

CERMES Technical Report N° 5

# **Reforming Governance: Coastal Resources Co-management in Central America and the Caribbean**

## **Final Report of the Coastal Resources Co-management Project (CORECOMP)**

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# **1. THE PROJECT**

## **1.1 Background**

This project arose from the observation, supported by previous studies, that the need to reform coastal resource governance in the countries of Central America and the Caribbean (CAC) is urgent. This applies particularly to small-scale fisheries (SSF) and marine protected areas (MPA) with their associated natural habitats and human socio-economic processes that comprise social-ecological systems. The fisheries of the CAC region are heterogeneous, including a wide variety of types, ranges, vessels, gears, problems and approaches to management and development.

Many of the fisheries are fully exploited or overexploited. In particular, nearshore demersal and coral reef fishes, conch and lobster, and coastal pelagics on which many of the fishers in the region depend for their livelihoods. Their livelihoods are threatened by resource overexploitation and environmental and habitat degradation. In addition, tourism and coastal development have increased conflict among various coastal and marine resource users. The result of these conflicts is that the biological sustainability of fishery and other marine resources are being systematically undermined, the norms of equity are being violated, and economic efficiency reduced.

Coastal resource policies in the CAC region have primarily emphasized development without concomitant conservation and management measures. Only a few countries in the region have active integrated coastal management programmes. Most countries have weak legislation and no active fisheries management plans. Regulatory monitoring and surveillance systems have been inadequately instituted and have not been effective in managing resources. Typically, resource users have not been much involved in planning and implementing such systems, and insufficient management capacity has been allocated or built for implementation.

Centralized, top-down management has been widely criticized as a primary reason for the overexploitation of fisheries and other coastal resources globally and in the region, although resource users have contributed by doing little to monitor and police themselves. Bureaucrats and professionals are the main resource managers as resource users are marginalised by technical and scientific approaches to management. A centralized management approach involves little effective consultation with resource users and is often not suited to the conditions of small developing countries in the region. Many of the countries have limited financial means or technical capacities to manage coastal resources using conventional approaches. Command-and-control approaches (relying on various technical, input and output control regulations), which have conventionally been used to manage fisheries, are being seen by an increasing number of stakeholders to be outdated and inadequate for resolving the increasingly people-centred problems in fisheries.

Co-management, as a process of participation, empowerment, power sharing, dialogue, conflict management and knowledge generation, holds potential for the region as an alternative coastal resource management strategy and as a solution to these problems. Co-management will, however, involve the establishment of new organisations, institutional arrangements, laws and policies to support decentralization of governance, partnerships for management and stakeholder participation in management.

## **1.2 Goal and objectives**

The goal of this project was to promote sustainable development of fisheries and other coastal

resources, and to enhance food security and livelihoods of those who depend upon these resources, in the Central American and Caribbean region, through improved governance. The intermediate objective of the project was to develop information, strategies and policies for coastal resources governance reform in the Central American and Caribbean region through co-management. See Appendix 1 for the full proposal. Specific-objectives included:

- 1) The implementation of co-management pilot projects at selected sites;
- 2) Capacity building and institutional strengthening of the major partners in co-management, including government, fishers and non-governmental organisations; and
- 3) The development of strategies, processes and policies for implementation of co-management in the region.

The project aimed to demonstrate co-management as a viable alternative management strategy under varying conditions in the CAC region using a “learning portfolio” approach. General principles and conditions that facilitate successful fisheries co-management were identified and documented at both national government and community levels through evaluation and learning across pilot sites within the portfolio. While co-management may not be a viable alternative management strategy for all countries and communities, the project sought to establish under which conditions it can be a sustainable, equitable and efficient management strategy, and to recommend how it can be successfully implemented. Policy-level frameworks, strategies and processes for implementing co-management from national to community levels were developed for consideration in the region. Stakeholders in several countries have taken action at both the national and community levels to implement co-management strategies.

### **1.3 Funding**

Funds (US\$200,000) were provided by the Oak Foundation to the Centre for Resource Management and Environmental Studies (CERMES) at the University of the West Indies Cave Hill Campus to implement the project. The initial duration was from 2002 to 2004, but two no-cost extensions were granted, extending it to mid-2006. The two principal co-investigators were Dr. Patrick McConney of CERMES and Dr. Robert Pomeroy from the University of Connecticut-Avery Point in the USA. The former also served as project manager for CERMES.

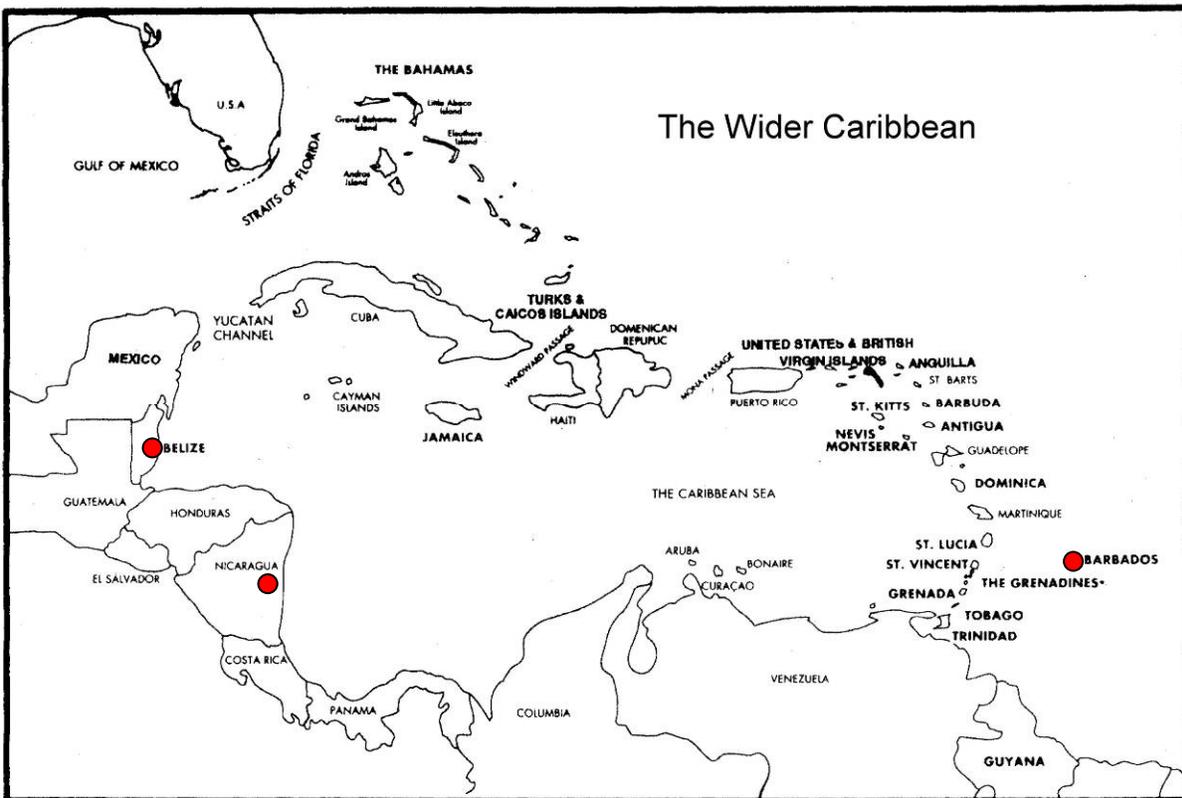
Adding value to the core funds from the Oak Foundation, were counterpart funds obtained from a number of sources as a condition of the grant. Among them was complementary funding from the Lighthouse Foundation in Germany; US National Oceanic and Atmospheric Administration (NOAA); and UK Department for International Development (DFID). Through these funds more activities and locations were added to the project which later broadened to include Jamaica and the Grenadines Islands.

### **1.4 Implementation**

There can be no single (one-size-fits-all) model of co-management for the region. Each situation is unique and requires the development of plans, institutions and organisational arrangements that meet the conditions of that site and that country. Within Central America and the Caribbean, focus countries for project fieldwork were Belize, Barbados and Nicaragua. This selection helped to determine if co-management can be a viable management strategy under varying conditions (e.g. political, social, economic, cultural, biophysical and technological). Implementation of co-management has four main integrated components: 1) resource management, 2) community and

economic development, 3) capacity building, and 4) institutional support. It emphasises giving people the skills and power to solve their own problems and meet their own needs from both individual and collective perspectives. The amount of responsibility and authority that the state-level and various local levels have in a co-management arrangement will differ, depending upon country and site-specific conditions.

The modes of implementation differed by location and were tailored to meet the needs of project partners (see next section). In summary, workshops were held to plan the country activities and to implement various aspects of capacity building and institutional strengthening. They included strategic planning, a variety of technical topics and reviews of situations for institutional learning. The pilot projects included fieldwork such as surveys and the establishment of groups. Studies were undertaken and participants attended regional conferences, particularly the annual meetings of the Gulf and Caribbean Fisheries Institute (GCFI). The latter provided regular forums for information exchange among participants and with the rest of the region. Project communications also included a new series of policy briefs, *CERMES Policy Perspectives*, which conveyed findings and recommendations on policy, strategies and processes.



## 1.5 Partnerships

The project was conducted in partnership with non-governmental organisations (NGOs), research institutions, government agencies, resource user groups and individuals in each country. Partnership was a key implementation strategy of this project. The principal investigators provided leadership, coordination and technical assistance in the project, but national-level and community-level activities were conducted by and with the partners. The partnership

arrangement ensured that the capacity of the partners was increased; that local conditions were recognized and included in all aspects of the project's activities; that project results were owned from the start of the project by the national partners; and that policy recommendations were developed with input from local organisations. In Appendix 2 is a list of our major partners and the activities or events in which they were involved.

## **1.6 Organisation of report**

Chapter 2 contains articles submitted by the major project partners and participants describing their co-management experiences within and beyond CORECOMP, and their outlook on the future of coastal resource co-management in the Caribbean. The next chapter sets out the views of the principal researchers on the lessons from the project on learning and adapting within the wider context of reforming governance. The final chapter contains conclusions drawn from all aspects of the project and directions for new research, followed by references consisting mainly of project outputs. The project proposal is an appendix to this report, but there is also a separate appendix document with a compilation of small project outputs and reports. The larger reports and other products are maintained as stand-alone associated documents. All documents are available on the project CD.

## 2. PERSPECTIVES OF PARTICIPANTS

One of the key principles of co-management is that all stakeholders should have a voice. In keeping with this we invited our project partners to share their perspectives on the project and on co-management in general in brief articles. They share their views in this chapter.

### 2.1 Barbados

#### 2.1.1 BARNUFO and co-management

Submitted by Angela Watson

BARNUFO is the acronym of the Barbados National Union of Fisherfolk Organisations. We are an umbrella fishery organization with members in both the harvest and postharvest sector. We are housed within the Fisheries Division of the Ministry of Agriculture in Barbados, and our stated ambition is to improve the socio-economic conditions of our member fisherfolk organizations.

We are just seven years old, having been formed on 10 March 1999 with a general membership at the time of twelve primary organizations. During the past seven years we have been able to become involved in many activities which sometimes fisherfolk could not link directly to fishing. We have realized that there is more to fishing than catching a fish and later offering it for sale.

Preservation of the marine environment is of utmost importance, and as a group we realize that we must become involved because ultimately it is from the marine environment that our membership would benefit from increased fish catches. It is with this in mind that we first became involved with CORECOMP as a project through Dr Patrick McConney, we were first involved with the Barbados sea-egg<sup>1</sup> project to try co-management with the Fisheries Division.

The Sea-egg Fishery Co-management project saw fishers being trained by the Fisheries Biologist, Mr Christopher Parker, in doing actual stock assessment of the fishery after the fishery had been closed for three years because it was believed there was a collapse of the fishery due to over-fishing. Fishers were trained in measuring sea-egg size as well as quantity. These fishers recorded this information on underwater writing tablets and were then encouraged to come into the Fisheries Division to enter this information into a computerised fisheries database. It was explained to them how the data gathered could be used to produce the information that would be needed to inform the open or extended closure of the sea-egg season.

All sea-egg fishers were invited to the Fisheries Division for meetings where they were asked how the industry might be protected. Fishers have shared their ideas openly, even if in some cases their recommendations were not all legal. Suffice it to say that, most importantly, members have agreed that village councils of fishers in the known harvesting areas should be responsible for monitoring in their area with help from and direct contact with the enforcement agencies in the island.

Our next involvement came with the work for the revision of the Fisheries Management Plan (FMP). Our FMP is drawn up and revised every three years, and our most recent work, with external assistance, has been only the second time that we were really involved in such an effort. We again worked with the Fisheries Division. Meetings were held with the harvest and postharvest sectors where ideas were sought for the improvement of the fishing industry. Fishers

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<sup>1</sup> Sea egg is the local name for the white-spined sea urchin *Tripneustes ventricosus*

expressed concerns about the fish trap and seine net fisheries as they contended that some fishers were actually using illegal size mesh and nets. From this we were able to put some things in motion. The Fisheries Division has now started a programme to work with the makers of fish pots to ensure that the correct size mesh is used, but also to introduce to them the bio-degradable escape panels. Identification marks for fish pots were also looked at, so from this exercise some transfer of information from authority to industry will take place.

BARNUFO has also, on its own, designed a questionnaire for the seine net fishery. We want to be able to accurately ascertain the amount of people still involved in the fishery, the net sizes and discuss what needs to be done to take them from the undersize mesh to the correct one. Site measurements have not as yet taken place but hopefully this season, with some assistance from the Fisheries Division, we would be able to complete that project. We would then be looking at a project to fund replacing undersize mesh with the correct mesh size both for pots, as they are taken up from the sea, and seine nets.

Co-management continues to be a lofty term. We have been striving with the concept for a few years and are not quite satisfied that some of the scientists and managers are quite ready to relinquish some of their responsibilities. We have been saying for years a fisher is a fisher and although different things will capture their imaginations it most certainly will only be a passing thing; they will never give up fishing for a desk in an office, it is not in their thinking.

Co-management as a working arrangement could benefit the local fishing industry immensely; things noticed by fishermen on the water can only enhance what is known by the scientists in theory. More communication is needed, local knowledge can relieve some burdens on the scientists but it can also let fishers know that what they know is valuable, and when anything strange is noticed out there and communicated some larger problems can be avoided.

We in Barbados have worked with quite a few agencies that collect information on things in the sea, fishers are contracted, scientists are taken to the fishing grounds they need for their research. But when everything is completed, and research papers are written, they then reside in a library at a university or some other place of great learning and very seldom is the research ever shared with the fishers so they can ask questions and maybe understand what they need to do keep the marine environment pure to ensure sustainable livelihoods for years to come.

Co-management to my mind can be simply explained as people having ultimate respect for each other. That way we would naturally want to share what we each have. In the fishing industry we are usually happy when people ask a question about our profession; we are only too happy to talk. This must run both ways, we cannot continue to pass information and get no feedback. If it continues much longer you might find yourself being ignored when the information required could be of utmost importance. Co-management will become a way of life, the fishing industry is but a small part, people working together for mutual benefit could make the world a better place to live and we must all play our part.



## 2.1.2 Some personal perspectives on co-management of the Barbados sea egg fishery

Submitted by Christopher Parker

My involvement in CORECOMP arose directly through my job as fisheries biologist with the Fisheries Division of the Ministry of Agriculture and Rural Development, the government agency responsible for managing fisheries in Barbados. Multi-tasking is a necessity for personnel in an agency as small as the Barbados Fisheries Division. As such, the fisheries biologist is responsible for both gathering the scientific information needed for managing fisheries and implementing the prescribed management measures.

The implementation part of the management process is of course focused on managing people to promote sustainable utilization of the resource. Having studied the ecology of sea eggs at the postgraduate level, I considered that I could advise the management process with respect to the biological aspects of the animals. However, I had no training or indeed natural acumen in the sociological skills that are needed to effectively organize and manage people. Such sociological skills are even more important in formulating and implementing co-management arrangements where the decision-making process is ultimately based on integrating the opinions and even convictions of people with oftentimes very different perspectives on the same issues. Therefore, during the course of this project I considered myself a novice in the process of bringing people together to effect co-management for the sea egg fishery. It is from these perspectives that I offer the following account of my experiences and opinions.

I first focused on collaborating with fishers to gather scientific information on the status of the stock. To this end the fishers themselves needed to be trained in underwater survey techniques to collect the necessary information. To achieve this I formulated a simple sampling programme to collect information on the abundances and size distributions of sea eggs at a number of index sites that could be resurveyed in subsequent years to allow inter-annual comparisons of the status of the stock. With the assistance of some officers of the Fisheries Division, fishers were trained in the sampling techniques and how the information collected was used for stock assessment explained to them. The training went very smoothly, the fishers quickly mastered the techniques, and I think understood the underlying rationales for collecting the data and its application in the decision-making process. The first island-wide survey was successfully conducted between July and August 2001, prior to the opening of the harvest season and provided baseline abundance indices for the sites. Although the numbers of sites and some of the fishers involved have changed over the subsequent years, an annual survey of these sites using the same sampling techniques have been conducted every year since 2001 and the information used to determine the length of the annual harvest seasons. The survival of this collaborative process over time must be viewed as a major successful outcome of this component of the project.

The main component of CORECOMP was the development of an arrangement to implement sustainable co-management of the fishery. To this end it has been agreed to form a management council comprised of representatives of government agencies and fishers that directly advise the Chief Fisheries Officer on issues pertaining to the fishery including research, regulation and enforcement. The proposed council must be considered the lynchpin for a successful and sustainable co-management arrangement and must be put into place as soon as possible. As presently organized the fisher representatives nominated to serve on the proposed council include a number of fishers who have continued to show an interest in the decision-making process

through participation in the annual surveys or the stakeholder meetings that were held during the course of the project, mainly to decide on the duration of the annual fishing season. The establishment of this core group of concerned and involved fishers is probably the single most important outcome of the project.

Based on my personal experience with working with the persons nominated to serve on the council, I believe the council will be well equipped in terms of human resources to fulfill its mandate. However, the survival of the arrangement in the long run depends on how seriously government treats the council's recommendations. The council is unlikely to survive if its decisions are overturned by governmental bureaucratic or political interference. This is a real danger under the present structure whereby the council's recommendations must be passed through the Chief Fisheries Officer and then the Minister responsible for fisheries. It would seem that co-management only at the lower end of an essentially top-down management structure can easily be quashed.

The next important step in the co-management process will be expansion of the fisher representative base. Some of the management decisions that were taken following consultation with the fishers engaged during the course of this project were not well accepted by many fishers outside of the "core" group. Of course, there will always be persons who prefer to stay outside of any consultative decision-making process and decry any decisions taken rather than participate in the process. However, the fisher representatives on the council must effectively liaise with the members of the community that they serve so that the interests of the community are really brought to the table. This is in keeping with the underlying principles of co-management. In addition, without a truly representative modus operandi, there is a real danger that the fisher representatives will be viewed merely as auxiliaries of government in a government-driven arrangement. Developing workable interrelationships between communities and representatives is likely to be one of the most challenging steps along the co-management path. It is at this point that the services of experts in this sociological area are desperately needed to facilitate this process.

The problem of poor enforcement of management regulations has plagued the sea egg fishery for many years. Lack of effective enforcement obviously makes a mockery of any management initiative and if unchecked will frustrate and likely eventually destroy any co-management arrangement. Illegal harvesting of sea eggs during the close season was understandably a major topic of concern for stakeholders throughout this project. Unfortunately no concrete solutions to this problem were formulated during the course of the project although there was some positive thrust in increased public education. Although a continuation and indeed further increase in efforts to educate the public is important in curbing the incidence of poaching, I believe that the public is already fairly well sensitized to the dangers of poaching for the sustainability of the fishery. However, it is really an affluent group of greedy individuals in the society who ultimately support poaching by paying fishers to harvest sea eggs for them. The only real deterrent to this activity is therefore to dissuade the financial support for the activity by these unscrupulous people probably through identifying and publicly embarrassing them. Although both harvesting and possession of sea eggs during the close season are illegal acts and carry the same potential punishment, it has so far only been some of the fishers that have been punished. As such only the "little man" pays. Of course it is always a daunting task to challenge the affluent and powerful but the reality is that poaching, or at least the temptation to poach, will continue as long as funding is available. Therefore enforcement will be a major challenge for

successful management of this fishery.

Based on the many formal and informal interactions that I had with fishers and the Barbados National Union of Fisherfolk Organizations (BARNUFO), the umbrella fisherfolk organization, during this project I believe that there is generally good consensus on the critical management issues in the sea egg fishery. During the project everyone has learned from each other and mutual respect has developed among the participants. There is thus a good basis for developing co-management among those with whom these relationships have been developed. However, the test of the sustainability of co-management of this fishery will be if this positive working relationship can be extended to the wider community of stakeholders that, as already mentioned, must be undertaken for true and undeniable co-management.



### 2.1.3 Holetown Community Beach Park Project

Submitted by Robin Mahon and Maria Pena

Dr. Mahon's research activities are in coastal and marine resource management, with emphasis on assessment and management of transboundary resources. Dr. Mahon is Regional Project Coordinator for the IOCARIBE Large Marine Ecosystem initiative, and is also leader of the project "Sustainable integrated development and biodiversity conservation in the Grenadine Islands" being implemented by CERMES, Caribbean Conservation Association, Projects Promotion Ltd., and the Carriacou Environmental Committee and funded by the Lighthouse Foundation, Germany. That project focuses on the role of civil society in sustainable development in the Grenadines and the modalities of effecting change in complex systems. His previous professional experience includes working for the Department of Fisheries and Oceans, Canada; FAO; the CARICOM Fisheries Programme and numerous consultancy projects.

Dr. Mahon's interest in CORECOMP was in the use of participatory approaches to develop the Holetown Community Beach Park. As this area has a number of user conflicts and residential issues, a participatory approach was seen as essential in obtaining an approach that would be acceptable to all parties. Dr. Mahon is affiliated with the Holetown Watersheds Group, the civil society body that undertook the co-management project.

Ms. Maria Pena's interests are also in coastal and marine resource management. Her background is in fisheries biology and management and presently assists Dr. Patrick McConney and Dr. Robin Mahon in the coordination of externally funded projects in the Wider Caribbean, outreach coordination, project research, presentation and report preparation, and BSc and MSc level teaching. Recent and current activities include involvement in socioeconomic monitoring for Caribbean coastal management (SocMon Caribbean) and MPA management effectiveness evaluation in the Tobago Cays, Grenadines and the Negril Marine Park, Jamaica.

Ms. Pena has been involved in CORECOMP for the past three years, particularly in monitoring the sea egg seasons in Barbados of 2003 and 2004 where she compiled an inventory of sea egg events (print and audio visual media) for the seasons and assisted in report outputs. She has also been involved in the site development planning phase of the Hometown Beach Park Community project in Barbados where she informed and surveyed stakeholders in the area about the project, coordinated meetings with stakeholders and potential funders and assisted with project report writing. Working on these projects, her interest in sustainable development of marine and coastal resources has been peaked and she has enjoyed interacting with the resource users whom are vital to the sustainability of the projects as well as the resources on which they depend.

The following is an overview of our co-management experiences with the Hometown Community Beach Park project. Generally, the response to the project was encouraging with many businesses, in the area being interested in the development of the project. Many stakeholders in the immediate vicinity of the area, particularly household residents and restaurateurs, were willing to form a committee that would guide the site development phase of the project. Although stakeholders were engaged at the beginning of the project (see dissemination flyer; and Pena and Mahon 2005) and they were keen to monitor its progress and development and provide their inputs, we had difficulty keeping them engaged due to long time delays with inputs, such as survey maps and coastal engineering plans for the area.

These delays were, and still are, due to our dependency on the professional services of a surveyor, coastal engineer and landscape planner whose services are being rendered at significantly reduced rates and as such is the main reason for slow progress of this project since low priority has been given to these works by the respective contractors. As such we have continued to experience difficulty in obtaining these inputs.

Supplementary funds towards drafting the development plan for the area were forthcoming from a number of sources (see Pena and Mahon 2005) but surprisingly, the stakeholders who stood to benefit most, i.e. those in avenues 1 and 2 were least forthcoming with funds. The impression gathered was that these stakeholders would willingly make donations only when physical development project works commenced in the latter stages of the project rather than upfront. There seemed to be an underlying reluctance of business stakeholders in the Hometown area to donate funds to this project since it was taking place on Government land, and there was the view that it should be paid for by government. There was also skepticism regarding the likelihood that the Government would follow-through with development once the plan was submitted.

The initial focus of the project was largely establishment of an amenity area that would restore ecological function, particularly services that protected the marine environment. Stakeholders however were primarily interested in recurrent flooding and its associated problems within the area, an issue which could not be comprehensively addressed within the scope of the project (Pena and Mahon 2005). Another priority for stakeholders in the area was that of security enhancement. Restaurateurs were particularly interested in this issue and had questioned whether it was feasible for the project to provide and improve lighting in the area since some of their customers had been the victims of crime there, with these incidents having negative impacts on their businesses.

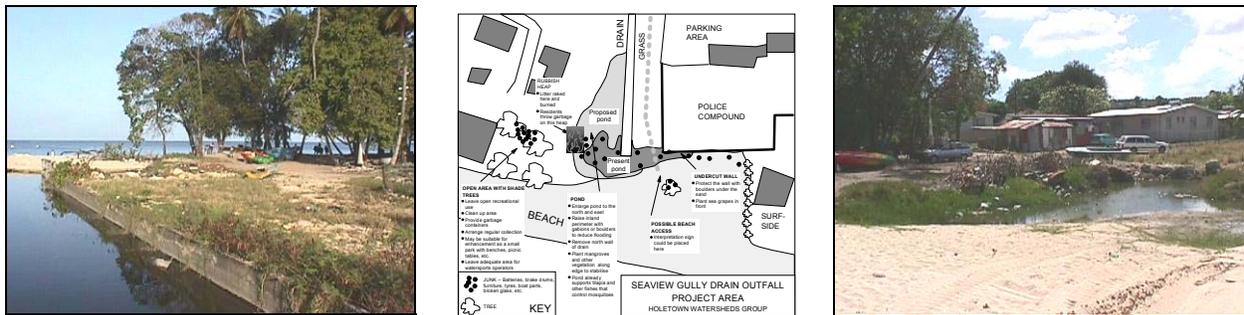
One major outcome of the delays was that the context for the project changed due to Government plans and initiatives in adjacent areas, as well as private development, such as Lime Grove. One

of the activities that was successful was a project by two visiting students to develop a plan for the restoration of the ecological area (the pond and adjacent wetland). They acquired a great deal of useful information from residents, particularly regarding how the area used to be in the past. Several residents provided historical perspectives on the various flora and fauna that used to be in the area and the way that they would fish or play in the area as children. This has been documented for use as the project moves into implementation (see Pena and Mahon 2005).

Challenges of co-management:

- Reliance on supplementary funds and the good will of persons providing technical input to projects at reduced costs.
- Difference in initial environmental focus of the project and that of stakeholders.
- Change in context for the project owing to adjacent development.

Unless funds are sourced to completely cover the costs of such co-management projects as the Hometown Community Beach Park project, delays will be inevitable resulting in slow progress of the project. Despite the delays and other challenges described above, there appears to be a continuing interest in stakeholders in seeing the area improved. At times when they were engaged, there was genuine interest and enthusiasm for the project. Clearly, the need still exists for the development of this area as it is central in Hometown.



## 2.2 Belize

### 2.2.1 Facing the challenges: the Friends of Nature experience

Submitted by Lindsay Garbutt

Friends of Nature (FoN) is a non-governmental organization (NGO) working in southern central Belize. Just over five years old, FoN works with five coastal communities, two of them indigenous communities. On behalf of these communities FoN manages the Gladden Spit and Silk Cayes Marine Reserve, recognized by the World Wildlife Fund as a “priority site” and is a key “platform site” for The Nature Conservancy’s Mesoamerican Barrier Reef Program. This reserve is one of the major and most studied sites for spawning aggregation, with more than twenty-six different species of fishes known to spawn there. In addition it has gained a lot of attention as one of the very few sites where one can see the whale shark. The interest in viewing whale sharks has made Gladden a prime tourist site and a major income earner for local tourism stakeholders. FoN also manages the Laughing Bird Caye National Park, a World Heritage Site and the second most visited protected area in Belize.

Friends of Nature is led by a team of individuals that almost all come from the local communities it serves. The strength of the organization is based on the great support that it has received from

its local communities. Its Board of Directors is the most representative of any in the region, involving all the local stakeholder groups. The partnership with CORECOMP has been a very positive one for the organization, allowing it to undertake a few small but very essential projects.

Lindsay Garbutt, the Executive Director of FoN, has worked with the organization from its inception. Born in the coastal village of Monkey River, he has worked as a fisherman, assisted in the formation and management of fishing cooperatives and has served many years as the representative of southern Belize to the Fisheries Advisory Board, and the Belize Tourism Board. At the moment, in addition to being the executive director of FoN, he is also the Focal Point for TRIGOH, the Tri-National Alliance for the Conservation of the Gulf of Honduras, a group of NGOs from Belize, Guatemala and Honduras involved in protected areas management in the Gulf of Honduras.

From its inception FoN has had co-management responsibilities for its two protected areas. The experience has been mostly positive. The positive relationship is to a great extent based on the fact that these are two of the very few reserves that were declared as a result of strong community lobby. It was the stakeholders themselves, essentially fishing and tourism stakeholders that pushed hard for the declaration of these reserves as protected areas. This has given FoN a strong sense of ownership and excellent community support. Recognizing this support FoN has sought to develop programs that have direct impact on the communities particularly in areas of alternative livelihood and community exchange. Through these two activities FoN has developed several at-risk youths into professional PADI certified Dive Masters, providing an essential service that was vitally needed for the further development and increased local participation and ownership of the tourism industry while at the same time creating an opportunity for more than twenty young males and females, most of whom had no secondary education. The community exchanges, primarily with Cuba and Mexico, have resulted in a major shift in the way fishermen fish. It has allowed fishermen to continue fishing with the same intensity but using methods that are more sustainable.

CORECOMP funding helped FoN realize two essential projects. The first was a Board of Directors Orientation Workshop. FoN's Board is made up of representatives of all major stakeholder groups in the region that the organization works. It includes the Village Council Chairperson from all five communities. One of the major challenges of NGOs regionally is that of governance. Through this workshop FoN board members were given an opportunity to understand the essential of serving on a board of an NGO, their responsibilities. This was vital as while being successful in their chosen field, few of the members have served on a Board of Directors previously.

The second project funded by CORECOMP was the provision of funds for the initial meeting of the proposed Southern Fishermen Association. As tourism in the area has grown the fishermen, many of whom have diverted into tourism, have felt themselves slowly becoming more marginalized. Given that those who work in the tourism industry, the countries foremost foreign exchange earner and industry, are generally more educated and have more access to the political decision makers, the feeling is that more and more they are the ones that have representation on all the major boards and are invited to all the major forums. The fact that tourism is essentially owned by foreigners, who have far superior experience in lobbying, and certainly a much greater access to the powers that be, has contributed even more to this feeling. Too the tourism stakeholders are more organized and better funded.

To combat this widening gap FoN has with the assistance of CORECOMP worked towards developing a strong fishermen association. This will allow for a greater level of unity among the fishermen as they come together on a regular basis to discuss their concern and will create a body that is large enough and with enough political strength to assure their representation on all bodies that affects or can enhance or impact their activities.

As a boy I remember a speech given to a group of fishermen by an old community leader. During this speech in which he was soliciting the support of the local fishermen for the formation of a fishing cooperative he said, “as fishermen what we need is individual cooperation”. Essentially little has changed in the thirty two years since I first heard the need expressed in this manner. Co-management is essentially getting a group of independent, very strong minded individuals to cooperate for their personal benefit while respecting their essential individuality. Most of these individuals, particularly those in the fishing industry, have never had a boss and rarely have the personality or desire to want one. Co-management therefore almost always involves tip-toeing around these several egos and understanding the values of these individuals. It also often means gaining their confidence; very hard to earn but certainly more than worth the price. It is a difficult, sometimes torturous, and always tricky, process. It is dealing with a group of individuals that are often short of book learning but extremely intelligent with a clear knowledge of what they want and an even clearer idea of what they do not want. In particular for Friends of Nature, it has been even more challenging trying to deal with a variety of stakeholders whose interests often are diametrically opposed. The tourism stakeholders want more protected areas for their rising client base and the fishermen who feel that their fishing ground is constantly diminishing.

Some of the major challenges for FoN have been:

1. Managing whale shark tourism: The predictable presence of whale shark in the reserve from March to June of each year has brought unprecedented growth to the tourism industry of this area. Unregulated, with everyone trying to get their piece of the pie, this activity was slowly getting out of control and was headed towards the reality of killing the goose and losing the golden egg. Through the efforts of FoN a Whale Shark Committee was formed to provide advice to the Fisheries Department for the regulation of this activity. This group worked hard and in less than three seasons this activity is the most regulated and best managed tourism activity in the country. Carrying capacity is set and respected, a slot system has been put in place and today whale shark tourism at the Gladden Spit and Silk Caye Marine Reserve is an example of good management in the region.
2. Southern Fishermen Association: In March of this year FoN brought together a group of fishermen from throughout the southern half of Belize for a fishermen forum. This meeting was the first of its kind and the first time that fishermen had ever met in this manner. The meeting was very positive if at times loud. The decisions coming out of the meeting were clear and definitive and there is a clear belief on the part of the fishermen that they must unite, that protected areas has largely benefited them and they are recognizing that if they become partners with the managers of these reserves that it will impact greatly on the long term protection of the resource that ensure their livelihood.
3. Community relations: For quite a while FoN has been trying to find better ways to interact with the communities. In spite of regular consultation we consistently receive reports, particularly from consultants, that the community is saying that they don't know

who or what FoN is. Over the past year FoN has begun to change the way we do consultation. As opposed to holding meetings in community centers and waiting for the community members to come out FoN now goes to them. We take a team comprising the different units of our organization from rangers to biologist to outreach personnel and the management team and do a house to house visit usually accompanied by the board member that represents that community. The Board of Directors has also taken a decision to hold each board meeting in a different community followed by a community meeting in which the community members get an opportunity to interact directly with the board. This is a work in progress but initial review suggests that there is much more awareness about the organization on an individual community basis.

Protected areas management is more about people and less about resources. Left to its own, a natural resource has a way of replenishing itself. Recognizing that it's about people, FoN's motto is: "Protecting our natural resource by developing our human resources". It has worked for us. While we place great emphasis on the sustainable use of our resources we are very cognizant of the fact that human beings must survive. These resources are more the property of these communities than anyone else. Our major effort, therefore, is on building a lasting relationship with the local resource users. While our co-management agreement is signed with the Government of Belize and the Fisheries Department, it is our stakeholders that are the real partners, our real co-management partners. Working with CORECOMP has gone a long way towards creating a better co-management relationship with our stakeholders because we share the same value. Too, CORECOMP does not only provide financing but provides good sound support at all levels.

While there are many challenges that we have overcome there are still many even greater challenges to overcome. The communities are not as interested in what you did for me yesterday as much as what will you do for me today. It's a constant challenge. But where the challenges are great the successes are even more rewarding. Friends of Nature has determined from its inception that co-management is the way it chooses to manage the resources with which it has been entrusted. Co-management is the way we choose to do it. For those of us who have grown up in these communities we do not see co-management as a complicated scientific process. We see it as the only RIGHT way to do it. We see it as a way of life.



## 2.2.2 CORECOMP and TASTE: Beneficial capacitation for the co-management process of the Sapodilla Cayes Marine Reserve (SCMR), Belize

Submitted by Jack Nightingale

My name is Jack Nightingale and I function as the acting Executive Director (ED) for the community co-management NGO, TASTE (Toledo Association for Sustainable Tourism and

Empowerment). TASTE along with myself has been engaged in the co-management of the Sapodilla Cayes Marine Reserve (SCMR) for five and one half years. We are a small group of three full time employees and a large program.

I bring a varied skill base to the NGO. I have been an aircraft electrical technician; a modern dancer, choreographer and professor; a marketing and sales officer in high technology business; a carpenter and builder; tour guide, tourism NGO worker, board member and now an environmental NGO, ED (acting). A chequered career that has provided me with an enormous skill based background. I am profoundly concerned with human development both in the worldly and spiritual contexts. I (and we in TASTE) have had a wonderful time in this co-management project.

We have worked with CORECOMP in the following areas:

- Co-management process workshop
- Participation in 3 Gulf and Caribbean Fisheries Institute (GCFI) conferences
- TASTE board effectiveness workshop
- Proposal writing workshop
- Socio-economic monitoring workshop
- Management retreat

Building capacity in all these areas has been essential to our growth.

In Belize, the most regular of co-management conditions is delegated responsibility to the NGO partner. In the case of TASTE and the Department of Fisheries (Government of Belize), it has been an evolving co-management relationship from a co-operative condition moving towards a delegated position. It was at the very first workshop with CORECOMP, “the co-management process”, that we were clearly able to identify the process we all were in. A crude plan of this process was one of the outputs. We, the co management partners, have both witnessed growth of the SCMR and in its co-management, as measured against this original plan.

There are (in Belize) inherent weaknesses in the government as managers of protected areas. These weaknesses are evident and are very critical to success creation. Principally they are (a) FUNDING and (b) BUREAUCRACY.

The constant lack of funds weakens any programs that the government (or NGO) wishes to employ. Bureaucracy does not empower the human resources with “ownership”, “sharing power with” relationships or “good governance” practices. These features are self evident and do not need further expression. NGOs in Belize tend to follow government modelling for management processes, which makes them weak also. NGOs with fully delegated responsibilities look like ‘mini-governments’ to the community stakeholders in protected areas. TASTE found itself, and still finds itself, attempting an impossible creation: “To be the model community co-manager”. We are not failing but neither are we creating the success that we envision.

There are many features, which interfere:

1. The communities have been given promises by other NGOs, which can never be complied with.
2. We never give promises but we fall into the NGO ‘form’ and therefore are seen as giving promises.
3. Governments practice “patronage”, so do NGOs; we do not, and are blamed for not doing so. YET “good governance” says no to patronage.

We walk a line that is narrow and full of treacherous reefs. However, we have succeeded in environmental education, outreach programming, co-operation, collaboration and partnering in biophysical monitoring of the SCMR, alternate economic opportunities and youth empowerment. We have been able to build a highly useful infrastructure as part of a public use programme, which works strongly for sustainability. We have not yet attracted philanthropy or donations to the SCMR that will give us a breathing space and allow the Department of Fisheries to go all the way with delegated responsibility. The position of delegated responsibility is a goal.

From a personal point of view, the single most important lesson is to not take on the challenges of Executive Directorship without a fully active Board of Directors.

It is essential that the Board members are willing to seek funding and donations and that they are willing to take on tasks of representation. It is so very easy to take on all the roles if you are keen to get a job done. When looking at the idealized version of a Board of Directors as described in the trainings, I would have had 50% more time for other tasks that were taken up by carrying out Board member duties.

We have had good luck with grant writing and seem to be able to hold our own. Learning such things as log frame, management by results has helped our skill sets enormously. Even more significantly they help in how to think about the issues.

It is precisely in this mode, clear thinking process, that presents without doubt the four major gaps of all MPA management:

1. Lack of enforcement.
2. Lack of lobbying and advocacy.
3. Lack of public education programs (not environmental education, although that is weak in most places also).
4. Lack of alternate economic opportunities.

We are full of good science and scientific understanding. Common sense tells us clearly that the world's biodiversity is diminishing. We are full of plans, politics, hierarchies, management schemes and trainings. Common sense tells us that greed still is in the driver's seat and "power over" wins from "power with" sharing.

Common sense clearly lets us know that we have not yet fixed that which needs fixing.

I have no doubt that one of the main thrusts of conservation activity is the desire to fix that which needs fixing. Without a focus to the four gaps mentioned, and real time desire to meet these challenges head on, will we have any MPAs to co-manage?

We are not always the darlings of the community (this is an understatement anywhere). We have had stakeholder issues that have required conflict resolution, but not too many. As ever, participation is hard to create but we find that new stakeholders (youth) offer stronger participation and more goodwill. Everywhere on earth greed and power are in the driver's seat. This is as true for stakeholders as NGOs. Treading the middle way is not easy.

With the growth of anything there are needs which must be met. Our co-management has been groomed with professional help along the way. CORECOMP and CERMES have done a great job for TASTE-SCMR. Every workshop and the GCFI events have been instructive and helpful to the process. We in TASTE are looking forward to the next 5 years of positive growth but, even more importantly, we wish to be able to measure the positive impact we are having in the SCMR.

Looking to the future for TASTE we see the possible full funding we need for obtaining the delegated co-management in one or other forms. First, the most useful from our point of view would be to be completely independent from other organizations and be able to present our style and perspective without too much compromise. However, the second choice will be in the merging of TASTE with another NGO to create a larger organization with a broader range of responsibility. This second choice is on the burner and being looked into by board members and stakeholders. A funder has particular interest in that option, seeing a more economic use of resources. With a backer behind this choice it becomes more interesting.

Allow me to note here that this is close to the greatest difficulty to confront all NGOs. That difficulty is the need to keep the organization alive and kicking, taking more energy and resources than can be put into the activities for which the organization was created. Self-service becomes more of the goal than serving the need. Finding that balance, to my mind is the main question.

I conceive of an SCMR that is 50% sustainable in the next 3-5 years. This will require that the management plan become operational so that we may utilize and place the zonation in the reserve. It will require full cooperation from the private sector to keep tourism according to a plan of carrying capacity; it will require far more ownership from workers and stakeholders; and will require regional participation.

The threats that most affect the reserve are from sources of contamination. These must be identified and met head on with regional programs of advocacy and lobbying. No easy task, and by far the most significant. If we cannot keep the corals and biodiversity in the reserve then 50% sustainability is ridiculous.



### 2.2.3 Human resource management concepts for NGOs

Submitted by Jack Nightingale

How broad are the issues that govern the life of the people who work for and around your NGO? What are the primary goals, based on your mission and vision that create the working environment? Do they reflect the essence of that vision, that mission? Are the human interactions you generate from your NGO or organization generating “power with” sharing or are they dominating “power over” hierarchical dictates? If you have studied governance and understand the basis for good governance, are you practicing it?

Human resources can be considered as everything from throwaway slave labour to the finest mutually beneficial relationships you could possibly create.

It is typical in this day and age to avoid thinking about these questions and to accept the status quo of the work place. The speed with which we are to achieve or meet goals precludes time

spent thinking about humans, relationships and service. This status quo condition does little but provide a job for someone, thus giving him, or her, an income. (Let us note here immediately that this single fact of a job might create more for the individual than ever before and allow for children to eat regularly). This is positive. However, it might do very little for the overall improvement of man or his condition, especially in relation to the workplace.

NGO's are created around specific social and environmental conditions. Very high-sounding language is used in their mission statements and in the expression of their vision. Whenever presentations are given to donors, funders, boards of directors, stakeholders and community members, it always seems as if the NGO is beneficial and godlike in its munificence. If however, you study its day-to-day human interactions you are likely to find top down decision-making, power over management conditions and poor relationships between all the people. Typically high staff turnover reflects these poor governance conditions. Does this mean that the high sounding words of the vision and mission are a fake?

Of course if you look everywhere in life you will find the same conditions in operation. The private sector is rampant with poor governance. Governments are ridiculous in their bureaucratic behaviours and their sense of service to the people is a joke.

Why then focus this human resource management concept to NGOs?

It is precisely because NGOs pretend to high social and environmental concerns that they also could lead the way in human relationship issues, setting a new pace for others to follow. It is not anywhere near good enough to maintain status quo apathy or mediocrity. Just because you know that government institutes function with poor governance, and that private sector businesses that are financially successful and operate under poor governance exist, they should not be the guides to your choices of management regimes.

It is true to say that history has not produced much in the way of good governance. This is principally because there is a paucity of good leadership. It is also because no one thinks about good governance. The ideas of good governance are not discussed openly. How can people be expected to know about something if the ideas are not shared? Of course one must remember that there is a natural resistance to this knowledge since it goes against greed and power (over) experience. Most humans in their poor condition crave power over others and believe that the world owes them a living, and a darn good one at that. Accumulation and access to resources are gobbled up by individuals in the knowledge that only they should have it. If this attitude or worldview persists, we are truly doomed.

In the meantime and before any doom overtakes us, we have opportunity to apply good human resource management principles in our NGOs.

There are a few main principles in good human resource management:

- Consider the words "human resource"
- Consider the word "good"
- Consider the word "management"

As we started out by saying that human resource could be anything from slavery to the finest mutually beneficial relationship, we should look at these two ends of the spectrum.

- Slavery is the usage of captive human resources without regard to the humanity, needs, freedom, development, living conditions, health, welfare, education or ability to survive of those same resources (the people).

- The finest mutually beneficial relationship would be the fullest consideration of a human resource including full awareness of humanity, needs, freedom, development, living conditions, health, welfare, education and the ability to survive and share fully.

There are multiple places in between these two ends. The qualities of either end will clearly appear in the systems chosen. It is not difficult to see where people who provide jobs, choose to apply these qualities. When a boss shouts at someone that they are lazy, good for nothings, it is easy to see the dilemma the boss and the human resource experience.

Obviously the worker could care less about the job and so allows those feelings to govern actions. The boss wants something done but doesn't care about who is doing it or why. This scenario is common and everyone experiences it, even in school. If you have never thought about relationships or do not care for the experience of relationships, you are bound to fall into poor habits either side of the equation. In order to manage human resources you must first of all care about relationships. If you care about relationships you probably care about humans. If you care, then the words "human resource" means something you care about. Caring implies that feelings and thoughts about other humans are co existent. It also stretches to both parties. All feelings and thoughts of all parties co exist and are responded to. This condition satisfies the word "good". All parties feeling good about each other qualify this. This is a condition in which communications are optimized and efficient work is possible. Management is simply the tool by which you bring about this condition.

It could be crudely stated then that good human resource management is simply the way in which caring about each other is turned into efficient use of time and other resources to bring about a mutually defined goal.

Let us look at this from the point of view of governance. Governance is the system by which things and people are governed (managed). The results of poor governance are clear. People feel dissatisfied and upset. They might revolt or build strong resistance to this poor governance (think of slavery). Good governance would bring wonderful qualities of support, strengthening, efficiency, creativity and good will. Here is a tried but true aphorism that allows choice for governance. There are only three possible futures from this now:

- Things get worse.
- Things remain the same.
- Things get better.

If anyone in any group perceives that things are not getting better then the chances are that they are not. This means that the things get better scenario is mutual (a consensus). All are in agreement. In the case of governance, 'good' would have to bring mutual benefits. Obviously good governance must imply a 'things get better' condition from wherever we are. What then might constitute good governance?

Good governance begins with the self and the self alone. Ask yourself how you govern yourself. Is it full of indulgence? Do you love your self or hate your self? How do you care for your self? Do you doubt yourself? There are hosts of questions to ask your self if you really want to know how you govern your self. It is a lifetime's work to really come to understanding about your self so it does no good to have too high an expectation of the knowledge of self. Yet, good governance begins with the self.

If you start by being kind to your self and can find time to really reflect on how it operates in the

world, you will quickly make discoveries. If you hate yourself you can only see negative frameworks for every experience. Your choices on how to govern yourself are going to be hard and rough. Good governance can contain perceptions of self that allow for growth. They can be critical but not destructive. Positive perceptions are of course the most useful. If it is difficult to find positive perceptions about yourself you will need to find some outside assistance. Find someone who understands what good governance is and ask for help. Do not ask critical people or people who see only negative things.

Once on the road to good self-governance, you can think about good governance of your own immediate family. Are you a dictator with them? Do you allow them to talk and interact? Do you say there is only one-way to do it, my way or the by way? Do you love them? Do you even like them? This begins another round of analysis of your own behaviours. Good governance of your own family will allow them to grow and become their own beings. You will make space for them to be themselves and yet function within mutually defined tolerance of each other's behaviours. You will like them enough to care that they are making good choices for themselves. You will take the time to see things the way they do.(living a while in their shoes) You will practice tough love when negative behaviours erupt. You will especially look to the meaning of "partner for life".

The third level of good governance is in your local community, your neighbourhood, the school your kids attend, the sports teams they play in. Now begins a really difficult phase of good governance since now many strangers will test what you have learned from the first two phases. Blowing it all away is now the simplest thing to do. Patience is a virtue and this is where this rubber meets the road. This is where you have to remember that good governance begins with yourself. The rest is an obvious and clear progression through village, town, region, nation and world stages. This makes it clear why good governance is so very difficult. How many people have done this kind of work in preparation for any kind of governance?

Now let's bring this concept down to where we started this essay, an NGO. An NGO (non-governmental organisation) is usually dedicated to some form of development in communities. This development could be social, ethnic, infrastructure, legal, advocacy and lobby, environmental, health, agricultural or a mixture of many aspects of development. Of course it is interesting to note the designation of non-governmental. It would appear that it is important to stress the difference. That is a thought full of conflict.

Perhaps the biggest distinction is the 'not for profit status' that NGOs legally operate with. It is this status that creates Civil Society as the third leg of society, the other two legs being the Public Sector (government) and the Private Sector (business and for-profit status). The not for profit status implies a standpoint or a worldview. This worldview is moralistic. It is important that development (see the list above) be implemented without the profit motive since the profit motive might produce opportunity to be criminal. The simple truth that emerges is that when people wish to act criminally they will, regardless of position or status. The other fact is that humans are awfully good at hiding their acts from selves. This is the basis of disillusionment for many people from the other two sectors of society. The moral standpoint has no basis in reality. Then of course, those two other sectors are full of criminality.

So what does this chase leave us with? It would seem, that human nature, the lower aspects govern all. This is a good place to start looking at NGO's and their human resource management. It states clearly that NGO's are as vulnerable as government and the private sector to base

criminal behaviour. Just because it is an NGO, you are on higher ground, is a fallacy.

An appropriate question might be: do NGOs practice good governance any more than the other two sectors? The answer is clearly NO. As far as anyone can see, greed, 'power over' management, isolation from ownership and poor will, is as rampant as one could expect. Humans and human behaviour are the same everywhere.

Good governance and good management practices are not hidden. They mean that there has to be present goodwill towards each other, no matter what role we play. This goodwill is a departure from the normal and therefore is difficult to achieve. It is by no means impossible, however. Many groups and companies have made this change with startling results. People take ownership of the group and start to care what it produces. This reflects enormously in efficiency of manual labour and of costs. These are good management goals of the first order. NGOs are very sensitive to costs and efficiency. When everyone in the group cares for each other and what it produces, one is never short of creativity. Ideas for improvements and 'things get better' scenarios arise.

So why could NGOs lead the way forward in this regard? It is precisely the juxtaposition with the other two legs of society and the 'not for profit' status that gives the initiative to NGOs. Private businesses do operate with good governance in rare cases. No one knows if any government offices do. This initiative once taken up by NGOs would receive appropriate publicity or communication. NGOs are in the perfect relationship to teach these approaches to good governance and management. In fact it is a responsibility that NGO's must pick up if we are all to move forward.

Then, human resource management for NGOs is really good governance practice as outlined, beginning with the self and moving out which produces levels of caring which are expressed through 'power with' communications and not 'power over' communications. What are some good expressions of good human resource management?

"Management by walking around" is a book about how a CEO of a manufacturing company changed his company entirely. He did not stay in his office for very long. He came out and walked around observing, talking, asking questions, learning to care and instituted changes which affected his fellow man positively. Pretty soon his factory was a happy place with ideas and new efficiencies. His profits soared and so he shared with those who created them.

Think of the 'Peter Principle'(you rise to the level of your incompetence). This fact occurs so often in government that it's not a joke. In NGOs people begin their careers fully engaged in the 'Peter Principle'. Just because you have acquired a Bachelors, Masters or Doctorate, does not make a good manager (of any sort or level). In fact universities are full of poor human resource management and poor governance. One should expect that the product will have no idea how to care. Caring is not taught!

"Power over" communications are simple to understand. I am the boss! You will do as I say or leave! "Power with" communications require a little subtlety. Here is a job description Bill. I want you to read it and understand it please. When you have done so we can talk about it. I shall want you to show me that you understand the parameters. When you have done this, we will then trust that you will always produce to your own standard. In addition we would like you to feel free to notice and observe how what you do becomes part of a team effort. In fact we will take time in the week to have team meetings. We accept all ideas from top to bottom with no comment. They might be discussed, changed by the team and implemented. That will be your

idea at work. Improvements in our efficiency and costs can be reflected in benefits to you. Welcome!

Good human resource management will never happen by accident. It has to be intended. NGOs: your public image will be vastly improved if you undertake the responsibility of good governance. Governments: your next on our list for human resource management and service principles. NGOs: service is your next topic.



## 2.3 Nicaragua

### 2.3.1 Fisheries Co-management in the Caribbean Coast of Nicaragua

Submitted by Karen Joseph

My name is Karen Joseph, working with the University of the Autonomous Region of the Caribbean Coast of Nicaragua (URACCAN). I have a bachelor degree as a Fishery Engineer from URACCAN and obtained my MSc from the University of Tromso in Norway at the Norwegian Fishery College in International Fisheries Management. My work at URACCAN is in the Faculty of Natural Resources giving tutorials to students who are working on their final document (thesis). I teach subjects in the in the Fishery Engineer programme such as project design, fishery technology, fish processing, aquaculture, fishery ecology and others. I do research and design community outreach projects. I have been doing these activities since 2002.

I have been participating in international workshops and seminars focused on the fisheries in different countries in Central and North America, including the Caribbean islands. I have received training in how to conduct socio-economic studies in Spanish (Honduras) and English (Barbados). I have three publications of work that has been done by myself, an conducted four research projects, the last one with WCS being not published as yet. Also, I have prepared community workshops for fishers in different communities on the Caribbean coast of Nicaragua, Corn Island and in the city of Bluefields. CORECOMP was one of the projects that have focused mostly on training people that are weak in doing co-management. By involving myself I obtained the benefit of training capacity and strengthening knowledge, permitting me to transmit this knowledge to others that need it by giving workshops and short courses based on co-management.

So far, co-management has been a good way to obtain mutual benefits; it improves communication between resource users, it has shown that most countries who have experimented with and put it in practice have obtained positive results. Other members of other countries are asking what they have done so as to learn how it happened that way, if the resource is the same.

As it says in one co-management document published by Jentoft, co-management means cooperation, communication, and collaboration which are hard to obtain, especially in countries

where the resource owners are many and they are living in poor conditions.

The core essence of co-management is the “CO” and the hard part is the management; but the management of what? I say so because finally every one concludes that what really have to be managed are people and not the resource. Always we want to find solutions to problems related to the resource such as overexploitation, and the only thing to do is to find the solution of HOW to make people use the resource rationally; HOW to make people comply with the law; HOW to avoid corruption; HOW to avoid trespassing boundaries and piracy; HOW to make people understand that co-management is to manage themselves to start to do co-management; that they will obtain a mutual benefit. It is essential that government in first place learns to accept that they cannot manage something that people depend on and not take them as part of it. But people have to understand that co-management also is a set of rules that can carry them to success.

The good part of this is that all resource users get the same benefits and co-management bring different people, with different status and ideas together, they unify countries and focus and one thing, the well been of the resource that at the end it is the well been of people who depend on the resource to survive.

The hard part of co-management in some places is the access to money. From my point of view co-management has failed to address poor people’s needs, especially those who live in coastal areas abandoned by national authorities who remember that these people exist only when there is a benefit to be obtained. Or especially when government do not come with laws that somehow promote and protect the different sectors to be managed. Also, co-management will not be successful if people in the area to co-manage do not have a clear understanding of what co-management is, or what they really want to do with the resource.

Somehow CORECOMP has been a good initiative; I think one of the most important in the Caribbean that really works to make sure that government agencies, resource users and other interested parties get together to share the responsibility and authority for managing coastal resources. But they needed to put more effort, especially in countries like Nicaragua, where this issue (co-management) is not developed as a whole, where we are weak, where government still works based on top-down management.

Considering the challenges of co-management, at first, starting to talk about co-management, I thought that it was a dream in sight. After my experience with CORECOMP, in supporting me with travel expenses to participate in several international workshops, and sponsoring workshops in our country, I gained a lot of experience and learned a lot of things related to co-management



### 2.3.2 Natural resource co-management in Pearl Lagoon, Nicaragua

Submitted by Bertha Simmons

The Coastal Area Monitoring Project – Laboratory (CAMP-Lab) was executed in the Municipality of Pearl Lagoon situated in the Southern Caribbean Region of Nicaragua. The project was coordinated by Ms. Bertha Simmons who has a bachelor degree in social work and also did a postgraduate course in conflict resolution.

The co-management experience in the Pearl Lagoon Basin was first of its kind in the South Caribbean Coast of Nicaragua. It was a positive experience of communities getting together and demanding the right to protect their resources. Although the communities or the project were unsure of what a co-management process entailed they knew, however, that in order to protect their resources they needed to have active participation in decision-making regarding their resources. In 2001 CAMP established an alliance with CORECOMP. The presence of CORECOMP within this context was timely since it helped us to grasp the full concept of co-management, permitting visualization of the broader spectrum of the process and helping to shape the community approach to co-management of their resources. Their assistance was also extended to other areas that are indirectly linked to the process, such as assisting with the creation of an environmental curriculum for the schools in the Basin. The creation of such a curriculum was a need expressed by the communities to the project in order to fill an existing void; CAMP in turn sought assistance from CORECOMP in lieu of the need of experts to put together a comprehensive interactive environmental document. CORECOMP also co-financed an MSc in natural resource management for the CAMP coordinator at the University of the West Indies.

Co-management experiences good and bad. Many of these experiences and activities pre-date CORECOMP, but were relevant in setting the scene for CORECOMP.

#### The Good

- *Communities' willingness jointly protect their natural resources.* Although the communities are composed of different ethnic groups dispersed around the lagoon with a history of hostilities and mistrust among them, they were able to sit down and establish a plan to help them protect their remaining resources. Their main concern was the depletion of the fisheries, their main source of income, and the lack of governmental assistance to protect the resources or to establish alternative income sources. This perception of sharing a common enemy as well as a pursuing a common goal permitted the community to unite and form a joint front in order to address resource depletion within the Basin.
- *Establishing an Inter Community Committee.* The communities realized that in order to be heard and be taken into consideration by the government or other entities when discussing sustainability of their resources it was necessary to provide a communal voice, hence an inter community committee to serve as ethnic and indigenous communities watchdog.
- *Discussion with indirect stakeholders.* The ethnic and indigenous communities after much discussion saw the need to incorporate the Spanish-speaking communities established within the Basin into the overall discussion of the natural resource management plan elaboration and implementation. It was deemed necessary since they were seen as the exploiters/depredators of the resources due to their slash and burn

techniques that affected both the forest and the lagoon and therefore they saw the need to enlist their cooperation/assistance for resources preservation.

- *Municipal Government buy-in.* After much negotiation and lobbying with the municipal government they finally decided to accept the community base natural resource management plan and gave it an “*aval municipal*” (municipal endorsement).

### The Bad

- *The lack of regional assistance or buy-in to community based co-management process.* The Regional Government was not willing to assist a process that was spearheaded by the communities and facilitated by a local CBO. They are more drawn to assist large budget or foreign projects – bi-laterals or international NGOs mainly – as opposed to something that was born from the communities. There is a paternalistic attitude towards poor communities which is aggravated by the fact that these are composed of indigenous and ethnic groups whom they consider don't really know what is best for them.
- *Communities' real participation is usually undermined.* Government tends to make decisions and then notify the communities. There are token consultation gestures on subjects that are practically already decided unless the communities make an issue of it. International donors also have gone to the communities with a pre-set agenda of what they consider the ethnic and indigenous communities within the Basin needs. Hope as well as fear of losing an opportunity that may benefit them silence communities' doubts. The talk of community empowerment does not necessarily match the act.

Overcoming the challenges of co-management:

- *Lack of a strong community leadership structure.* The election of a community leader is at times based on his/her political affiliation or due to lack of candidates who are willing to assume such a responsibility. Most of the elected leaders possess an academic level that hardly ever goes beyond primary school, and at times do not know what the laws are that protect them in order to have real participation in the decision-making process regarding the protection and preservation of their resources. As a way to bridge this gap there was ongoing training of community boards as well as other perceived leaders and general community members on a range of topics that had to do with resource protection, different laws that assist them, leadership, negotiation, *inter alia*. Leaders as such were respected by the project as well as their opinion, they had a direct participation within different aspects of the project as part of a learn-by-doing process of developing skills and increasing confidence to address environmental issues and community problems among others with outsiders.
- *Feedback.* Dissemination of the information as well as feedback needed to enrich the co-management experience proved to be difficult due to the spatial distribution of the communities as well as difficulty and cost to access them. A way to bridge this was to bring the different community members together once a year to share their experiences, monthly project staff meeting with the different communities to discuss where we were regarding the management plan and gather their inputs among other things, also there was the creation of a local radio program run by community volunteers to be broadcasted in the two main languages spoken in the area and a quarterly environmental newsletter with articles written by staff and community members. The use of both newsletter and radio using popular communication methodology, provided a useful tool for stimulating

broader discussion and understanding of the communities' management plan which would hopefully lead to more effective implementation by the communities themselves.

- *Political culture.* The political culture in Nicaragua is a major obstacle to a co-management process. Governmental cooperation towards a community based project may very well depend on whether the party in power views them as supporters. If they are not considered supporters their efforts can be undermined. Partnerships established with the municipal and regional government may be endangered. The Intercommunal committee, whose members are from diverse political affiliation, was a way to confront this drawback. Also the committee tried to maintain a good working and personal relation with all or the majority of members of the municipal government as well as with the Basin representatives for the Regional government. The committee also worked closely with different NGOs established within the Basin as part of their alliance building efforts.
- *Conflicting legal issues.* Within a country each governmental branch (Central, Regional, Municipal and Communal government) has its own regulations and degree of autonomy. However some regulations tend to overlap or are contradicted by others. Traditional rights and ways of doing things are not always in harmony with the governmental form of doing. Government then tends to over rule actions taken by the communities in the protection of their resources. This minimizes community participation and it reduces the legitimacy of the process that drives the communities. The parties involved (communities, government) had to learn to negotiate with one and other; at times a third party (CAMP-Lab) was trusted to represent the communities in the negotiations with different institutions.
- *Inadequate allocation of time, human and economic resources.* Establishing successful co-management requires an extensive period in order to be able to accomplish results, as well as a multidisciplinary team and the economic resources to sustain such a process in its beginning. However donors were usually striving for immediate, tangible results. The project had to work on changing attitudes but also be able to produce immediate quantifying results. It had to cover a broad area with limited human and economic resources. In order to do so national and international alliances were sought. Committees were established in each community – these constituted the main project force – and alliance with different universities such as University of Guelph (Canada), CERMES-UWI in Barbados; URACCAN, BICU and UCA in Nicaragua as well as with governmental and non governmental organizations and institutions establish on the South Caribbean Coast. This permitted the facilitators to maximize their resources and provide training for staff and community members.

#### Lessons learned:

- *Group cohesiveness:* The communities around the Basin are diverse and have their own way of socializing. Different strategies needed to be developed in order to work with each ethnic group and in turn get them to really work together.
- *The presence of co-management and popular communication experts evaluating and validating the process is a major enhancement to the team working within (staff and community members), since it serves to put or keep the project on track and/or help to visualize accomplishments. It sort of help to revitalize the project.*
- *Process not miracle.* It's a long process and as such one must learn to define short term reachable goals in order not to let the participants get frustrated.

- Lobbying, forming alliance and negotiating at any given opportunity are key to making things happen.



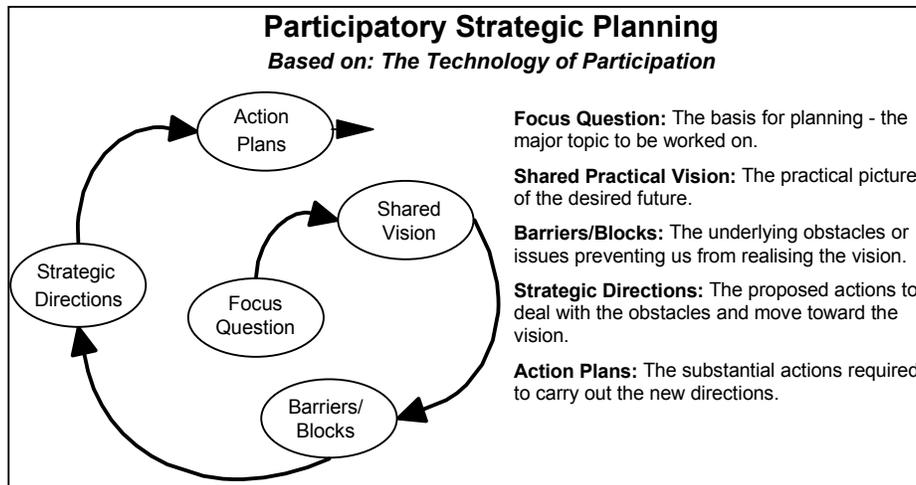
### 3. LEARNING AND ADAPTING

Along with our partners, we learned a lot from the project. In this chapter some of those insights are shared with a view to making changes for improvement under the circumstances. This is the essence of adapting and institutionalizing the practice of adaptive management as the iterative process of learning-by-doing (by experimenting), using the shared key lessons to make changes in (co-)management (adapting), and experimenting again to learn more about how to improve.

#### 3.1 Strategic planning

Strategic planning is the process of defining objectives and developing strategies to achieve them. When a plan is "strategic" it operates on a scale large enough to take in "the big picture". Going beyond a normal operational plan it facilitates a more desirable future by influencing external conditions or adapting current plans to have more favorable outcomes under the same external conditions, often by the identification and removal of blocks or constraints. Participatory implies that a group of people, such as co-management stakeholders, plan strategically together.

If people and organizations are brought together to plan, and they find that it is an effective and rewarding experience, chances are that they will be willing to accept the objectives or strategies developed, and to collaborate in management. When planning is not participatory, or has been separated from management, strong partnerships among the co-management stakeholders are less likely. Co-management is more likely to be successful, and objectives-driven, when it incorporates a participatory planning process. Learning by doing things together successfully builds capacity, trust, respect and legitimacy of both content (the plan) and process (the planning).



(Adapted from Spencer 1989)

Most individuals affected by co-management arrangements are included in the group that makes decisions about, and can change, the arrangements. In Belize, Friends of Nature is led by a team of individuals that almost all come from the local communities it serves. The strength of the organization is based on the great support that it has received from its local communities (Garbutt, this volume). However, participation in co-management in the Caribbean is often constrained because in many cases, resource users and other non-governmental stakeholders expect government to have the capacity and will to do things for them and they are reluctant to get involved in management and management planning.

The nature of the participation in planning needs to be decided early on since bottom-up is not always feasible or affordable. If stakeholders are not well informed, or do not have the capacity or time, it is not always appropriate to start at the bottom. This usually means that resource users will make their input after there is a first draft or at least an outline of plan contents. However, the process must genuinely consider and use the input of stakeholders in order to be credible. The plan should be endorsed at a political or legal level in preparation for implementation. Prior to implementation the plan should be widely publicized and disseminated for it to be actively adopted. Even though stakeholders should have bought into the plan, it may be ignored unless it is well known and becomes standard operating procedure. This helps to institutionalize the plan.

Although strategic planning for resource management is often thought of as a government exercise, NGOs and other stakeholders can take the initiative to invite government to plan with them for a particular area or resource. This is important in MPAs for which co-management agreements have been signed, such as in Belize. For all stakeholders, but especially organizations that take on significant management responsibilities, it is very useful to have a strategic plan. The strategic planning process is embedded within the formulation and revision stages of the fisheries or MPA planning process.

The participation of fishers in decision-making is not without its problems as illustrated by fisheries management planning (Fisheries Division 2004) and sea egg fishery co-management (McConney and Pena 2004, 2005) in Barbados. In the Holetown case (Pena and Mahon 2005), also in Barbados, although stakeholders were engaged at the beginning of the project and they were keen to monitor its progress and development and provide their inputs, there was difficulty keeping them engaged due to long time delays with inputs, such as survey maps and coastal engineering plans for the area. Participation comes with a price.

There is a need for the formation of community organizations and/or the strengthening of existing organizations to support engagement in planning and co-management. This was emphasized by the BARNUFO perspective in Barbados (Watson, this volume). In some places there tends to be a low degree of social integration at the community level. The absence of community cohesion and cooperative institutions at the community level is prevalent and reduces the capacity for collective action for mutual support and self-sufficiency. There is an apparent need for cooperative institutions and collective action at the local level, but cultural conditions are such that local initiatives for institutionalizing collaboration are unlikely to occur. Co-management is not possible in the absence of community organizations (core management groups) and models of cooperative behaviour. Fishers need to be organized into viable organizations and exiting organizations strengthened and sustained.

The ongoing establishment of a regional inter-governmental fisheries mechanism (the Caribbean Regional Fisheries Mechanism or CRFM) is of considerable interest, but it needs to be paralleled at the community level among fisherfolk organizations. The design and implementation of co-management in the region will be hindered by having few known formal traditions of community-based coastal resource management and the limited number and organizational weakness of fisher organizations. Future efforts in strategic participatory planning and management in the region can be guided by having effective local organizations which can require changes in both the behaviour and the organizational structures of the organizations involved.

### 3.2 Capacity building

Organisational capacity building is multi-faceted and much more than staff training. Its aim is to make organisations more efficient and effective within a well-defined vision or model of what they hope to be and do. Building capacity is often a long-term process with different types of interventions tailored to bridge the gap between what the organisation can do at the moment and what it intends to do in the future. Several skills and disciplines are drawn upon to do this. The Caribbean Natural Resources Institute (CANARI) has developed a conceptual framework for capacity building containing seven main elements that organisations should focus on. It illustrates the extent to which capacity building goes beyond training. The elements are:

- World view: vision and mission guiding capacity requirements
- Culture: an organisation's distinctive climate and way of operating
- Structure: roles, functions, positions, supervision, reporting, etc.
- Adaptive strategies: ways of responding to changing environments
- Skills: knowledge, abilities and competencies for effective action
- Material resources: technology, finance and equipment required
- Linkages: relationships and networks for action and resource flows

The Barbados Programme of Action (BPOA) for Small Island Developing States (SIDS) developed at the 1994 global conference on SIDS identifies capacity building as a key requirement. Building stakeholder capacity for co-management is essential in the Caribbean, and a critical first step in many cases. In addition to the areas in which stakeholder organisations generally need capacity, coastal co-management stakeholders need to understand resource system and human system relationships. During the project we found that there were knowledge deficiencies in these areas that applied to all categories of stakeholder. In many cases capacity could be built fairly simply if the various stakeholders engaged in collaborative activities in which skills transfer was undertaken. Learning by doing within partnerships is an approach well suited to strengthening co-management institutions, and one that is usually cost-effective.



Co-management is usually negotiated between government and organised stakeholders. It is not usually a practicable arrangement between governments and large numbers of unorganised individuals. When there are more than a few individuals, the need to organise representative stakeholder bodies becomes apparent, even if only for logistic reasons. In community-based co-management the arrangements are normally with a local governance body or institution such as a village council. If the number of organisations becomes large, then umbrella or secondary organisations are formed to represent the primary groups (e.g. BARNUFO).

Organisations should set priorities and schedules for building capacity, with testing, monitoring and evaluation incorporated to measure success. This rigorous approach helps to ensure that there is minimal sidetracking. Capacity that is required only temporarily is usually not of as high

priority as core functions. It is important also to set realistic goals and limits for capacity in various areas in order to achieve an overall balance that reduces vulnerability. For example, a fisherfolk organisation would not normally include a fisheries scientist, but some members could be trained to understand the principles of marine science sufficient for the organisation to effectively communicate with scientists and vice versa.

Organisations build capacity through the efforts of individuals. The correct individuals must be selected to build the capacity of organisations. These people should be, or be placed, in positions where they can use newly acquired skills. Governments in the region are renowned for not making rational use of human resources due to various constraints in the civil services and public administration. Transfers of critical skills should also be planned and implemented at every opportunity. In very small organisations it is common for the same person to take on all types of training and be expected to perform in many different roles. The entire co-management arrangement should be organised so as to make best use of both individual and organisational talents.

Requirements for building capacity to effectively engage in co-management and community-based management in the region include designing new approaches to training and education to benefit community institutions and users, multidisciplinary approaches, incorporation of field-based learning and dissemination of specific skills. The majority of fisherfolk associations and cooperatives are structurally and financially weak and require technical assistance to engage in co-management. For example, it was noted that if fisherfolk organizations in Barbados are to become true partners in co-management, it will be necessary to provide more assistance in the areas of leadership skills, business management and information acquisition for decision-making.

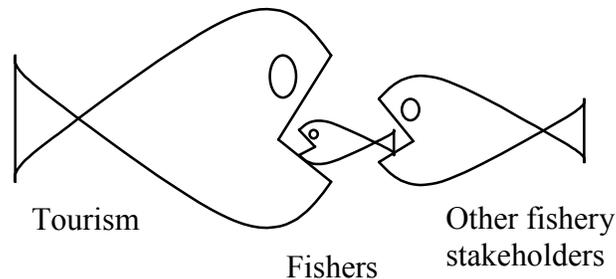
Structural and operational weaknesses of the existing resource user organizations render their capacity to assume the obligations and responsibilities involved in effectively participating in co-managing the resources highly uncertain. A critical barrier to effective co-management of protected areas in Belize is lack of capacity of community-based organizations to implement their responsibilities related to co-management of protected areas (Goetze and Pomeroy 2003).

Capacity building is not an end in itself, but is one consideration to be factored into the design and implementation of natural resource management approaches that are participatory and sustainable, and that provide economic benefits. To make co-management a cornerstone of the emerging regional efforts towards integrated coastal management there is a need to build appropriate social capital amongst local organizations and groups. There is an imbalance in individual and community organization capacity and level of power that will need to be addressed. Based on experience of the role of co-management in developing the Folkstone Marine Park and Reserve in Barbados, there is a need to pay attention to imbalances in stakeholder capacity to participate in multi-stakeholder processes, e.g. fishers versus tourism.

### **3.3 Stakeholders and power**

In some instances fisheries and coastal management authorities have enormous power and must be willing to share that power with resource users and stakeholders. In other cases the authorities may face more powerful opponents and will need the support of resource users and stakeholders to back them up. Participation requires changes in attitude towards power and authority. More powerful stakeholders will circumvent participatory processes when it serves their interests to do so. Even when stakeholders are properly identified, and when their interests are properly taken

into account, there are many forces which mitigate against the fair and equitable distribution of rights, responsibilities and benefits. Access to power, and perceptions of power and influence, directly affect stakeholders' interest and willingness to come to the negotiating table.



Many existing community organizations are highly dependent on government for their existence and will need to become more independent. Based on experience with organizing fisherfolk in Barbados, although the incremental approach to fisherfolk organization development employed in recent times places most of the decision-making responsibility in the hands of the fisherfolk, the directional influence of government is strong. A greater degree of independence and initiative must be attained by fisherfolk organizations in order to avoid the tendency to become co-opted into government's management agenda without meaningful participation in decision-making. While government needs to retain its provision of information and tangible benefits, implementation of legal frameworks, and otherwise create an environment suitable for organization development, it needs, if possible, to step back from the task of intimately directing their development. In an evaluation of the Fisherfolk Organization Development Project in Barbados, it is reported that at this stage there is understandably much dependence upon government, but a greater degree of self-reliance must be demonstrated if they are to avoid co-optation by government, even if unintentional.

The marine resource use in the region involves multiple stakeholders and multiple conflicts that will need to be addressed through dialogue and consultation with stakeholders. There is a need to consult and promote dialogue with the multiple resource user groups in order to find ways of accommodating all, while reducing conflict. There is a need to promote the consultation process with fishing communities in order to enhance their involvement and participation in decision-making and planning processes in fisheries management. Often it is implied that stakeholders are only those outside of the government such as NGOs, CBOs, fishing and other groups in civil society. In the Caribbean, where many co-management initiatives are led by State agencies, the inclusion of government is essential. If co-management initiatives are initiated by non-government organizations then these organizations should exercise their power and make all efforts to draw government in as a partner, even if in the context of conflict management. Where the government shows little initial interest in co-management, it will eventually need to become involved at some stage.

Both fishers and the state are deficient in fishery resource information, and their deficiencies differ in ways that could make information exchange mutually beneficial. Information is a source of power. Trust and cooperation within the fishing industry, and between it and the state, could be improved through information exchange. The uncertainty surrounding the fishery, and the weakness of the state, provide a strong incentive for the harvest sector and government to introduce co-management starting with the relatively simple and straightforward exercise of joint

data collection and analysis as activities for introducing and promoting stakeholder participation. This is what was tried, with considerable success, in the Barbados sea egg fishery (Parker, this volume).

In most countries there is a need for both intensive and extensive use of consultation with the resource stakeholders, use of participatory approaches to decision-making processes, and establishment of more local resource management bodies representing all stakeholder groups. Future efforts in participatory planning and management in the region will work when participants are provided with the information required to make decisions, when all relevant stakeholders are incorporated from the outset, and it is appreciated that data collection on stakeholder groups does not equal participation. There is a need for transparent, negotiated processes for determining priorities in the face of inadequate resources. There is a need for types of consultation between government and fishers that create and build trust and respect.

As much as possible, all stakeholders should be identified and included in the co-management arrangements. In the case of Friends of Nature in Belize, it was the stakeholders themselves, essentially fishing and tourism stakeholders, who pushed hard for the declaration of the protected areas. One of the greatest threats to the success and effectiveness of participatory management processes and institutions is the accidental or deliberate exclusion of one or more groups of stakeholders from the planning and negotiating stages. In Belize, TASTE has stated that they have had stakeholder issues that have required conflict resolution, but not too many. As ever, participation is hard to create but they found that new stakeholders (youth) offer stronger participation and more goodwill. Management authorities and other participants often have clear views on the composition of partnerships in existing and potential co-management arrangements.

Within co-management arrangements there may be stronger partnerships and alliances among certain stakeholders whose interests are closer to each other or who have an umbrella, or secondary, organization to represent them. An example could be tourism interests (hotels, guest houses, dive shop operators) forming an alliance that does not include other stakeholders such as water taxis and fishers. These types of temporary or permanent partnerships within co-management arrangements can be useful in reducing the number of different parties that are involved in negotiations or conflict management, and they should be encouraged. One potential problem with this is if the allied stakeholders form a power faction that tries to take unfair advantage of the smaller, separate groups such as by forcing their decisions onto the others.

There is need for thorough methods of stakeholder identification, which aim at ensuring that all parties are properly recognized and given a chance to participate in the process. When complete participation is not an option, even limited participation can contribute to improved planning processes. There is a need to recognize the diversity of stakeholders and take into account the full complexity of their interests and relationships with the resource and with one another. Beyond identification, stakeholder analysis examines power and other relationships. The participatory approach to stakeholder identification and analysis takes considerable time and financial resources but can provide valuable insights. It is not always possible or feasible (e.g. due to budget limitations or logistics of travel) to have all stakeholders represented in management, especially not all of the time. In some countries there is a need to recognize and work with indigenous peoples and their territories, bearing in mind the large proportion of the region's natural resources that is under their stewardship and their marginalization to date.

### 3.4 Organising and leadership

Compared to Southeast Asia and the Pacific, the Caribbean has fewer coastal and marine non-governmental and community organisations that are positioned to play roles in co-management. Community organising will be a critical component of introducing or strengthening co-management in the Caribbean. This involves the promotion and support of collective action.

Collective action is group effort to reach and implement decisions in three steps. First, one has to determine the specific aims and objectives of those in the group. Then agree, preferably by consensus, on the course of action to take. Third, implement the decision or action and monitor results, with feedback. Collective action needs special attention, especially in relation to fisherfolk organisations. The weaknesses of fishery organisations in the Caribbean suggest that much will have to be done to promote sustained collective action to institutionalise co-management. Crisis driven management responses prevail in both government and industry. Crisis responses often feature intense, but only temporary, collective action.

Sustained collective action is necessary to make co-management successful. Two of the most common challenges for collective action are lack of coordination and prevalence of free riders. A free rider seeks to obtain benefits without cost or effort. There are often high expectations in fisherfolk organisations that, as with a boat crew, everyone will pull their weight. In Barbados, organisational leaders see free riding as a serious indictment of the membership, ignoring the rule of thumb in most organisations that 10% of the members do 90% of the work. Problems of apparent free riding must be distinguished from the genuine lack of capacity to contribute, the need to focus on survival as a priority (consider poor members), the mistrust of leaders, the expectation of free patronage benefits based on political experience and other factors that cause group members not to actively contribute. This could be due to choice, their inability or the lure of more attractive options. Sometimes the problem is lack of skills in mobilisation, causing the initial momentum of group activity to die down as the crisis passes and people tire of organisational ineffectiveness. Collective action requires constant attention to mobilisation and keeping the group together through difficult periods.

Political fear of collective action, in the form of organised opposition, may prompt interventions that seek to stifle it. Separating popular movements from party politics can be a challenge in the Caribbean. In co-management there is a need to reassure partners of shared goals and willingness to work together. This causes collective action and organising stakeholder groups to be directed towards a common goal rather than be dissipated in internal struggles. Where the social myth that fishers cannot act collectively is deeply embedded, such as in places where cooperatives and associations have often failed, it is important to learn lessons and build models of success from other group efforts. In Gouyave, Grenada, the successful social and cultural groups serve as examples that fishers can emulate.

Most countries have formally organised, even if quite weak, cooperatives and fisherfolk associations. However, these groups will not automatically be suitable as representative organisations in co-management. Authorities should be prepared to support and strengthen the organisation as a whole rather than just steer it towards management roles. This serves the purpose of more comprehensively looking after the interests of members and may help to address issues such as of livelihoods and poverty. It is likely that cooperatives were established with objectives that relate more to expanding exploitation, improving marketing and increasing the incomes of members. Changes in outlook will be necessary for these groups to play major roles

in resource management. These changes may be difficult and lengthy, especially if the organisation is still struggling to achieve its original development mandate. Putting more focus on management may strain the internal cohesion of the organisation. To prevent this requires strong leadership.

Without good leadership it is unlikely that any organisation will survive and prosper. There is an abundance of good leaders in government and stakeholder organisations for technical matters. Boat captains are leaders of fishing enterprises and many are exceptionally knowledgeable about their working environment. Crews follow the captain's instructions at sea, but the captain may be out of his depth on land when leading the fisherfolk organisation in negotiations with the fisheries authority or tourism interests. For this activity, the fisher organisation needs a leader with different skills. It is a common mistake to take leaders out of their element and expect them to do equally well in another environment. A few people are "born leaders" wherever you put them, but most people acquire leadership skills with strengths in what they know best. To this they add learned skills such as group facilitation, meeting planning and conduct, making presentations, documentation etc.



Style of leadership is also very relevant to co-management. There are three main styles, and clearly the participative or democratic style is fundamentally most compatible. However, authoritarian or delegating approaches may be more appropriate at times. Leadership style may determine the chances of successfully negotiating agreements, reaching consensus and encouraging buy-in to support compromise outcomes. A leader does not have to be charismatic or a micro-manager in order to be effective. Recommendations for effective leadership are tending towards individuals or teams that can bring out the group's vision for the future and mobilise group members in working towards achieving that vision. The leader of a co-management institution must command the trust and respect of a diverse array of stakeholders.

Among Caribbean fishers there is often a strong spirit of egalitarianism, or peer group equality. In Barbados this has worked against the sustainability of organisational leadership since no one wants to appear superior. Emerging leaders have unrealistic expectations of group input, and are often dismayed at the high proportions of free riders. Leaders are often suspected of personal aggrandisement and power seeking. In the Caribbean there is often a close link between power and party politics. Politicians who fear leaders or co-opt them for political gain can endanger the integrity of co-management processes. The same goes for stakeholder leaders who seek political alliances that weaken their allegiance to the organisation and the members that they were selected or elected to represent.

In non-Caribbean countries it is not unusual for women to play major roles in leading fisheries-related organisations. Often they are related to the men who fish, and they use their presence on land during office working hours to look after the affairs of the fishers at sea by going to

important meetings and otherwise being the representatives of the workers at sea. While women in the Caribbean play important roles in fishery and other occupations, particularly in marketing, they are usually not in the forefront of fisherfolk organisational leadership. Given the strong roles played by women in Caribbean society and economies, their potential as fisherfolk leaders should be encouraged. BARNUFO in Barbados offered a role model for this during the project.

### **3.5 Role of government**

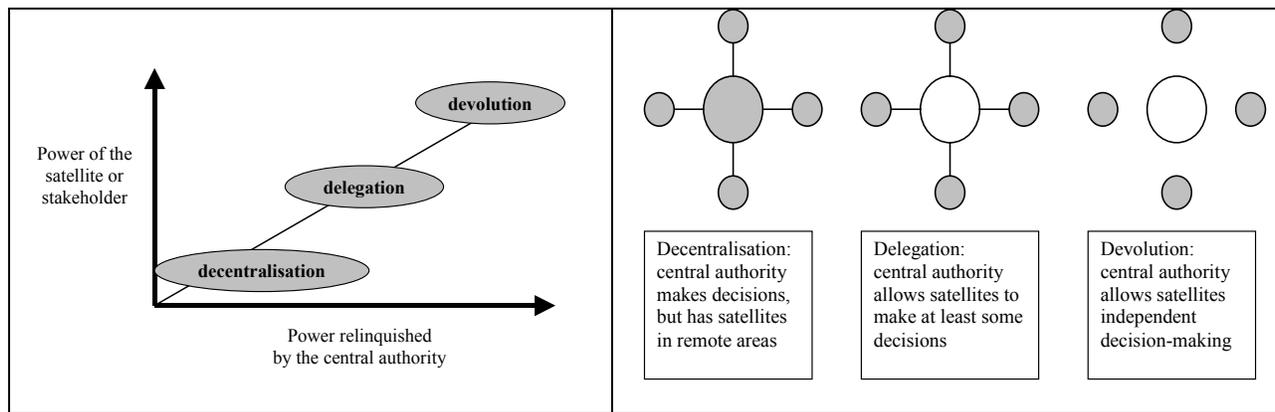
Increasingly, government policies and programs stress the need for greater resource user participation and the development of local organizations to handle some aspect of resource management. Policies favouring co-management are a necessary but not sufficient condition for successful co-management. This suggests that it may be insufficient for governments simply to call for more community involvement and fisher participation; they must also establish commensurate legal rights and authorities and devolve some of their powers. The delegation of authority and power sharing to manage the fisheries may be one of the most difficult tasks in establishing co-management. Government must not only foster conditions for fisher participation but sustain it. In Nicaragua, for example, the political culture is a major obstacle to a co-management process. Governmental cooperation towards a community based project may very well depend on whether the party in power views them as supporters. If they are not considered supporters their efforts can be undermined.

As a first step, government must recognize local institutions as legitimate actors in the governance of fisheries resources. In the Pearl Lagoon of Nicaragua, Government tends to make decisions and then notify the communities (Simmons, this volume). There are token consultation gestures on subjects that are practically already decided unless the communities make an issue of it. At a minimum, government must not challenge fishers' rights to hold meetings to discuss problems and solutions and to develop organizations and institutional arrangements (rights and rules) for management. Fishers must feel safe to openly meet at their own initiative and discuss problems and solutions in public forums. They must not feel threatened if they criticize existing government policies and management methods. As a second step, fishers must be given access to government and government officials to express their concerns and ideas. Fishers should feel that government officials will listen to them. As a third step, fishers should be given the right to develop their own organizations and to form networks and coalitions for cooperation and coordination. Too often there has been the formation of government-sponsored organizations which are officially recognized but ineffective since they do not represent the fishers, but these may be the only type of organization a government may allow. Fishers must be free to develop organizations on their own initiative that meet their needs.

The cooperation of the local government and the local political elite is important to co-management. In the Pearl Lagoon of Nicaragua, after much negotiation and lobbying with the municipal government they finally decided to accept the community based natural resource management plan and gave it an "aval municipal" (municipal endorsement). There must be an incentive for the local politicians to support co-management. There must be political willingness to share the benefits, costs, responsibility, and authority for co-management with the community members. Co-management will not flourish if the local political "power structure" is opposed in any way to the co-management arrangements. In addition to the political elite, local government staff must endorse and actively participate in the co-management process. Local government can provide a variety of technical and financial services and assistance to support local co-

management arrangements such as police, conflict management, appeal mechanism, and approval of local ordinances.

Fishers often develop their own rules for management in addition to those created by government. For example, fishers may establish rules defining who has access to a fishing ground and what fishing gear can be used. The fishers may be able to enforce the rules as long as there is at least a minimal recognition of the legitimacy of these rules by the government. This can be formal, as through a municipal ordinance, or informal, as through police patrols to back-stop the local enforcement arrangements. If government does not recognize the legitimacy of the rules, then it will be difficult for the fishers to maintain the rules in the long run. Thus, the role of government in establishing conditions for co-management is the creation of legitimacy and accountability for the local organization and institutional arrangements. The government, through legislative and policy instruments, defines power sharing and decision-making arrangements. Only government can legally establish and defend user rights and security of tenure. One means of establishing these conditions is through decentralization.



Decentralization refers to the systematic and rational dispersal of power, authority and responsibility from the central government to lower or local level institutions—to states or provinces in the case of federal countries, for example, and then further down to regional and local governments, or even to community associations. The approach of decentralization is for the centre to delegate some measure of its power to the lower levels or smaller units in the government system. Increasing local autonomy is a focal point in the decentralization process. Generally, power and authority are transferred or withdrawn by laws enacted in the centre.

In many countries, government programmes and projects stress the development of local organizations and autonomy to handle some aspect of fisheries management. Seldom, however, is adequate attention given to the establishment of administrative and policy structures that define the legal status, rights and authorities essential for the effective performance of local organizations. Many attempts at decentralization have not delivered a real sharing of resource management power.

In the Caribbean region, there has been very little decentralization or delegation, and no devolution, of significant responsibility and authority by government authorities to fishers, except in Belize (Goetze and Pomeroy 2003). Governments have relinquished more power in MPAs, especially in Belize, but also in other places like St. Lucia and Dominica. The reason for stakeholders having more power in MPAs stems in part from the expectation that managing an

MPA should be a profit-making business-like operation that needs little government intervention except regulation and policy support. In Nicaragua, the Regional Government was not willing to assist a process that was spearheaded by the communities and facilitated by a local CBO.

If new fisheries co-management initiatives are to be successful, these basic issues of government policy to establish supportive legislation, rights and authority structures must be recognized. The devolution of fishery management authority from the central government to local level governments and organizations is an issue that is not easily resolved. Legislation and policy for co-management are embedded in a broader network of laws, policies and administrative procedures, at both national and local government levels. Consequently they will be difficult to change. Government administrative and institutional structures, and fisheries laws and policies will, in most cases, require restructuring to support these initiatives. In Barbados, BARNUFO [ref] still feels that "...not quite satisfied that some of the scientists and managers are quite ready to relinquish some of their responsibilities."

There may be limitations in stakeholder and state agency capacity, and legal framework that are barriers to decentralization. For example, in Barbados the fisheries regulations need to be amended to provide for delegation of authority to fisherfolk organizations and to promote collaborative co-management through the Fisheries Advisory Committee. These provisions may then be used as leverage to strengthen the organizations, provided that there is willingness and leadership to respond. Without strengthening they would not have the capacity to successfully discharge the additional responsibility. The re-distribution of power from government to other stakeholders is usually an incremental and gradual process based on good performance assessed through monitoring and evaluation. The extent of redistribution parallels the three main types of co-management, with government relinquishing more power as you go from consultative, through collaborative, to delegated co-management.

Although most stakeholders accept additional authority and responsibility, refusal may be warranted where it is clear that the government is only interested in passing on the costs and logistic difficulties of resource management without providing much or any support. Even with the potential profitability of MPAs there is usually a critical initial period that requires State support. Giving responsibility without authority or real power has been a criticism of the co-management thrust in Belize. While it is important not to foster dependency, it is essential to provide sufficient support to ensure that the co-management arrangement is on a sound footing. If stakeholders are ready to assume more responsibility than the government has offered to share through negotiation, then lobbying and pressure group tactics may become necessary. If these are used, the stakeholders should ensure that a viable plan exists to implement the tasks and additional activities that will result from a successful re-distribution of power.

In detailing the specifics of the decentralization strategy, questions of implementation become crucial points of debate. What powers and functions, for instance, can be properly entrusted to local institutions and which institutions—local government or user group? What are those that should be left to the central government? How is the sharing of resources to be administered? What should be the role of non-government organizations and people's organizations (an organized group of individuals with similar interests)? What is the proper and appropriate mix of government and private sector participation? Will decentralization occur only for the fisheries bureaucracy, or will it be a government-wide initiative? This collection of issues impinges on decentralization strategies and drives the political debate associated with decentralization.

## **4. CONCLUSIONS**

In this final brief section we pull some of the threads together to present the key lessons learned from the project and to suggest directions for new research on coastal resource co-management in the region.

### **4.1 Key lessons learned**

Some of the lessons learned with our partners in the process of executing this project are of particular significance to the region, while many others are more site and situation-specific. The former are the key lessons learned. They have been described in the perspectives of the project participants, the project outputs in the appendices or standing alone, and in the preceding sections about learning and adapting. They are briefly reiterated in summary below.

- Government enabling policies and legislation from the top-down are needed to support co-management initiatives from the bottom-up.
- Government authorities need to change their attitudes and behaviour in order to share power with community and stakeholder organizations.
- Strategic participatory planning can be one of the main tools for encouraging information exchange and building trust among stakeholders in new arrangements.
- Government authorities and other non-governmental stakeholders will need to build their capacity to effectively engage in co-management.
- Leadership is an area in which capacity must be built as a matter of urgency in order to manage change and sustain collective action.
- Marine resource use in the region involves multiple stakeholders and multiple conflicts which can be addressed through co-management.
- All stakeholders should be identified and, if possible, included to the extent of their ability in the co-management arrangements.
- Creation of new stakeholder organizations and/or the strengthening of existing organizations to engage in co-management are often necessary.
- Imbalances in individual and organizational capacity and power amongst stakeholders will need to be addressed in pursuit of equitable outcomes.
- Many existing stakeholder organizations are highly dependent on government for their existence and will need to become more independent and self-organising.
- Incentive structures (economic, social) related to the shared recognition of problems and solutions are necessary for individuals and groups to actively engage in co-management.
- Restricting user access, especially to marine resources, will be difficult due to existing property rights arrangements and philosophies that favour open access.
- Strong non-governmental organizations are needed to serve as change agents and mentors in support of the co-management process throughout all of its phases.

### **4.2 Directions for new research**

Establishing coastal resources (especially small-scale fisheries and marine protected area) co-management in English-speaking Central America and the Caribbean will be a long-term process and cannot be achieved unless the partners are well prepared to take on the added responsibilities this entails. Research is needed to support the preparation of the partners to engage and advance

in co-management. Much of this can be participatory action research. Pilot projects should be initiated in which all partners can gain practical experience with co-management and test and demonstrate to each other their commitment to the process, developing trust and credibility. The pilot projects can further serve to identify needed legal and policy changes to support co-management.

Co-management in the Caribbean region will differ in some respects from that in other regions of the world. There are a number of research questions related to the process of co-management and co-management systems that may be useful for directing new research in this region:

- Organizational forms: most appropriate and effective for different stakeholder groups
- Scale: of institutional and organizational arrangements, ecosystems, users
- Adaptation: process of institutional and organizational evolution over time
- Governance: structure and content of co-management agreements, enabling policy
- Monitoring: measurement of short- and long-term changes and impacts
- Networks: linkages and flows among co-management participants and others
- Capacity: how to build and sustain it for and through self-organisation
- Resilience: making successful co-management arrangements more durable

An important point to note is that much of this research can be done fairly simply by the people of the region who stand to benefit most from successful co-management. So we encourage donor agencies, applied academic researchers and potential co-management partners to boldly seek new opportunities for advancement.



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The list below sets out general and country-related outputs produced by the project either through direct funding or indirectly through supporting partnerships with other agencies and individuals. The next section contains the policy briefs produced from the project. The final section provides references to documents that were not produced by the project but are relevant to co-management. The project outputs are compiled as an appendix and stand alone documents.

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## 6. APPENDICES

### Appendix 1. Project proposal

<b>Organisation Name and Address:</b>	Natural Resource Management Programme (NRM) Centre for Resource Management and Environmental Studies (CERMES) University of the West Indies, Cave Hill Campus St. Michael, Barbados Tel. (246)-417-4565 Fax (246)-424-4204 E-mail: nrm@uwichill.edu.bb
<b>Contact Persons:</b>	[1] Dr. Patrick McConney, Outreach Coordinator NRM, CERMES, University of the West Indies Cave Hill Campus, St. Michael, Barbados Tel. (246)-417-4565; Fax (246)-424-4204 E-mail: nrm@uwichill.edu.bb Or patrickm@caribsurf.com  [2] Dr. Robert Pomeroy, Associate Professor Dept. of Agricultural and Resource Economics and Sea Grant Extension Fisheries Specialist University of Connecticut-Avery Point 1080 Shennecossett Road, Groton, CT 06350 USA Tel: (860)-405-9215; Fax: (860)-405-9109 E-mail: robert.pomeroy@uconn.edu  Also an Associate Research Fellow of CERMES
<b>Project Title:</b>	Reforming Governance: Coastal Resources Co-management in Central America and the Caribbean
<b>Total Project Budget :</b>	US\$665,724
<b>Amount Requested from Oak Foundation:</b>	US\$200,000
<b>Organisational Budget:</b>	US\$1,578,052
<b>Proposed Grant Period:</b>	24 months beginning January 2003

#### Project Summary:

The countries of Central America and the Caribbean (CAC) have a relatively poor record of fisheries management and the need to reform fisheries governance is urgent. The fishers, most of whom are small scale, are now finding their food security and livelihoods threatened due to resource overexploitation and environmental and habitat degradation. Fisheries co-management, as a process of participation, empowerment, power sharing, dialogue, conflict management and knowledge generation, holds potential as an alternative fisheries management strategy and as a solution to these problems for the region. The goal of this project is to promote sustainable development of fisheries and other coastal resources in the region through improved fisheries governance and management. The project will demonstrate the applicability of fisheries co-management as a viable alternative fisheries management strategy under varying conditions in the region. General principles and conditions that facilitate successful fisheries co-management will be identified and documented at both national government and community levels. Specific strategies and processes for implementing co-management at the national government and community levels will be available for use in the region.

#### EXECUTIVE SUMMARY

The countries of the Caribbean have a relatively poor record of fisheries management and the need to reform fisheries governance is urgent. Many of the fisheries are fully exploited or overexploited. This is especially true for

near shore demersal and coral reef fish species, conch and lobster, and coastal pelagics on which many of the fishers in the region are dependent for their livelihood. The fishers, most of whom are small scale, are now finding their livelihoods threatened due to resource overexploitation and environmental and habitat degradation. In addition, tourism and coastal development have caused increased conflicts among various coastal and marine resource users. Fisheries co-management, as a process of participation, empowerment, power sharing, dialogue, conflict management and knowledge generation, holds potential as an alternative fisheries management strategy and as a solution to these problems for the region. Fisheries co-management will, however, involve the establishment of new fisher organisations, institutional arrangements and laws and policies to support decentralization, fisher participation in management, and partnerships for management.

The **goal** of this proposed project is to promote sustainable development of fisheries and other coastal resources and to ensure food security and livelihoods for those who depend upon these resources in the Central American and Caribbean region through improved fisheries governance and management. The **intermediate objective** of the proposed project is to develop information, strategies and policies for fisheries and coastal resources governance reform in the Central American and Caribbean region through co-management. **Specific-objectives** under the intermediate objective include: 1) The implementation of co-management pilot projects at selected sites; 2) Capacity building and institutional strengthening of the major partners in co-management, including government, fishers and non-governmental organisations; and 3) The development of strategies, processes and policies for implementation of co-management in the region.

The project will demonstrate the applicability of fisheries co-management as a viable alternative fisheries management strategy under varying conditions in the CAC region using a “learning portfolio” approach. General principles and conditions that facilitate successful fisheries co-management will be identified and documented at both national government and community levels through evaluation and learning across pilot sites within the portfolio. While fisheries co-management may not be a viable alternative fisheries management strategy for all countries and fishing communities, the project will establish under which conditions it can be a sustainable, equitable and efficient management strategy and recommend how it can be successfully implemented. Specific strategies and processes for implementing co-management at the national government and community levels will be available for use in the region. It is expected that several of the target countries will have taken action at both national government and community levels to implement fisheries co-management strategies.

## 1.0 Problem Statement

The countries of Central America and the Caribbean (CAC) have a relatively poor record of fisheries management and the need to reform fisheries governance is urgent (Chakalall, Mahon and McConney 1998). The fisheries of the CAC region are heterogeneous, including a wide variety of types of fisheries, distribution, vessels and gear used, problems, and approaches to management and development. Many of the fisheries are fully exploited or overexploited. This is especially true for nearshore demersal and coral reef fish species, conch and lobster, and coastal pelagics on which many of the fishers in the region are dependent for their livelihood. The fishery can be generally classified as *de facto* open access, as anyone who cares to fish can do so, with little governmental control over access or enforcement of fishing regulations. The fishers, most of whom are small scale, are now finding their livelihoods threatened due to resource overexploitation and environmental and habitat degradation. Poverty in rural communities is increasing as a result of declining marine resources. In addition, tourism and coastal development have caused increased conflicts among various coastal and marine resource users. There is also declining coastal water quality from land-based sources and increasing coastal erosion and flooding.

Fisheries provide employment for approximately one million fishers in the region, of which over 90 percent are in the small-scale sector. As these fishers compete with one another and with other users for access to dwindling coastal and marine resources, multiple use conflicts have become increasingly evident between users. Within this open access fishery, the demographic pressure on the resource and the lack/breakdown of institutions designed to address the emerging conflicts of multiple user groups have been exacerbated by a booming tourism sector, along with commercial and industrial development within the narrow coastal strip of most countries. The result of these conflicts is that the biological sustainability of the fishing and other marine resources are being systematically undermined, the norms of equity are being violated, and economic efficiency reduced.

Fisheries policies in the CAC region have primarily emphasized development without concomitant conservation and management measures. Most countries have weak legislation and no fishery management plans. It was not until the early 1980s, for example, that the Organisation of Eastern Caribbean States countries developed harmonized fisheries laws and regulations. The few regulatory and monitoring and surveillance systems that have been instituted have not been effective in managing the resources, typically because resource users were never involved in planning and implementation of such systems, and not enough resources were originally allocated for implementation. Only a few countries in the region have initiated active integrated coastal management programs (Barbados, Belize) (Brown and Pomeroy 1999).

Centralized management has been widely criticized as a primary reason for the overexploitation of fisheries resources in the region, although in reality the fishers have done little to monitor and police themselves. Bureaucrats and professionals have replaced the resource users as resource managers. The centralized management approach has involved little effective consultation with the resource users and is often not suited to the conditions of the countries in the region, many of which have limited financial means or technical capacities to manage fisheries resources. The command-and-control system (the use of various harvest control regulations), which has been used to manage fisheries, is seen by many to be outdated and inadequate for the increasing problems in the fishery.

## 2.0 Project Goal and Objectives

The **goal** of this proposed project is to promote sustainable development of fisheries and other coastal resources and to ensure food security and livelihoods for those who depend upon these resources in the Central American and Caribbean (CAC) region through improved fisheries governance and management.

The **intermediate objective** of the proposed project is to develop information, strategies and policies for fisheries and coastal resources governance reform in the Central American and Caribbean region through co-management.

**Specific-objectives** under the intermediate objective include:

- 1) The implementation of co-management pilot projects at selected sites;
- 2) Capacity building and institutional strengthening of the major partners in co-management, including government, fishers and non-governmental organisations; and
- 3) The development of strategies, processes and policies for implementation of co-management in the region.

## 2.1 Project Approach

### 2.2

In response to the failures of current fisheries and coastal resources management approaches in the CAC region, a number of alternative approaches have been proposed to fill the management gap. These alternative approaches are meant to deal with the perverse economic incentive system which arises largely from the fact that these resources are characterized by ill-defined resource property rights. From an economic perspective, the causes of overfishing are generally found in the absence of property rights or other institutions that might otherwise provide exclusive control over harvesting and, as a result, an incentive to conserve.

In addition, fishers, the de facto day-to-day managers, must become equal and active participants in resource management. An open dialogue must be maintained between all the stakeholders in resource management. Property rights to the resource must be assigned directly to its stakeholders - the coastal communities and resource users. The “community” must be reinvigorated through a multi-sector, integrated approach to resource management and community social and economic development. A new management philosophy is warranted in which the fisher can become an active member of the resource management team, balancing rights and responsibilities, and working in a cooperative (rather than antagonistic) mode with the government. Through this cooperative, joint management approach, a rational extension of evolutionary trends in resource management emerges.

Cooperative management, or “**co-management**”, is increasingly seen as a solution to these problems for the region. Co-management can be defined as: a partnership arrangement in which government, the community of local resource users (fishers), external change agents (e.g. non-governmental organisations, academic and research institutions), and other fisheries and coastal resource stakeholders (e.g. boat owners, hotels, fish traders, sailing operations, etc.) share the responsibility and authority for decision making over the management of the fishery. Community-based resource management is a central element of co-management. Co-management is a process of

participation, empowerment, power sharing, dialogue, conflict management and knowledge generation. Implementation of co-management has four integrated components: 1) resource management, 2) community and economic development, 3) capacity building, and 4) institutional support. Co-management involves giving people the skills and power to solve their own problems and meet their own needs. The rationale for co-management is that self-involvement in the management of the resource will lead to a stronger commitment to comply with the management strategy and lead to sustainable resource use. Co-management covers various partnership arrangements and degrees of power sharing and integration of local (informal, traditional, customary) and centralized government management systems. The amount of responsibility and authority that the state-level and various local levels have will differ and depend upon country and site-specific conditions. Co-management will, however, often involve the establishment of new fisher organisations, institutional arrangements and laws and policies to support decentralization, fisher participation in management, and partnerships for management.

In order to improve fisheries management in the CAC region, there is now increasing interest in getting fishers and other stakeholders more involved in management through co-management and community-based management (CBM) approaches. Except for a few notable exceptions in Jamaica, Belize, and St. Lucia, there are no strong traditions of collective action, community-based coastal resource management or of preferential use rights of coastal resources in the CAC. The history of fisheries management in the region is relatively new and reflects the centrally managed approaches instituted by the colonial governments that ignored the role of resource users and informal or traditional systems of management. The fisheries in most countries were never considered to be a very important sector to most country's economies and thus received limited attention. The historical roots of Caribbean fishing communities are relatively recent, when compared to other parts of the world, and have been shaped by the slave-based colonial plantation economy of the region. This plantation system did not support the establishment of local organisations or the development of a sense of community cohesion among fishers (Brown and Pomeroy 1999). However, recent research results on the perceptions and attitudes of 937 fisher respondents in 30 fishing communities in the 12 Caribbean Community (CARICOM) countries about fisheries management and co-management show strong support for participation in management and for co-management (Espeut 1994).

Recently, there have been several **efforts in support** of co-management in the region. Most notable are the harmonized fisheries legislation adopted by the Organisation of Eastern Caribbean States (OECS), and the activities of the CARICOM Fisheries Resource Assessment and Management Programme (CFRAMP). In addition, a number of governments and non-governmental organisations have undertaken co-management projects in various countries in the region. However, while the genuine importance of community participation in the management of natural resources has now been widely accepted by resource managers and government officials, the reality is that fishers in the region have only a limited role in management. Moreover, evaluative efforts to assess the collective impact of individual projects undertaken have not occurred and therefore little learning at the policy level has occurred.

Since co-management is not a common resource management strategy in the CAC region at present, a process and structure for this approach that meets the needs and conditions of the region will need to be developed through experience. The design and implementation of co-management in the region is supported and hindered by several factors. **Constraints** include: (1) no formal traditions of community-based coastal resource management; (2) lack of capacity on the part of fishers due to weak or nonexistent fisher organisations and poor leadership; (3) lack of political will and reluctance on the part of governments to share power and responsibility; (4) lack of expertise of fisheries managers; (5) lack of a legal and policy framework; and (6) lack of capable non-governmental organisations to support the process. **Advantages** includes: (a) strong support for co-management among fishers in the region; (b) recent successful co-management projects in Belize, St. Lucia and Jamaica; (c) capacity building activities through CFRAMP; and (d) harmonized fisheries legislation among countries in the OECS region.

There can be no one **model** of co-management for the region. Each situation is unique and requires the development of plans, institutions and organisational arrangements that meet the conditions of that site and that country. To date, two general models of co-management have emerged in the Caribbean. The first, called the "St. Lucia Model", developed as a consequence of a crisis situation. This model involves intensive and extensive use of consultation with the resource stakeholders, the use of a participatory approach to the decision-making process, and the establishment of a local resource management body representing all stakeholder groups. The other model, called the "Fisher Organisation Model", gives priority to the formation and/or strengthening of existing fisher organisations. This model stresses community awareness and education programs to build the capacities of fishers to effectively participate in management and the establishment of co-management arrangements among stakeholders. Experience

will see further refinement of these approaches, as well as the likely establishment of new models that fit the diverse needs and conditions of the region. One such new model is the fisheries advisory committees proposed by Caribbean States and assisted by CFRAMP (CFRAMP 1997). These advisory committees include fishers who work with government on the establishment of plans and regulations.

Fisheries co-management holds strong **potential** as an alternative management strategy for the CAC region. It will be a long-term process and cannot be achieved unless the partners are well prepared to take on the added responsibilities entailed. It is clear that the major partners in any co-management strategy for the region - fishers, government, NGOs - are structurally and organisationally weak. The immediate focus of any regional or country-specific initiative for co-management will therefore need to be capacity building and institutional strengthening for fisheries departments or divisions, fishers and NGOs on their future roles as co-managers and on coastal and marine resource conservation and management. Pilot projects need to be initiated in which all partners can gain practical experience with co-management and test and demonstrate to each other their commitment to the process, developing trust and credibility. Such pilot projects can further serve to identify needed legal and policy changes to support co-management. These changes in law and policy must be undertaken at intergovernmental level and individual country levels.

The lead implementing organisation for this project will be the Centre for Resource Management and Environmental Studies (CERMES) of the University of the West Indies. The project will be implemented under the CERMES multidisciplinary Natural Resource Management Programme (NRM). The **principal investigator** on this project, **Dr. Robert Pomeroy**, is an international expert on co-management and small-scale fisheries. He has a PhD in Resource Economics from Cornell University. From 1994 to 1999, he led an international research project on fisheries co-management while he was a Senior Scientist at the International Center for Living Aquatic Resources Management (ICLARM) in Manila, Philippines. This US\$2.5 million, Danish International Development Assistance (Danida) funded project, had activities in seven Asian countries, eight African countries, and provided assistance to CFRAMP. Dr. Pomeroy has written over 25 papers and journal articles on co-management. He has worked in the Caribbean and Central America region since 1987. In 1999, he lived in the British Virgin Islands for over three months working on an economic analysis of marine protected areas. The **co-principal investigator** on the project will be **Dr. Patrick McConney**. Dr. McConney, based in Barbados, has his PhD degree in fisheries management from the University of British Columbia and has served as Chief Fisheries Officer in the Barbados Fisheries Division. He is an expert on fisheries issues and co-management activities in the region. Dr. McConney has published extensively on fisheries issues in the Caribbean. He has served as a consultant to FAO, CARICOM and other international organisations. In addition, a Belize-based programme officer will be hired during the first quarter of 2003 with funds previously made available to the project by the Oak Foundation. This will allow CERMES to establish an on-the-ground, day-to-day presence for implementing and monitoring the Belize project. It will strengthen the outreach of the UWI Resident Tutor in Belize and the supervision of Belizean students pursuing graduate degrees through the NRM.

### 3.0 Project Strategy and Activities

The **geographic focus** of the project will be Central America and the Caribbean. Specific countries to be targeted include Belize, Barbados and Nicaragua. The selection of different countries in the region to implement this project is to determine if co-management can be a viable management strategy under varying conditions (political, social, economic, cultural, biophysical, technological).

This project will be conducted in **partnership** with non-governmental organisations (NGOs), research institutions and government fisheries agencies in each target country. Partnership is a key implementation strategy of this project. The principal investigators will provide leadership, coordinating and technical assistance roles in the project, but national-level and community-level activities will be conducted by and with **national partners**. National partners will include local NGOs, government fisheries department staff, researchers, and fishers. This partnership arrangement will ensure that the capacity of the partners is increased; that local conditions are recognized and included in all aspects of the project's activities; that project results are engendered from the start of the project by the national partners; and that policies are developed to address local and national needs and by local organisations.

It should be noted that this project would build on work undertaken by **CFRAMP**, targeting the 12 member countries of the Caribbean Community: Antigua and Barbuda, Barbados, Belize, Dominica, Guyana, Grenada,

Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago. CFRAMP identified community involvement and awareness building and empowerment of fishers as a major thematic area. CFRAMP, a regional programme jointly funded by the CARICOM and Canada, had an overall goal to establish systems which promote sustainable management of national and regional fisheries, and to establish a regional mechanism which will ensure continuity of the process after the life of the programme. The Community Involvement and Education sub-project has as its objectives: (1) lending support for the formation of, and/or strengthening of, fisher organisations; (2) preparing fishers for representation on National Fishery Advisory Committee's for the formulation of fisheries policy; and (3) having an input in the designing of national fisheries management plans. The programme had limited success in achieving these objectives due to funding constraints. However, a successful element of the sub-project was the introduction of the concept of co-management to the region. The proposed project would build on the base established by the CFRAMP to prepare fishers for the role of co-managers. The principal investigator, Robert Pomeroy, has served as an advisor on CFRAMP and Patrick McConney has worked closely with CFRAMP.

As the largest project in the CAC region addressing co-management focus, and with its multi-activity and multi-country focus, it is envisioned that this project will take a leadership and coordinating role in co-management activities in the region. This role will be accomplished in several ways. First, through **networking** with project partners and others engaged in co-management activities. Networking will be undertaken through information exchange of publications, experiences and knowledge; an electronic discussion list among partners, practitioners and researchers in the region; a web page on co-management; and coordination of training and conferences. Second, projects will be brought into a "**learning portfolio**" that will collectively share and test assumptions regarding approaches and strategies for co-management (Margolius and Salafsky 1998). The project will serve as a catalyst for ideas and analysis with its partners. This portfolio will include project national partners, as well as others, including projects, researchers, NGOs, fishers and government, outside the project with an interest in the project's approaches and strategies.

### 3.1 Project Activities

#### 3.2

The project will have three activities related to the three specific-objectives presented above.

- a. **Pilot Projects.** Since the implementation of co-management pilot projects can be expensive and time consuming, only a limited number of pilot projects will be initiated in the three target countries of Barbados, Belize, and Nicaragua. These pilot projects were identified and initiated during the first year of this project. They will continue under this project. The pilot projects are:
  - (1) **Barbados:** Two pilot projects are being implemented in Barbados. Both projects are being implemented with the Fisheries Division and the Barbados National Union of Fisherfolk Organisations.
    - (a) Co-management of the Sea Egg (Urchin) Fishery. The objective is for the fisheries authority and fishing industry to collaboratively determine and demonstrate the feasibility of comanagement arrangements for the Barbados sea egg fishery within the period of the 2001-2003 Fisheries Management Plan.
    - (b) National Fisheries Management Planning. The objective is for the fisheries authority and fishing industry to collaboratively produce and report on annual work plans (AWP) for each of the fisheries in the 2001-2003 Fisheries Management Plan, including the planning process itself and progress with plan implementation. Specifically:
      - Nine fishery-specific AWP's of 3-5 pages each produced, signed and distributed.
      - The annual work planning process, and progress with plan implementation from May 2001 to March 2002, documented and evaluated (by participatory methods) by April 2002.
  - (2) **Belize:** One pilot project is being implemented in Belize. The project partners are Friends of Nature, an NGO, in Placencia and the Fisheries Department. The objective of the project is to support Friends of Nature in their co-management and implementation of the marine reserves at Laughing Bird Cay and Gladden Spit.
  - (3) **Nicaragua:** One pilot project is being implemented in Nicaragua, although this work is of a more preliminary nature than that in Barbados and Belize. In the first year, project staff will conduct systematic meetings with various stakeholders in that country to identify an appropriate co-management pilot project site, and design project interventions. Implementation will take place during the second year of the project. Work to date has identified the Pearl Lagoon on the Caribbean coast—where a government-approved management plan has already been developed—as a strong candidate for a pilot

project, and preliminary discussions have been held with CAMP-Lab (an NGO in Haulover), and AdPesca, the national fisheries department. Further field consultations and analysis are necessary, however, before on-the-ground pilot project activities will commence in Nicaragua.

The purpose of the pilot projects is to develop, implement and evaluate various approaches and processes of co-management in the region. As mentioned above, there is no one correct model of co-management for the region. What may be needed and work in Belize may be different for Barbados. What the pilot sites can provide is the knowledge and experience to develop a generic process for co-management that can be adapted to meet the specific conditions and needs of a particular community and country. Pilot projects are useful so that partners can gain practical experience with co-management and test and demonstrate to each other their commitment to the process. The pilot projects can be useful as a research and policy tool to test process and strategy of co-management in the region. Recommendations can be made to government for necessary changes on laws and policies to support co-management.

Process documentation will be carried out to provide information on the implementation process and for project monitoring and evaluation. Process documentation, as a learning process approach, is useful for capturing the unfolding of field processes and events and the knowledge on the dynamics of the relationships among participants.

- b. **Capacity Building and Institutional Strengthening of Major Partners.** As mentioned above, government fisheries departments, fishers and NGOs in the region are generally unprepared for a role in co-management. Fishers will need to be organized and existing organisations strengthened to participate in and undertake co-management. Fishers will need training on resource planning and management, participation, leadership, and conservation, among other topics. The capacity of fisheries departments and NGOs will need to be strengthened in order to be able to work with fishers and other resource users in the co-management process. A comprehensive capacity building and institutional strengthening programme will be undertaken through this project, targeting a broad audience of fishers, government officials, and non-governmental organisations.

Working in the pilot sites, capacity building for fishers, fisher households and the community will be undertaken. Education and training are integral and ongoing activities of the community-centered co-management process. They are the main methods of capability building for community members. Education and training modules will be developed for specific topic areas. The education and training should recognize and build upon the existing experience and knowledge of community members. Nonformal and formal training methods are used including small groups, seminars, cross visits, role-playing, radio, video, publications, and fisher-to-fisher sharing of local knowledge. Environmental education is a focus of these activities. A priority of the education and training activity is to build capability and confidence to ensure that community members can make informed and empowered choices and decisions concerning problem articulation, management and development objectives, strategies and plans, and implementation.

Social and individual empowerment is central to this activity. Community core groups, organisations and leaders are needed to take on the responsibility and authority for management and development activities. Community organizing and empowerment is the foundation for mobilizing the human resources of the community. They also serve as the focus for participation, representation and power sharing in the community. Education and training can develop the skills and ability of and empower community members to take responsibility and authority. Leadership development is an important part of this step. Strong and dedicated leadership has been found to be a critical condition for the success of community-centered co-management. Lack of social preparation is often a major cause of project failure.

NGO development, to lead co-management activities in the region, will be given priority. Two levels of NGO development will be undertaken. The first priority is the strengthening of local NGOs and communities in implementing co-management. This will be undertaken through training, pilot site experience and networking. One-on-one consultations and assistance will be provided to the NGOs from the project staff. However, regional NGOs with expertise to assist governments also require strengthening. The Caribbean Conservation Association (CCA) has been identified as a key regional NGO partner. For 35 years the CCA has focused on the conservation, protection and wise use of the Wider Caribbean's natural and cultural resources. Visit [www.ccanet.net](http://www.ccanet.net). Another key regional NGO partner is the Caribbean Natural Resources Institute (CANARI),

which has extensive wider Caribbean experience in participatory management. Visit [www.canari.org](http://www.canari.org). Through the project, we will work with CCA and CANARI to develop institutional capacity through training, pilot site experience and networking to enhance their ability to assist others to implement co-management.

Government decision makers and managers will need to “buy-in” to the concept of co-management. Many in the region already have. Through training and one-on-one consultations, the role of government in co-management will be explained, as well as the new role of government decision-makers and managers. This will be one of the more difficult tasks of the project as it may be difficult to get government to relinquish or share power. We have found that the most effective method to address this reluctance is to let government officials talk to their peers in countries where co-management is being implemented. This peer experience and knowledge exchange can assist in shaping new attitudes towards both the strengths and weaknesses of co-management.

- c. **Strategies, Processes and Policies for Implementation of Co-management.** The results of the above two activities will make it possible to evaluate and document the approaches, processes and performance of co-management implementation at the community level, and to examine the legal, policy and administrative conditions for co-management at the national government level. Country-specific and region-wide policy recommendations for the planning and implementation of co-management will be made. Policy dialogue between government, fishers and NGOs will be facilitated.

### 3.2 Project Workplan

The project will be implemented over a 24-month period beginning in January 2003. The proposed activity **workplan** and **timeline** is presented below.

It should be noted that this project is conceived as being a long-term (five to eight year) activity of UWI. Research in Asia has found that the implementation of co-management is a five to eight year process both at national and community level. The funding requested from Oak will begin this process. We expect to obtain additional funding to maintain this project over the planned life.

Specific-objective 1. The implementation of co-management pilot projects at selected sites				
No.	Activity Description	Activity Output/Indicator	Implementer	Completion Date
1.1	Technical assistance in co-management	Technical assistance provided	CERMES	On-going
1.2	Process Documentation and data collection	Results submitted	CERMES	12/03; 10/04
1.3	Annual monitoring report	Report submitted	CERMES	12/03; 10/04
1.4	Individual pilot site completion reports	Report completed	CERMES	10/04
1.5	Regional pilot site comparative analysis	Report completed	CERMES	12/04
Specific-objective 2. Capacity building and institutional strengthening of the major partners in co-management including government, fishers and non-governmental organisations.				
No.	Activity Description	Activity Output/Indicator	Implementer	Completion Date
2.1	Regional NGO development-CCA and CANARI	NGOs' operations strengthened	CERMES	01/03
2.2	Build Capacity of government, fishers and NGOs for co-management	Training and assistance at sites and with partners	CERMES	On-going
2.3	Region-wide workshop on co-management	Workshop convened with partners to share data and information	CERMES	10/04
2.4	Networking and information exchange	Exchange visits, workshop participation	CERMES	On-going

Specific-objective 3. The development of strategies, processes and policies for implementation of co-management in the Region				
No.	Activity Description	Activity Output/Indicator	Implementer	Completion Date
3.1	Project synthesis report	Report completed	CERMES	12/04
3.2	Policy recommendations	Policy brief	CERMES	10/04
3.3	Policy dialogue between co-management partners	Convening of meetings	CERMES	on-going
3.4	Policy dialogue with government policy-makers	Convening of meetings	CERMES	on-going

#### 4.0 Evaluation

In regard to project evaluation, by the end of the project an analysis will be led to demonstrate the applicability of fisheries co-management as a viable alternative fisheries management strategy under varying conditions in the CAC region using a “learning portfolio” approach. General principles and conditions that facilitate successful fisheries co-management will be identified and documented at both national government and community levels through evaluation and learning across pilot sites within the portfolio. While fisheries co-management may not be a viable alternative fisheries management strategy for all countries and fishing communities, the project will establish under which conditions it can be a sustainable, equitable and efficient management strategy and recommend how it can be successfully implemented. Specific strategies and processes for implementing co-management at the national government and community levels will be available for use in the region. It is expected that several of the target countries will have taken action at both national government and community levels to implement fisheries co-management strategies. Learning within the portfolio will also include process lessons from establishing such a “learning” network, to be led through evaluation by UWI.

The true success of this project is outside the time frame of this project, however, an evaluation protocol will be put in place to measure long term impacts through collection of baseline resource and ecological, institutional and legal, and socio-economic assessments and monitoring activities. **Impacts** to be evaluated will include:

- a. **Institutional Strengthening and Capacity Building**: through educational, training and awareness building programs, the government, fishers and NGOs will be strengthened to participate in the co-management process. Baseline assessments of attitudes towards co-management for the three groups will be undertaken at the beginning of the project and at the end of the project to assess knowledge, participation and relevance of co-management.
- b. **Stakeholder Empowerment and Sustainability**: The affective involvement in, and participation of community stakeholders in the decision making process, will engender empowerment of resource user groups, facilitate the emergence of self-governing fishers organisations capable of making their own decisions, advocating for the promotion of their own interests, and developing institutions for promoting sustainable resource governance. Baseline assessments of attitudes, perceptions and behavior toward participation and empowerment of fishers and community members will be conducted at the beginning of the project and evaluated at the end of the project.
- c. **Poverty Alleviation and Community Development**: The sustained improvement in production levels emanating from improved resource management will in the medium and long term contribute to national food security, promote employment in the small-scale fisheries sector, and contribute to poverty alleviation in the fishing communities, through higher income earnings and improvement in household incomes. This will, in turn, contribute to social and community development and enhance the quality of life in fishing communities. Baseline social and economic assessments of households in the pilot site communities will be undertaken to monitor and assess changes in livelihood and household economic conditions as a result of co-management activities.
- d. **Sustainable Coastal Fisheries and Habitats**: Increased biodiversity conservation of coastal fisheries and coastal habitats. Baseline resource and ecological assessments will be conducted in each pilot site to be able to monitor changes in fisheries and habitat conditions over time as a result of co-management activities.

In regard to project performance monitoring, the project will need to be reviewed and adaptively managed over the course of the project life in order to ensure that a focused impact and the most desirable and useful results and outputs are produced at the conclusion of the study. **Performance monitoring** will occur through activity work plan

monitoring by CERMES. Performance evaluation will occur: (1) periodic, and (2) post-project. Periodic evaluation of the project performance would be ongoing following the initial project start-up, and would be achieved through the tracking of the activity work plan, its associated outputs, and timeline (see tables in project strategy and activities section above) by the principal investigators, technical partners and national partners. Following project completion, a post-project peer review (as per the work plan) would occur.

## **5.0 Budget**

### **5.1 Project Budget (Currency: US Dollars)**

See attached budget in Oak Foundation format.

### **5.2 Budget Description**

See separate notes following the project budget.

### **5.3 Incremental Benefits and Leveraging**

The funding provided by this project will be used to leverage additional funding from other donors to fund project activities (see list of other donors below). It is realized that the funds requested from Oak will not be sufficient to fully support the project. However, by showing that Oak Foundation will fund part of the project, we will have a stronger case for our request to other donors to provide additional funding to support project activities. In some instances, CERMES may assist our partners in identifying donors and preparing proposals.

### **5.4 Major Project Donors**

We have the following donors supporting this project through complementary activities: Homeland Foundation, Canadian International Development Agency, National Oceanic and Atmospheric Administration, Lighthouse Foundation.

### **5.5 Potential Project Donors**

Potential project donors include the Avina Foundation, British DFID, Summit Foundation, Surdna Foundation, Government of the Netherlands, and Inter-American Foundation.

## **6.0 References**

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## Appendix 2. Project partnerships and activities

The table below links the project activities to the three main objectives, identifying the partners involved and documents (listed by country in the reference section) in which the outputs were reported.

PROJECT ACTIVITIES	DOCUMENTS VERIFYING OUTPUTS
<b>Objective 1) The implementation of co-management pilot projects at selected sites</b>	
<ul style="list-style-type: none"> <li>◆ Case study of marine protected areas (MPAs) co-managed by Friends of Nature (FON) with government in Belize. Doctoral student Tara Goetze of McMaster University in Canada, supported by International Development Research Centre (IDRC) served as a research assistant.</li> </ul>	<p>Goetze, T. and R. Pomeroy. 2003. Co-managed marine protected areas: a case study of Friends of Nature, Belize. <i>Proc Gulf Carib. Fish. Inst.</i> 56: 17-32.</p> <p>Goetze, T. 2005 <i>Muddy Waters: Conservation Discourses and the Politics of Power in Marine Park Co-management in Belize</i>. PhD dissertation. Department of Anthropology, McMaster University, Canada</p>
<ul style="list-style-type: none"> <li>◆ Preparation, using participatory processes, of the Barbados 2004-2006 Fisheries Management Plan by the Fisheries Division and Barbados National Union of Fisherfolk Organisations (BARNUFO).</li> </ul>	<p>Fisheries Division. 2004. Barbados fisheries management plan 2004-2006: Schemes for the management of fisheries in the waters of Barbados. Ministry of Agriculture and Rural Development. 68pp.</p>
<ul style="list-style-type: none"> <li>◆ Monitoring and evaluating co-management arrangements for the 2003 sea urchin fishery with input into the Barbados 2004-2006 draft Fisheries Management Plan by fishers and fisheries authorities. Near complete.</li> </ul>	<p>McConney, P. and M. Pena. 2004. Events and institutional arrangements in the management of the 2003 Barbados sea egg fishing season (15 September – 15 October). Coastal Resources Co-management Project (CORECOMP). Centre for Resource Management and Environmental Studies, University of the West Indies Cave Hill Campus, Barbados. 38 pp</p>
<ul style="list-style-type: none"> <li>◆ A report was made on the Barbados 2004 sea urchin fishing season. It examines the events of the season in relation to the co-management initiatives funded by CORECOMP, and the extent of their success.</li> </ul>	<p>McConney, P. and M. Pena. 2005. Summary of events in the 2004 Barbados sea egg season (15 – 30 September 2004). Centre for Resource Management and Environmental Studies. The University of the West Indies, Cave Hill Campus, Barbados. 17pp</p>
<ul style="list-style-type: none"> <li>◆ “Graeme Hall Environmental Stewardship: A Preliminary Assessment of Stakeholders’ Perceptions of Co-management”, a study led by the Coastal Zone Management Unit (CZMU), is a stakeholder analysis to establish the co-management of Barbados’ most significant wetland.</li> </ul>	<p>Alleyne, A. 2004. Graeme Hall environmental stewardship: A preliminary assessment of stakeholders’ perceptions of co-management. Draft final report. April 2004. 25pp</p> <p>Paper copy only brochure: ‘The concept of co-management’. Produced January 2004 for the CZMU by the Community Development Department, Ministry of Social Transformation.</p>
<ul style="list-style-type: none"> <li>◆ Community-based co-management of a small watershed demonstration project at Holetown in Barbados by a group of residents in consultation with the Coastal Zone Management Unit of government. Recently started.</li> </ul>	<p>Pena, M. and R. Mahon. 2005. Compilation report on the Holetown Beach Park Project, St. James, Barbados. 66 pp</p>
<ul style="list-style-type: none"> <li>◆ Socioeconomic (SocMon Caribbean) baseline survey of stakeholder communities bordering the marine protected areas (MPAs) co-managed by Friends of Nature (FON) with government in Belize done by Belizean CERMES MSc student Arlenie Perez.</li> </ul>	<p>Perez, A. 2003. Assessment of socioeconomic conditions at Placencia, Hopkins and Monkey River in Belize. Coastal Resources Co-management Project, Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados. 30pp.</p>

PROJECT ACTIVITIES	DOCUMENTS VERIFYING OUTPUTS
<ul style="list-style-type: none"> <li>◆ CERMES organised a meeting of project partners at the 57<sup>th</sup> Annual Meeting of the Gulf and Caribbean Fisheries Institute (GCFI) to plan pilot projects and other activities for a proposed project extension into 2005</li> </ul>	<p>Output included in proposal for project extension</p>
<ul style="list-style-type: none"> <li>◆ A pilot project to introduce a community-based sea urchin fishery management council will be initiated</li> </ul>	<p>Still being implemented by Fisheries Division and BARNUFO, but without project funding</p>
<ul style="list-style-type: none"> <li>◆ Friends of Nature (FON) will follow up the socioeconomic assessment study with staff and community workshops for interpretation of results and deciding on follow-up action.</li> </ul>	<p>Informal note of discussions received.</p>
<p><b>Objective 2) Capacity building and institutional strengthening of the major partners in co-management, including government, fishers and non-governmental organisations</b></p>	
<ul style="list-style-type: none"> <li>◆ Facilitated fisheries conservation brochures jointly produced by the Barbados Fisheries Division and BARNUFO in support of planning.</li> </ul>	<p>Fisheries Division. 2006. International Commission for the Conservation of Atlantic Tunas (ICCAT): How does it affect Barbadian fishermen? Brochure. Ministry of Agriculture and Rural Development</p>
<ul style="list-style-type: none"> <li>◆ Strengthened Friends of Nature in Belize through participatory preparation of a five-year strategic plan and programme of action for implementation</li> </ul>	<p>FON. 2002. Friends of Nature Strategic Plan 2002-2007. Report of Friends of Nature, Placencia.</p>
<ul style="list-style-type: none"> <li>◆ Built capacity of Friends of Nature through participatory design of a socio-economic monitoring survey (SocMon) for their constituent communities</li> <li>◆ Internship of a Belizean graduate student of CERMES (Arlenie Perez) to transfer her skills to FON and assist them with execution of their socio-economic survey.</li> </ul>	<p>Perez, A. 2003. Assessment of socioeconomic conditions at Placencia, Hopkins and Monkey River in Belize. Coastal Resources Co-management Project, Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados. 30pp.</p>
<ul style="list-style-type: none"> <li>◆ Sponsored government and NGO partners in Barbados, Belize and Nicaragua to participate in a CERMES training workshop on socio-economic monitoring for coastal management held in Barbados.</li> </ul>	<p>McConney, P. and M. Pena. 2003. Report of the Training Workshop on Socio-economic Monitoring for Caribbean Coastal Management, Barbados, 14-16 July 2003. Centre for Resource Management and Environmental Studies (CERMES) of the University of the West Indies (UWI). 40pp.</p>
<ul style="list-style-type: none"> <li>◆ Conducted training workshop for Toledo Association for Sustainable Tourism and Empowerment (TASTE) members in MPA management. TASTE co-manages the Sapodilla Cayes Marine Reserve in Belize.</li> </ul>	<p>Pomeroy, R. 2003. Report of the workshop on Marine Protected Area (MPA) management. Punta Gorda, 17-18 June 2003. Hosted by the Toledo Association for Sustainable Tourism and Empowerment (TASTE). 2p</p>
<ul style="list-style-type: none"> <li>◆ Conducted training workshop on funding proposal writing and socio-economic monitoring for TASTE and Belize Audubon Society (BAS). FON was unable to attend. An agreement exists between FON, TASTE and BAS for joint training and discussions are in progress for assisting them.</li> </ul>	<p>Pomeroy, R. 2003. Report of the workshops on proposal writing and socioeconomic monitoring. Punta Gorda, 27-28 October 2003. Hosted by the Toledo Association for Sustainable Tourism and Empowerment (TASTE). 2p</p>
<ul style="list-style-type: none"> <li>◆ Four undergraduate Coastal Studies students from the University of Connecticut-Avery Point will do an internship with TASTE in Belize. The two</li> </ul>	<p>Informal report of their stay was received.</p>

PROJECT ACTIVITIES	DOCUMENTS VERIFYING OUTPUTS
<p>women and two men will assist TASTE in developing an adult environmental education programme and in conducting resource and ecological assessments in the Sapodilla Cayes Marine Reserve in 2004.</p>	
<p>◆ Conducted three fisheries management and co-management workshops in Pearl Lagoon, Bluefields and Managua in Nicaragua for NGOs, several government agencies and universities. Other training is being discussed.</p>	<p>McConney, P. and R. Pomeroy. 2003. Report of the workshops on coastal resource co-management and other collaborative initiatives in Nicaragua. Coastal Resources Co-management Project (CORECOMP), Centre for Resource Management and Environmental Studies (CERMES) of the University of the West Indies (UWI), Barbados. 30pp.</p>
<p>◆ A lecturer in fisheries at the Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense (URACCAN) on the Caribbean coast was sponsored to attend the 56<sup>th</sup> Annual Meeting of the Gulf and Caribbean Fisheries Institute (GCFI) and she has prepared a proposal to CERMES for long-term collaboration between the two universities. Under review.</p>	<p>Simmons, B. 2003. Manejo comunitario de recursos costeros en Pearl Lagoon, Nicaragua. Proc Gulf Carib. Fish. Inst. 56:33-44.</p> <p>Joseph, K. 2003. Analisis socio-economico de genero en el manejo de los recursos pesqueros en el municipio de Laguna de Perlas, RAAS. Proc Gulf Carib. Fish. Inst. 56: 87-96</p>
<p>◆ Facilitated sponsorship of Nicaragua partners from Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense (URACCAN) and the Coastal Area Monitoring Project and Laboratory (CAMP-Lab) to participate in the White Water to Blue Water Partnership Conference in Miami, Florida.</p>	<p>No document from this but the event was worthwhile.</p>
<p>◆ Provided technical assistance to CAMP-Lab in Bluefields and a workshop in Pearl Lagoon for rural coastal community teachers in environmental education related to resource co-management through Diana Payne of the University of Connecticut Sea Grant programme.</p>	<p>Payne, D. 2004. Report regarding Coastal Resources Co-management Project (CORECOMP) and Diana Payne, Connecticut Sea Grant for consultation on an environmental education program in the Pearl Lagoon municipality, Nicaragua, from 4-6 March 2004. 4p</p>
<p>◆ Conducted training workshops for Toledo Association for Sustainable Tourism and Empowerment (TASTE), Belize Audubon Society (BAS), Coastal Zone Management Authority and Institute (CZMAI), Fisheries Department and Belize Fisherman Cooperative Association (BFCA) in NGO Board of Director management effectiveness</p>	<p>CERMES 2004. Report of the workshops on enhancing NGO board effectiveness. Punta Gorda, 2 February 2004 (hosted by the Toledo Association for Sustainable Tourism and Empowerment (TASTE)) and Belize City, 3 February 2004 (hosted by the Belize Fishermen Cooperative Association (BFCA)). 9p.</p>
<p>◆ Conducted strategic planning workshops and meetings in Nicaragua to assist in strengthening the Fisheries Programme of the Bluefields campus of the Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense (URACCAN) resulting in a completed strategic plan from which co-management etc. projects can be drawn for implementation.</p>	<p>Joseph S, K. 2004. IFC-URACCAN Strategic Plan 2004-2009. URACCAN. 33pp</p>
<p>◆ Sponsored Karen Joseph (URACCAN), Jack Nightingale (TASTE) and Dwight Neal (FON) to participate in the 57<sup>th</sup> Annual Meeting of the Gulf</p>	<p>Joseph, K. 2004. Socio-economic impact of the closed season for lobster in Corn Island, RAAS – Nicaragua. Proc Gulf Carib. Fish. Inst. 57:87-100.</p>

PROJECT ACTIVITIES	DOCUMENTS VERIFYING OUTPUTS
<p>and Caribbean Fisheries Institute (GCFI). Ms Joseph presented a paper on her research and all project partners participated in various workshops at GCFI including on marine protected areas and fisheries management.</p>	
<p>◆ Assisted the management of Glover's Reef Marine Reserve in Belize to undertake a baseline SocMon Caribbean socioeconomic assessment. The paper outlining the research was presented by Janet Gibson at the 57<sup>th</sup> GCFI through CERMES counterpart funding, and the research assistant is currently a MSc student at CERMES</p>	<p>Gibson, J., D. Lizama and R. Pomeroy. 2004. Establishing a Socioeconomic Monitoring Program for Glover's Reef Atoll, Belize. <i>Proc Gulf Carib. Fish. Inst.</i> 57:161-174.</p>
<p>◆ Sponsored Christopher Parker (Barbados Fisheries Division) to participate in the 57<sup>th</sup> GCFI through CERMES counterpart funding. He presented a paper on new developments in sea urchin fishery co-management made possible in part through CORECOMP activities and funding</p>	<p>Parker, C. and M. Pena. 2004. Possible Paths to Co-managing the Sea Egg Fishery of Barbados. <i>Proc Gulf Carib. Fish. Inst.</i> 57:115-128.</p>
<p>◆ Provided a scholarship to the coordinator of the quasi-NGO Coastal Area Monitoring Project and Laboratory (CAMP-Lab) of the Universidad Centroamericana (UCA) in Nicaragua who commenced her MSc in Natural Resource and Environmental Management at CERMES with specialisation in Coastal and Marine Resource Management.</p>	<p>Simmons, B. 2005. Tobago Cays Marine Park: Are the conditions for successful co-management likely to be met? Unpublished MSc research paper. Centre for Resource and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados</p>
<p>◆ The Wildlife Conservation Society (WCS) in Belize co-manages the Glover's Reef Marine Reserve. Members of the Grovers Reef Advisory Committee benefited from a Workshop on Coastal Resource Co-management on 17 March 2005 run by Dr. McConney for the WCS</p>	<p>CERMES 2005. Summary report of the workshop on coastal resource co-management for the Glover's Reef Advisory Committee. 17 March 2005, Belize City, Belize. Hosted by the Wildlife Conservation Society (WCS). 5p.</p>
<p>◆ CORECOMP contributed to cover the travel costs of Mr. John Parks the trainer at a workshop held from 12-14 April on "Evaluating MPA Management Effectiveness in Belize". The training followed the evaluation methodology outlined in the IUCN/WWF/NOAA publication "How Is Your MPA Doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness" (Pomeroy <i>et al.</i> 2004). It was organised by the WCS.</p>	<p>Workshop evaluation report showed it was a success.</p>
<p>◆ Mr. Christopher Nalette, a Master's degree student in the Department of Agricultural and Resource Economics at the University of Connecticut spent July 2005 in Belize collecting data for his research. He worked with the Wildlife Conservation Society-Belize and Ms Janet Gibson to conduct a direct economic valuation study of Glover's Reef Marine Reserve. The study focused on fisheries and tourism economic valuation. The valuation study built on</p>	<p>Nalette, C. A. 2005. Economic valuation of fishing and tourism at Glover's Reef Marine Reserve, Belize. MS thesis, Department of Agricultural and Resource Economics, University of Connecticut.</p>

PROJECT ACTIVITIES	DOCUMENTS VERIFYING OUTPUTS
work previously undertaken by Robert Pomeroy on establishing a socioeconomic monitoring program for Glover's Reef Atoll.	
<ul style="list-style-type: none"> <li>◆ Friends of Nature (FON) in Belize received sub-grant funding to carry out several capacity-building activities. However, due to a review of the organisation and changes in FON senior staff, these have been postponed to the second half of the year. The activities are: <ul style="list-style-type: none"> <li>○ Board of Directors training workshop</li> <li>○ Strategic planning workshop</li> <li>○ Socio-economic monitoring workshop</li> </ul> </li> </ul>	<p>FON. 2006. Report on the Board of Directors Orientation Workshop, 21 February 2006, Placencia. Report of Friends of Nature, Placencia.</p> <p>Informal reports of the other activities were received.</p>
<ul style="list-style-type: none"> <li>◆ The Toledo Association for Sustainable Tourism and Empowerment (TASTE) received a sub-grant to hold a workshop on 7 April for the Sapodilla Cayes Marine Reserve (SCMR) co-management team.</li> </ul>	<p>Bowman, D. 2005. One-day management team workshop. Sponsored by TASTE – SCMR. 7 April, 2005. 2p</p>
<ul style="list-style-type: none"> <li>◆ The Fisheries Division and Barbados National Union of Fisherfolk Organisations (BARNUFO) continue work on co-managing the sea urchin fishery of Barbados. This includes collaboration in field surveys of urchin populations, data analysis and sharing, public education and policy advice. The groups will try to form a community-based sea urchin management council.</li> </ul>	<p>Still being implemented by Fisheries Division and BARNUFO, but without project funding</p>
<ul style="list-style-type: none"> <li>◆ A community workshop on Fisheries Management, Co-management and the Code of Conduct for Responsible Fisheries was organised and run by Ms Karen Joseph, fisheries lecturer at the Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense (URACCAN) Bluefields Campus in Nicaragua. It took place in Pearl Lagoon from 13 to 19 March 2005 and was attended by stakeholders from nine communities of the Pearl Lagoon basin.</li> </ul>	<p>Joseph S, K.M. 2005. Report of the workshop on fisheries co-management. 13-19 March 2005, Pearl Lagoon, RAAS. URACCAN. 5p</p> <p>Joseph S, K.M. 2005. Report of the workshop on fisheries co-management. 23-25 August 2005, Corn Island, RAAS. URACCAN. 5p.</p>
<ul style="list-style-type: none"> <li>◆ Toledo Association for Sustainable Tourism and Empowerment (TASTE) assistance with promoting co-management through environmental education for youth</li> </ul>	<p>TASTE 2004. Report on SCMR Youth PATH Workshop related to “Creating Tourism Opportunities in the Sapodilla Cayes Marine Reserve” held from 22-25 November 2004 at Punta Gorda and SCMR</p> <p>TASTE. 2006. Youth PATH Phase II: Final Report and summary for SCMR.</p>
<ul style="list-style-type: none"> <li>◆ TASTE retreat for the Sapodilla Cayes Marine Reserve (SCMR) co-management team with training in NGO board of directors effectiveness and MPA co-management.</li> </ul>	<p>Bowman, D. 2005. Report on the TASTE-SCMR Board Retreat held 1-2 April 2005 at Punta Gorda.</p>
<ul style="list-style-type: none"> <li>◆ TASTE meeting of funding partners and co-management collaborators to communicate accomplishments and remaining needs through institutional strengthening of networks.</li> </ul>	<p>TASTE. 2005. Report on TASTE-SCMR Funders and Donors Conference held on 19 January 2005 at Punta Gorda, Belize</p>
<ul style="list-style-type: none"> <li>◆ Increasing opportunities for MPA management effectiveness training and evaluation at Sapodilla</li> </ul>	<p>New CERMES MPA ME project includes TASTE Enhancing management effectiveness at three marine</p>

PROJECT ACTIVITIES	DOCUMENTS VERIFYING OUTPUTS
Cayes Marine Reserve (SCMR)	protected areas in St. Vincent and the Grenadines, Jamaica and Belize funded via an International Coral Reef Conservation Grant from NOAA
◆ Pearl Lagoon, Nicaragua, community workshops to be implemented by URACCAN.	Fletcher, P. 2005. Report of the Marine Resource Management Coral Reef Research and Monitoring Workshop held at the University of the Caribbean Coast of Nicaragua (URACCAN) 21-23 November 2005
<b>Objective 3) The development of strategies, processes and policies for implementation of co-management in the region</b>	
◆ Case studies of the co-management of MPAs by FON in Belize and co-management of the sea egg fishery in Barbados contributed to draft guidelines for successful coastal co-management in the Caribbean.	Pomeroy, R.S. and T. Goetze. 2003. Belize case study: Marine protected areas co-managed by Friends of Nature. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 69p  McConney, P, R. Mahon and C. Parker. 2003. Caribbean Coastal Co-management Guidelines Project: Barbados case study: the sea egg fishery. Caribbean Conservation Association, Barbados. 75 pp
◆ Facilitated the participation of government, NGO and other partners in Barbados and Belize in workshops held to review conditions that can lead to successful co-management and to develop guidelines on the topic	McConney, P., R. Pomeroy and R. Mahon. 2003. Guidelines for coastal resource co-management in the Caribbean: Communicating the concepts and conditions that favour success. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 56pp
◆ CERMES organised a special session on co-management at the 56 <sup>th</sup> Annual Meeting of the Gulf and Caribbean Fisheries Institute (GCFI) at which sponsored project partners presented papers on co-management and information was shared on the status of co-management in the region.	See Joseph, Simmons and Parker & Pena refs and others in the Proceedings
◆ Promoted the case studies of the co-management of MPAs by FON in Belize and co-management of the sea egg fishery in Barbados with the completed guidelines for successful coastal co-management in the Caribbean. Now also developing an on-line training course, lecture notes, slide presentation and other products based on this applied research.	Refer to DfID R8317 Experiment 2 with CCA
◆ Incorporating the outputs from CORECOMP activities into CERMES projects in Jamaica, Grenada and St. Vincent and the Grenadines thereby increasing the dissemination of information and application of policy to fisheries, marine protected areas, sustainable development and biodiversity conservation initiatives.	No documents specifically identify CORECOMP input, but lessons learned were used and disseminated widely
◆ Continued dissemination of existing project outputs through the newly established Coastal Management Research Network (COMARE Net) managed by CERMES.	See COMARE Net titles list of CDs distributed.
◆ The lessons learned from CORECOMP co-	McConney, P., R. Mahon and R. Pomeroy. Coping with

PROJECT ACTIVITIES	DOCUMENTS VERIFYING OUTPUTS
<p>management activities and other related initiatives were shared by Drs. Pomeroy and McConney who attended an international seminar on “Moving Beyond the Critiques of Co-Management: Theory and Practice of Adaptive Co-Management” at the Wilfrid Laurier University, Waterloo, Canada, 4-5 February 2005. The presentations they made will later be published.</p>	<p>complexity and uncertainty in coastal resource co-management in the Caribbean. Presented at Symposium on Moving Beyond the Critiques of Co-Management: Theory and Practice of Adaptive Co-Management, Wilfrid Laurier University, Waterloo, Canada, 4-5 February 2005</p> <p>(In prep. as a book chapter for publication by UBC Press.)</p>
<p>◆ With assistance from doctoral candidate Mr. Emmanuel Genio, a student of Dr. Pomeroy at the University of Connecticut, five issues of the new policy brief “CERMES Policy Perspectives” were produced and distributed to share lessons learned and strategies, processes and policies for implementation of co-management in the region. The policy briefs covered the following topics:</p> <ul style="list-style-type: none"> <li>○ Comparative analysis of coastal resources co-management</li> <li>○ Concepts, conditions and challenges for successful coastal resources co-management: why, when and where to co-manage</li> <li>○ Concepts, conditions and challenges for successful coastal resources co-management: who and how to co-manage</li> <li>○ Reforming governance for co-management in the Caribbean</li> <li>○ Policy issues in co-management research and practice.</li> <li>○ Governance</li> </ul>	<p>CERMES. 2005. Policy perspectives. Coastal resource co-management in the Caribbean – Part 1. Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados. 15 January 2005. 3p.</p> <p>CERMES. 2005. Policy perspectives. Coastal resource co-management in the Caribbean – Part 2. Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados. 15 January 2005. 3p.</p> <p>CERMES. 2005. Policy perspectives. Coastal resource co-management in the Caribbean – Part 3. Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados. 15 January 2005. 3p.</p> <p>CERMES. 2005. Policy perspectives. Coastal resource co-management in the Caribbean – Part 4. Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados. 15 January 2005. 3p.</p> <p>CERMES Policy perspectives. Relationship between policy and research: finding the best fit. Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados. 30 March 2005. 2pp.</p> <p>CERMES Policy perspectives. Governing fisheries as complex adaptive systems. Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados. 7 April 2006. 4pp</p> <p>CERMES Policy perspectives. Distributed Governance, Policy Networks &amp; Maximizing Opportunities for Informed Decision-Making- Part 1. 15 June 2006. 4pp.</p>
<p>◆ Lessons learned from CORECOMP activities and related initiatives are in papers being prepared by Drs. Pomeroy and McConney. The purpose is to deliver messages to improve strategies, processes and policies for implementation of co-management in the region.</p>	<p>Incorporated into the final CORECOMP report</p>