizo communities.

More programs have come about as a result of people's questions and current events in Pearl Lagoon. Programs have dealt with issues such as, outsider's attempts to catch dolphins for an aquarium, outsider Mestizo communities that had been set up on the edge of the lagoon and the removal of farm animals from inside the community to reduce contamination. All of these issues have been rectified in the Pearl Lagoon basin.

Lessons and Future Plans

Eduardo will be traveling to Toronto to participate in a popular arts workshop. Efforts to find a funding source to continue the program past the project end date are ongoing.

3) Monitoring May 21st 2003 Changes

Radio Committee is increasingly able to do the show without the support of the communal investigator. This can at least partly be attributed to efforts to ensure the show's continuation in the absence of the communal investigator for three weeks during this period.

Also, the communal investigator has been out in the other communities on some broadcast days forcing the Radio Committee to do the program without support.

Lessons and Future Plans

There will be ongoing efforts to encourage independence in the Radio Committee by leaving them on their own once a month to produce a show.

Efforts to ensure the continuation of the radio program have been successful. The communal investigator's trip to Canada has lead to a partnership with

URACCAN to cover the costs of the CAMP-Lab radio program until at least until January 2004.

Students' and Schools' Progress Indicator Data
Data and Comments for Monitoring 1 (Oct. 24th 2002) , 2 Feb. (14th 2003) and 3 (May 21st 2003)

Indicator 1

High school students are involved environmental field work.

Source of Information:

School directors (Haulover, Pearl Lagoon, Orinoco)

Scale:

(Fair) every 3 months

(Good) every 2 months

(Excellent) every month

Evaluation for Monitoring 1-3: 1) None 2) None 3) None

Indicator 2

Schools save research done by local students about Pearl Lagoon in their library and it is accessible to other students.

Source of Information:

School Libraries

Scale:

(Fair) Some of this research is available in the school system.

(Good) All of this research is available in the school system.

(Excellent) All of this research is available in each school.

Evaluation for Monitoring 1-3: 1) None 2) None 3) None

Indicator 3

Students continue their education after high school.

Source of Information:

School Directors

Scale:

(Fair) 10%

(Good) 30%

(Excellent) 50%

Monitoring 1) Promotion (Graduation) takes place in November so we will be better able to answer this question in the next evaluation.

Monitoring 2) 13 students from Pearl Lagoon School 4 from Orinoco go to Post secondary 30 graduated from PL and 7 from Orinoco.

Monitoring 3) 13 students from Pearl Lagoon School 4 from Orinoco go to Post secondary 30 graduated from PL and 7 from Orinoco (Same Data as last).

Evaluation for Monitoring 1-3: 1) N/A 2) Good-Excellent 3) Good-Excellent

Indicator 4

Students return to do their thesis research in their community.

Source of Information:

Local universities, general knowledge

Scale:

% of Pearl Lagoon students working on thesis

(Fair) 25%

(Good) 50%

(Excellent) 100%

Monitoring 1) Of the six students from Pearl Lagoon currently working on their thesis three are doing their research in Pearl Lagoon. All of these students working in Pearl Lagoon have previous experience with CAMP-Lab.

Monitoring 2) Same

Monitoring 3) Same

Evaluation for Monitoring 1-3: 1) Good 2) Good 3) Good

Indicator 5

Teachers have adequate training to give environmental education.

Source of Information:

School Directors

Scale:

(Fair) Some teachers have some training.

(Good) Some teachers have good training

(Excellent) There are teachers with good training in each school

Monitoring 1) Some training was provided by DIPAL before their departure, but this was not considered adequate by the CAMP-Lab staff who attended.

Monitoring 2) Same

Monitoring 3) Same

Evaluation for Monitoring 1-3: 1) Fair 2) Fair 3) Fair

Indicator 6

Schools offer environmental education as a separate subject.

Source of Information:

School Curriculum

Scale:

(Fair) Some students are being exposed to environmental education.

(Good) Environmental education is being taught to upper year primary and secondary students.

(Excellent) Environmental education is being taught in all schools and grades.

Monitoring 1) Environmental education is being taught once weekly in the final year of high school in Pearl Lagoon by Oswaldo. Classes are occasionally given in Haulover and Pearl Lagoon Primary school by Eduardo and Oswaldo. In addition, CAMP-Lab committee members are beginning to give environmental classes in Orinoco and Brown Bank making use of the Awake publication.

Monitoring 2) No agreement possible with ministry because of the end of project funding however some special classes are given by the staff when requested and some teachers continue to use Awake as a resource for some environmental education.

Monitoring 3) Same as before.

Evaluation for Monitoring 1-3: 1)Fair/Good 2) Fair 3) Fair

Indicator 7

Schools maintain adequate libraries.

Source of Information:

Schools

Scale:

(Fair) There are libraries in some schools

(Good) There are libraries in all schools and they have significant content.

(Excellent) There are libraries in all schools they are well organized and they have good content

Monitoring 1) There are libraries in most schools but they are poorly organized, not well used, and inadequate.

Monitoring 2) Same.

Monitoring 3) The libraries are a little better due to projects like FODECA and Base Dos who provided some materials for school libraries.

Evaluation for Monitoring 1-3: 1) None/Fair 2) None/Fair 3) Fair

Indicator 8

Students return to work in communities after graduating university.

Source of Information:

General Knowledge

Scale:

Number of students

Monitoring 1) One student has completed her degree at URACCAN and is working with FADCANIC in Pearl Lagoon.

Monitoring 2) A second student is working along with a second NGO Carl Bro at least partially in the Pearl Lagoon area

Monitoring 3) The second student is now working on their thesis in another part of the region.

Evaluation for Monitoring 1-3: 1) 1 2) 2 3) 1

Further Information

1) Monitoring Oct. 24th 2002

Changes

Some environmental education is now beginning to be offered by CAMP-Lab committee members in schools that CAMP-Staff cannot visit regularly. This has been encouraged by the communal investigators

Lessons and Future Plans

The idea of making use of the CAMP-Lab newsletter Awake as a teaching aid for communal investigators has been helpful.

This effort to offer environmental education from CAMP-Lab committee members could be expanded to other communities.

3) Monitoring May 21st 2003

Changes

CAMP-Lab staff has been unable to continue work with schools because of end of project.

Lessons and Future Plans

There are significant financial barriers for children from communities without a secondary school to continue their education.

Communities Data Progress Indicator Data
Data and Comments for Monitoring 1 (Oct. 24th 2002) , 2 Feb. (14th 2003) and 3 (May 21st 2003)

Indicator 1

Community members rebel against actions that are not friendly to the environment, or natural resources.

Source of Information:

Inquiry during visits to communities

Scale:

Descriptive number of incidents per community

(Fair) Some actions taken.

(Good) More organized resistance.

(Excellent) Broad based organized resistance including lobbying of various levels of government.

Monitoring 1) A number of communities have engaged in efforts to prevent logging by outsiders on community land either through direct confrontation or the use of the police. There has also been action taken by various communities to limit sand mining in their communities

Monitoring 2) Broad based successful effort to prevent outsiders from capturing local dolphins for aquariums. Local opposition to shrimp farming without appropriate consultation and environmental analysis seems to have stopped the move towards the activity for now. Haulover and Pearl Lagoon people have successfully demanded that outsiders setting up houses on the edges of the Lagoon to support exploitation of lagoon fish leave the area.

Monitoring 3) Pearl Lagoon, Haulover and Rocky point have taken action against the destruction of the road by the company in Kukra (efforts to make it passable to trucks in the dry have made it impassable in the rainy). Action has been taken to prevent timber cutting by a group of Spaniards who have come to the region. Awas has been attempting to stop people from mining sand in their community.

Evaluation for Monitoring 1-3: 1) Fair 2) Good 3) Good

Indicator 2

Communal boards have systematic and open meetings in the communities.

Source of Information:

Inquiry during visits to communities

Scale:

(Fair) every 3 months

(Good) monthly

(Excellent) twice monthly

Monitoring 1)

Tasbapauni	one per month
Marshal Point	one per month
Orinoco	one per month
La Fe	no board
Brown Bank	one per month
Kakabila	one per month
Haulover	no board
Awas	less then one per month
Raitipura	less then one per month

Monitoring 2)

Tasbapauni	one per month
Marshal Point	one per month
Orinoco	one per month
La Fe	no board
Brown Bank	one per month
Kakabila	one per month
Haulover	no board
Awas	less then one per month
Raitipura	less then one per month

Monitoring 3)

Tasbapauni	one per month
Marshal Point	one per month
Orinoco	one per month
La Fe	no board
Brown Bank	one per month
Kakabila	one per month
Haulover	no board
Awas	less then one per month
Raitipura	less then one per month

Evaluation for Monitoring 1-3: 1) Fair – Good 2) Fair – Good 3) Fair – Good

Indicator 3

Communal boards coordinate their efforts with other institution working in the area.

Source of Information:

Inquiry during visits to communities

Scale:

As a percentage of institutions working in the community

(Fair) 50 %

(Good) 75%

(Excellent) 100%

Monitoring 1) All of the boards coordinate with the other institutions working in Pearl Lagoon. Orinoco developed a consejo consultivo to work with and coordinate the efforts of the different institutions working in their community.

Monitoring 2) Same as above however Haulover currently has no board.

Monitoring 3) Same as above.

Evaluation for Monitoring 1-3: 1) Excellent 2) Excellent 3) Excellent

Indicator 4

Communities establish and carrying out regulation and activities to protect and enhance their environment and natural resources.

Source of Information:

Inquiry during visits to communities

Scale:

Descriptive and # of incidence per community

(Fair) Basic activities (ex. town cleaning)

(Good) Some more complex activities and efforts at regulation.

(Excellent) Development and enforcement of regulations and more complex activities.

Monitoring 1) All other communities were engaged in community cleaning. Kakabila also made efforts to trail (demarcate) its land to protect it from incursions from outside. Discussions in Tasbapauni about a local lobster veda (closed season).

Monitoring 2) All communities were engaged in community cleaning. Kakabila also made efforts to develop a nursery for medicinal plants and they are cleaning a beach area for tourism. All of the communities are at various stages of eliminating animals from inside the communities to improve well water and local health.

Monitoring 3) All of the communities engaged in community cleaning. Kakabila is working on a medicinal plant nursery, La Fe has been working on a nursery, and Awas is attempting to get money for a breakwater.

Evaluation for Monitoring 1-3: 1) Fair-Good 2) Fair-Good 3) Fair-Good

Indicator 5

Fishers avoid the use of environmentally harmful gear.

Source of Information:

Inquiry during visits to communities

Scale:

(Fair) Majority of people do not use these gears.

(Good) Majority of people do not use these gears and efforts are made at enforcing others compliance.

(Excellent) No community members use these gears.

Monitoring 1) All communities visited claim that they use regulation size gill net and do not trawl in the lagoon. However, they do say that some people from other communities trawl and that there are efforts to prevent it.

Monitoring 2) Same

Monitoring 3) Same

Evaluation for Monitoring 1-3: 1) Good 2) Good 3) Good

Indicator 6

Farmers limit their use of chemical products.

Source of Information:

Inquiry during visits to communities

Scale:

(Fair) Majority of people do not use chemicals.

(Good) Majority of people do not use chemicals and efforts are made to encourage others compliance.

(Excellent) No community members use chemicals.

Monitoring 1) Use of herbicides and pesticides is fairly limited. Some herbicide was used in Brown Bank to try to kill problematic grass near the health center. In many cases local bush medicine was used for problems like ants.

Monitoring 2) Use of chemical herbicides and pesticides is fairly limited at least partly due to lack of access.

Monitoring 3) Same.

Evaluation for Monitoring 1-3: 1) Good 2) Good 3) Good

Indicator 7

The communities create, respect, and protect reserve forest areas.

Source of Information:

General Knowledge/ Inquiry during community visits

Scale:

(Fair) Communities have reserve forest area

(Good) Efforts are made to enforce reserve area

(Excellent) Efforts to enforce reserve area are effective

Monitoring 1) There was a reserve forests established in Haulover (including pine and latifolia forest) and Kakabila (latifolia forest). There have been problems with some farming in the Haulover reserve area which are being addressed through the communal boards and Alcaldia.

Monitoring 2) Same

Monitoring 3) Some people in Kakabila have established privately controlled reserves forest areas.

Evaluation for Monitoring 1-3: 1) Good 2) Good 3) Good

Indicator 8

Intercommunity committees work to solve conflicts between communities.

Source of Information:

Inquiry during visits to communities

Scale:

Incidents of inter community meetings to solve conflict and description of outcomes.

(Fair) There is occasionally an inter community meetings to address conflicts

(Good) There is an intercommunity board that meets occasionally to address conflicts

(Excellent) There is an intercommunity board that meets regularly and is effective in solving conflicts

Monitoring 1) Not at present

Monitoring 2) Not at present

Monitoring 3) Not at present

Evaluation for Monitoring 1-3: 1) None 2) None 3) None

Indicator 9

Communal boards have consistent and transparent reporting about board projects and finances (if applicable).

Source of Information:

Inquiry during visits to communities

Scale:

(Fair) Average Reporting every 6 months

(Good) Average Reporting every 3 months

(Excellent) Average Reporting monthly

Monitoring 1)

Haulover	no board
Raitipura	no money
Awas	no money
Tasbapauni	monthly posted reports
Marshal Point	no money / no current projects
Orinoco	Finances not transparent
La Fe	no money / no current projects
Brown Bank	Are keeping detailed records
Kakabila	Town meetings to decide on use of money secretary keeps budget records

Monitoring 2)

Haulover	no board
Raitipura	no money
Awas	no money
Tasbapauni	monthly posted reports
Marshal Point	no money / no current projects
Orinoco	Finances not transparent
La Fe	no money / no current projects
Brown Bank	Are keeping detailed records
Kakabila	Town meetings to decide on use of money secretary keeps budget records

Monitoring 3)

Haulover	no board
----------	----------

Raitipura	no money
Awas	no money
Tasbapauni	monthly posted reports
Marshal Point	no money / no current projects
Orinoco	finances not transparent
La Fe	no money / no current projects
Brown Bank	keeping detailed open records
Kakabila	town meetings are held to decide on use of money secretary keeps budget records

Evaluation for Monitoring 1-3: 1) Good 2) Good 3) Good

Indicator 10

Communal board budgets are made using methods that include active participation by the broader community.

Source of Information:

Inquiry during visits to communities

Scale:

(F) 0>

(G) 50%

(E) 100%

Monitoring 1)

Tasbapauni	yes
Marshal Point	no
Orinoco	no
La Fe	no money
Brown Bank	yes
Kakabila	yes
Haulover	no
Awas	no money
Raitipura	no money

Monitoring 2)

Tasbapauni	yes
Marshal Point	no
Orinoco	no
La Fe	no money
Brown Bank	yes
Kakabila	yes
Haulover	no board
Awas	no money

Raitipura no money

Monitoring 3)

Tasbapauni	no
Marshal Point	no money
Orinoco	no
La Fe	no money
Brown Bank	yes
Kakabila	yes
Haulover	no board
Awas	no money
Raitipura	no money

Evaluation for Monitoring 1-3: 1) Fair 2) Fair 3) Fair

Further Information

**2) Monitoring Feb. 14th 2003
Changes**

The move towards shrimp farming in Pearl Lagoon has slowed and possibly stopped. This is at least partially the result of CAMP-Labs seminar on shrimp farming.

There was move by the municipal government to eliminate farm animals from the communities to improve sanitary conditions. CAMP-Lab's water monitoring may have contributed to this change.

Lessons and Future Plans

We will look for other issues and opportunities similar to that of shrimp farming.

**3) Monitoring May 21st 2003
Changes**

National Demarcation law has forced communities to begin to organize as communal boards are supposed to be the central actors in this process.

As a result Pearl Lagoon has conducted a process to form a new board and Haulover is beginning a similar process as well.

Lessons and Future Plans

Appendix K

Strategy Journals October 24th Monitoring

Strategy Journal # 1

Description of Strategy

A two day Shrimp farming seminar held Oct 21-22.

This event was funded by ASDI and organized by CAMP-Lab. It involved participants from all Pearl Lagoon Communities, MARENA, Mede Pesca, Regional Council, Alcaldía (including mayor and vice mayor) and Local Universities (URACCAN, BICU). Facilitators for the event were from CAMP-Lab, York University, URACCAN, UCA.

How did the strategy influence our partners?

The event caused increased discussion around the issue of shrimp farming and increased local awareness of the impacts of shrimp farming.

Community members present demanded the right to be involved in any decision regarding future shrimp farming in the area.

What outputs are there?

The issue was discussed at length on local radio programs.

Local authorities and businesses interested in shrimp farming will likely be forced to take a slower and more cautious approach if they still intend to go ahead with shrimp farming.

The Alcalde and vice Alcalde made public promises to consult the people on any potential shrimp farming activity in the area.

What follow up should we do?

In order to increase the number of people with access to this information about shrimp farming the following actions will be taken.

Future radio programs on the local radio station to further expand local knowledge on the subject.

The memoria from the seminar and other resources about shrimp farming should be included in the next CAMP-Lab news letter (Awake).

The materials from the seminar should be presented in CAMP-Lab committee meetings in each community.

Follow up seminars will be developed on the topic in the future.

What did we learn and how can we use this information?

We have the ability to obtain funds from outside the project for activities like this.

Our influence in terms of local conflict resolution is strong.

We have increased confidence and respect from both authorities (who sponsored the event) and community people.

Mar Caribe (the business most interested in shrimp farming) left the event angry in the first half hour. This angered most participants who thought they should stay and defend their plans if they believed they were good.

Strategy Journal # 2

Description of Strategy

A weekly radio program. "Living in Progress with our Natural Resources". This program is facilitated by CAMP-Lab staff and carried out by the "Radio Committee".

How did the strategy influence our partners?

The program creates discussion in the communities around the issues that are covered by the programs.

More people want to be involved by being on the radio.

People directly involved in the radio program are developing skills related to radio program production.

Another person involved with CAMP-lab has begun his own radio program twice weekly focused on the environment.

The program encourages people to make claims related to the communities' natural resources.

What outputs are there?

A weekly radio program when the radio is functioning.

The program provides “a voice for those who don’t have voice” (Eduardo Tinkam) (a way for people to express their ideas throughout the basin).

What follow up should we do?

Continue weekly meetings of Radio Committee.

Attempt to involve more communities in broadcasts.

Look for ways of sustaining the show past the end of the project.

Develop a Spanish language program for Mestizo listeners.

What did we learn and how can we use this information?

New techniques for using the radio have been adopted.

Community people have provided an excellent source of information and material for use on the radio.

People are willing to do things like the radio program in an effort to protect their rights to resources.

Strategy Journal # 3

Description of Strategy

Newsletter every 3-4 months called “Awake”.

The news letter is created by CAMP-Lab using methods of popular communication.

How did the strategy influence our partners?

The newsletter provides an opportunity for people to read about their own reality in their own language.

It has stimulated people and students in particular to read more.

People contribute to the production of the newsletter through writing, poetry, or art.

It has provided a way of finding, exposing and fostering community people’s talents.

What outputs are there?

A Creole language newsletter is published every 3 or 4 months.

The newsletter provides a resource for use in the schools especially for environmental education.

What follow up should we do?

Look for ways of continuing past the end of the current funding.

Find out more detailed information about who is reading the newsletter.

Look for ways of increasing community involvement in production and contribution of material.

What did we learn and how can we use this information?

We have an increased comfort with criticism in the editorial process.

We have begun crossing over material with the radio program in order to strengthen the content of both.

We have improved our knowledge of what type of materials most interest people.

Strategy Journal # 4

Description of Strategy

Environmental Education

Occasional classes are given in the senior years of primary school in Pearl Lagoon and Haulover.

Regular weekly 2 hour classes are given in the final year of high school in Pearl Lagoon.

There are efforts by CAMP-Lab committee members to give environmental education in communities (Orinoco) that are not regularly accessible to CAMP-Lab staff.

How did the strategy influence our partners?

The strategy has raised environmental consciousness of youth in the communities.

Students often choose to write their essays on topics related to the environment.

The strategy exposes teachers to the more active teaching methodology used by the communal investigators.

The strategy creates interest in further studies that may lead to some students continuing past secondary school.

What outputs are there?

Environmental education in the schools

There is increased interest and knowledge of environmental issues among the youth of the communities.

What follow up should we do?

Follow up on teaching efforts of Orinoco CAMP-Lab committee.

Encourage CAMP-Lab committee members to assist with environmental education in other communities that CAMP-Lab staff cannot get to regularly.

Promote the use of the newsletter as a teaching resource for these efforts.

What did we learn and how can we use this information?

Strategy Journal # 5

Description of Strategy

A workshop was given to the communal board of Tasbapauni.

This workshop was provided at the request of the communal board and covered themes of finance control, leadership, organization, and work planning. Expenses were partly covered by the Tasbapauni communal board.

How did the strategy influence our partners?

The workshops lead to increased planning and efforts to control finances by the Tasbapauni communal board.

What outputs are there?

The Tasbapauni communal board has requested more workshops in the future with emphasis on the themes of conflict resolution, elaboration of small projects, and review of finance control.

What follow up should we do?

Future workshops that are requested by the community should be offered.

What did we learn and how can we use this information?

Communities are having increased confidence and trust in us as an organization.

Strategy Journal # 6

Description of Strategy

Annual forest monitoring in Hunting Road.

How did the strategy influence our partners?

Haulover committee has an increased ability to conduct monitoring without assistance.

What outputs are there?

Monitoring results have been gather for the transect over a three year period.

What follow up should we do?

Continued monitoring.

What did we learn and how can we use this information?

Loss of some tags in the transect indicates a need to further communicate with the community the location and purpose of the transect.

Strategy Journal # 7

Description of Strategy

Office open and staffed

How did the strategy influence our partners?

What outputs are there?

The office provides access to the library for students and help from the staff on researching assignments.

CAMP-Lab Staff are available to local community for discussion on environmental issues.

CAMP-Lab staff is available to answer questions from outsiders.

What follow up should we do?

Continue

What did we learn and how can we use this information?

Discussions with community people in this context gave rise to the idea of a seminar on shrimp farming.

Strategy Journal # 8

Description of Strategy

Well water monitoring in the communities of Kakabila and Awas

How did the strategy influence our partners?

Students learn techniques for water monitoring.

What outputs are there?

Recommendations are given for well water based on the findings.
One sample was spoiled.

What follow up should we do?

Lack of energy in Pearl Lagoon combined with need to keep materials refrigerated makes this process difficult.

What did we learn and how can we use this information?

Strategy Journals February 14th Monitoring

Strategy Journal # 1

Description of Strategy

Individual staff travel to the communities of Kakabila and Brown Bank to strengthen these CAMP-Lab Committees.

How did the strategy influence our partners?

Staff helped with planning and provided information on environmental issues.

What outputs are there?

Kakabila -efforts to create a nursery for medicinal plants is underway
-cleaning of the community and the lagoon edge in an effort to create a destination for the Easter holiday and raise money for CAMP-Lab committee

Brown Bank -organizing for more regular meetings and the planning of activities
 -reestablishment of a fund for the CAMP-Lab committee

What follow up should we do?

Check Progress

Continue with follow up visits

What did we learn and how can we use this information?

- in Kakabila problems with leadership were identified and a group was formed to help motivate and support the CAMP-Lab committee president.
- People have the ability to develop a good plan if given enough time.

Strategy Journal # 2

Description of Strategy

Efforts to develop Management plan sanctions based on the community consultations.

How did the strategy influence our partners?

This should increase the communities' ownership of any ordinance and provide a greater degree of validity to it in their eyes.

What outputs are there?

A summary document that outlines sanction ideas

What follow up should we do?

Follow up efforts related to creating ordinances with the alcaldía.

What did we learn and how can we use this information?

There is a constant process of readjustment and change needed for management plans based on shifting ideas and opinions related to the current circumstances. As a result, there is a need for an open and ongoing process that accommodates this.

Strategy Journal # 3

Description of Strategy

Radio Program

How did the strategy influence our partners?

The Radio program:

- Created greater awareness of CAMP-lab activities.
- Created greater awareness and understanding of the management plan norms.
- Provided an opportunity for local people to voice their uneasiness to a broader audience.
- Developed interview and other skills for radio program participants.

What outputs are there?

The issue of outsiders attempting to capture Dolphins for an aquarium was discussed on the program and this activity was then stopped.

There has been continuing skills development in the Radio Committee members.

A weekly Spanish language program has been started by CAMP Lab with help from other local radio personalities aimed at explaining environmental issues to this constituency.

Two radio program participants were offered jobs as hosts of youth centered program. They did not accept because of their studies.

The radio program participants have become interested in studying communication at the local University.

What follow up should we do?

Work on improving the number of participants in the Radio Committee. Occasionally provide refreshment as incentive for new participation.

What did we learn and how can we use this information?

Strategy Journal # 4

Description of Strategy

Mestizo Program weekly on Friday 5-6 pm

This is a social rather than popular communications effort. The program focuses on themes related to the environment, demarcation and local history.

How did the strategy influence our partners?

What outputs are there?

Survey by the radio station indicates that this is the most popular Spanish language program among Mestizos.

What follow up should we do?

-Need to involve more people in the on air production so that it can continue in the absence of the current participants.

-Request feedback from other institutions working in the area.

-Integrate some of the popular communications methods used in the other program such as the use of local poetry.

What did we learn and how can we use this information?

Strategy Journal #5

Description of Strategy

Environmental Education in Pearl Lagoon high school.

How did the strategy influence our partners?

Provided environmental education to senior high school students

Created interest in environmental issues and continued studies in this area among some students.

What outputs are there?

Students are interested in studying environment related fields at the universities

What follow up should we do?

Effort is ending because of uncertainty about camps future and the resulting inability to commit for a full school year.

Encourage the use of the Awake newsletter as a resource for environmental education.

Provide occasional informal support in environmental education for teachers upon request.

What did we learn and how can we use this information?

Strategy Journal # 6

Description of Strategy

Forest Monitoring in Pine Ridge, Pinal, Gunpoint

How did the strategy influence our partners?

Kakabila has become very protective of their transect.

The Gunpoint transect area was cleared for farming due to a misunderstanding in the community.

What outputs are there?

Forest monitoring data from remaining transects.

What follow up should we do?

Begin monitoring reforested areas.

What did we learn and how can we use this information?

More technical assistance is needed for reforestation because of problems with replanting efforts.

We need to make more broadly known and understood the transect areas and their purpose.

Strategy Journal # 7

Description of Strategy

Monitoring of drinking water

How did the strategy influence our partners?

Provides information about which wells have problems so that people can use alternative sources or treat the water appropriately.

There is movement supported by a municipal ordinance to remove farm animals from within the communities for hygiene reasons that can be partly attributed to this monitoring.

What outputs are there?

General information about the quality of water in various wells is made available to the community.

What follow up should we do?

Create a checklist for proper water monitoring methodology.

Follow up monitoring at the beginning of the rainy season to contrast it with the dry.

Provide information to the health authorities.

What did we learn and how can we use this information?

Strategy Journals May 21st Monitoring

Strategy Journal # 1

Description of Strategy

Intensive Multi day visits to communities to strengthen and organize CAMP-Lab committee's. Eduardo visited Kakabila twice for three days. Oswaldo spent two days in each of Tasbapauni, Orinoco and Brown Bank.

How did the strategy influence our partners?

These activities served to strengthen the committees. It allowed multiple meetings in a short space of time as well as opportunities to reconnect with people through informal discussions and participation in daily life. It also provided a useful opportunity to both disseminate and collect information.

What outputs are there?

This activity helped the groups reflect on their activities and see the need for more organization. It served to increase these communities' confidence in CAMP-Lab and reestablished / reviewed what the role of the committee's should be. It also helped to move some committees focus more towards environmental issues and less towards concern with money and sports activities that were gradually becoming the focus.

What follow up should we do?

Ideally this type of activity should continue but the end of current funding makes this at least temporarily unlikely. Some encouragement and follow up will be done using the radio show. Also the FADCANIC projects working in the area will be working along with CAMP-Lab committee's giving them encouragement.

What did we learn and how can we use this information?

The extra effort of occasional extended trips to the field is an effective method of strengthening local CAMP-Lab committee's.

Strategy Journal # 2

Description of Strategy

Encouraging FADCANIC to make use of CAMP-Lab Committees for their activities in Pearl Lagoon communities.

How did the strategy influence our partners?

This strategy provides more support and environment related activities for CAMP-Lab Committees while also providing FADCANIC with an organizational structure to work with in each community. It also will provide continued support

for CAMP-Lab Committees beyond the current funding available to CAMP-Lab as an organization.

What outputs are there?

FADCANIC has small amounts of funding available to support locally designed and implement projects related to the environment. As a result CAMP-Lab committee's have been able to access these funds to help with projects like the creation of nurseries and improvements to the recreational value of Fine Pine wood (reserve forest area).

What follow up should we do?

There should be increased communication between CAMP-Lab staff and FADCANIC staff to help better streamline this collaboration. In addition, these activities should be discussed on in the radio programs.

What did we learn and how can we use this information?

It is helpful to coordinate with other institution as it serves to strengthen the activities of both, and is more economical both in terms of money and staff time. It also prevents non productive jealousies and rivalries between the organizations working in the area.

Strategy Journal # 3

Description of Strategy

Approached ASDI (a Swedish NGO working to strengthen Municipal government) to assist with the conversion of CAMP-Lab's management plan into a municipal ordinance. With ASDI's support CAMP-Lab funded (organized transport etc. for councilors to attend) a special meeting of the municipal council to review and vote on the ordinance.

How did the strategy influence our partners?

The municipal ordinance was passed by council which was very encouraging to CAMP-Lab Committees who had been waiting a long time for the plan to be legalized.

What outputs are there?

CAMP-Lab's management plan is now municipal law which also gives it standing at the national level because of the national level laws governing the rights and duties of municipalities.

What follow up should we do?

A second municipal ordinance including sanctions needs to be developed. The plan also will be reviewed on the radio and directly in the communities to help begin putting it into effect.

What did we learn and how can we use this information?

Partnering with other institutions such as ASDI with strong ties to certain levels of government can help move government processes forward.

Strategy Journal # 4

Description of Strategy

Continuation of the Radio Program

How did the strategy influence our partners?

There has been a problem with jealousy between the Radio Committee and the Haulover CAMP-Lab committee that has lead to a lack of effort and motivation in the CAMP-Lab committee.

What outputs are there?

Weekly radio programs

What follow up should we do?

Efforts are underway to minimize this problem by encouraging crossover between groups.

What did we learn and how can we use this information?

Strategy Journal # 5

Description of Strategy

Mestizo radio program broadcasting weekly that is designed to reach Mestizo communities in the river areas.

How did the strategy influence our partners?

What outputs are there?

This program has had a role in creating understanding and debate around issues such as upcoming land demarcation and issues related to electricity in the municipality.

What follow up should we do?

Continue with program.

What did we learn and how can we use this information?

The apparent popularity of this program indicates that it may be an effective way of reaching the Mestizo communities.

Strategy Journal # 6

Description of Strategy

Preparation for the end of funding to CAMP-Lab.

Arrange for FADCANIC to use and maintain CAMP-Lab buildings.

Arrange Passover of equipment like Panga and water testing gear to Haulover Health committee.

Arrange for Accione Medica to continue water testing activities.

Arrange with URACAAN to fund the cost of continuing the radio programs.

How did the strategy influence our partners?

This strategy makes CAMP-Lab Committees and the communities aware of the projects likely end and allows them to prepare to continue some of the efforts initiated by the project.

What outputs are there?

These measures should maintain some of CAMP-labs activities and maintain the viability CAMP-Labs equipment and facilities.

What follow up should we do?

What did we learn and how can we use this information?

Strategy Journal # 7

Description of Strategy

Continuation of the news letter.

How did the strategy influence our partners?

What outputs are there?

There is currently a number of articles prepared for a final news letter but no funding available for publication.

What follow up should we do?

Efforts are underway to have more people write for the news letter and to find funding to continue producing it in some form.

What did we learn and how can we use this information?

Appendix L

Performance Journals October 24th Monitoring

1) Looking for new ideas

Activities

Shrimp Farming seminar idea came from interest of community members.

Lessons Learned

We have the ability to successfully seek funds for activities from other organizations on the coast.

Future Plans

Follow up by passing information to CAMP-Lab Committees.

Possibility of future seminars

2) Getting feedback from key people

Activities

Increased communication with the alcaldía both in organizing the shrimp farming seminar and in future efforts to turn parts of the management plan into municipal ordinance.

Lessons Learned

Future Plans

Continue fostering this improved communication.

3) Obtaining support from our bosses

Activities

Asked for and received support from UCA for the shrimp farming seminar in the form of one of their experts to participate. His expenses were covered by the UCA.

Lessons Learned

Under the right circumstances UCA has useful resources we can access.

Future Plans

4) Reviewing and improving our activities

Activities

Outcome mapping

Lessons Learned

Has given rise to new ideas and strategies for our activities.

Future Plans

Continue

5) Strengthening and protecting what we have already done

Activities

Lessons Learned

Future Plans

CAMP-Lab staff trying to work with the alcaldía on turning parts of the management plan into municipal ordinance.
Begin looking for future funding.

6) Sharing what we learn with the world

Activities

Production of news letter Awake and memorias from our other activities

Lessons Learned

Future Plans

7) Trying new things

Activities

Staff and Haulover committee began trying to work with Monica on sea grass monitoring activities and keystone species monitoring.

Lessons Learned

Future Plans

8) Thinking about our way of organizing to improve it

Activities

Lessons Learned

Future Plans

Performance Journals February 14th Monitoring

1) Looking for new ideas

Activities

Lessons Learned

Future Plans

2) Getting feedback from key people

Activities

- a) Sought feedback from CAMP-Lab Committees.
- b) Feedback regarding the popular communications components was given by Deborah Barndt during her visit to Haulover.

Lessons Learned

- a) Need more time in the communities.

Future Plans

- a) Attempt to spend more time in the communities.
- b) Eduardo will be attending a workshop in Canada organized by Deborah.

3) Obtaining support from our bosses

Activities

- a) Monthly reporting to CIDCA
- b) First OM evaluation given to CIDCA.

Lessons Learned

No response or comment has been received from CIDCA on either report.

Future Plans

Continue

4) Reviewing and improving our activities

Activities

- a) Evaluation of water monitoring activities
- b) Outcome Mapping

Lessons Learned

- a) Located problems in our methods.

Future Plans

- a) Developed check list for good water monitoring practice.
- b) Continue

5) Strengthening and protecting what we have already done.

Activities

- a) Looking for funding to continue radio program.

- b) Brainstorming for new news letter ideas.
- c) Attempting to work with the Alcaldía on creating municipal ordinance for the management plan.
- d) Consulting with the communities to create sanctions for the management plan.

Lessons Learned

Future Plans

- a) Continue searching for funding for the radio program possibly through URACCAN.
- c) Continue efforts to turn the management plan into a municipal ordinance
- d) Attempt to integrate these sanctions into a municipal ordinance.

6) Sharing what we learn with the world

Activities

- a) News letter.
- b) Oswaldo presented information about CAMP-Lab at a conference at the UCA.

Lessons Learned

Future Plans

Eduardo will travel to Canada for a conference where he will be sharing his experience with CAMP-Lab.

7) Trying new things

Activities

Oswaldo began producing a Mestizo radio program.

Lessons Learned

The radio program is very popular with Mestizos.

Future Plans

Continue

8) Thinking about our way of organizing to improve it

Activities

Lessons Learned

Future Plans

Performance Journals May 21st Monitoring

1) Looking for new ideas

Activities

- a) Eduardo travel to Canada to participate in popular arts conference.
- b) Evaluation activities with each CAMP-Lab Committee.

Lessons Learned

Future Plans

2) Getting feedback from key people

Activities

We made effort to get feedback from CAMP-Lab Committees about our performance.

Lessons Learned

Future Plans

3) Obtaining support from our bosses

Activities

- a) CAMP-Lab is working with Alvaro Rivas to find funding for the continued publication of Awake.
- b) Communications with CIDCA have been limited due to lack of time in spent in the south by the CIDCA director.

Lessons Learned

- a) Alvaro has an interest in seeing Awake continue and is attempting to help find funding.

Future Plans

4) Reviewing and improving our activities

Activities

- a) Spending more time with each CAMP-Lab committee
- b) Improving water monitoring activities through better instructions

Lessons Learned

- a) Some CAMP-Lab Committees responded very positively to an intense CAMP-Lab staff presence for a short amount of time to help them organize their activities.
- b) Flaws were located in the monitoring process and step by step instructions have been posted in the Lab office to prevent the mistake in the future.

Future Plans

Continue

5) Strengthening and protecting what we have already done

Activities

- a) Ensuring the continuation of the radio program and water monitoring past the end of project funding through agreements with URACCAN and Accione Medica respectively.
- b) Linking activities with FADCANIC to continue some support of CAMP-Lab Committees past the end of project funding.
- d) Planning to provide volunteer support for the radio programs after the end of project funding.

Lessons Learned

Future Plans

Continue efforts to preserve CAMP-Lab activities past the end of current funding.

6) Sharing what we learn with the world

Activities

Eduardo participated in popular arts conference in Canada.

Lessons Learned

Popular communication methods can be applied anywhere.

Future Plans

Follow up with contacts made during the conference.

7) Trying new things

Activities

Working through ASDI to get the management plan passed as a municipal ordinance.

Lessons Learned

Teaming with ASDI has proved to be a very effective strategy.

Partnership was possible with ASDI partially because they also required our help to push their ordinance through.

Future Plans

We may undertake similar efforts in the future with a second ordinance that includes sanctions.

8) Thinking about our way of organizing to improve it

Activities

We are trying to adapt to a future without CAMP-Lab funding, including locating institutions willing to assist with certain CAMP-Lab activities.

Lessons Learned

Future Plans

Continue these efforts

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