Coastal resources co-management in the Caribbean

P. McConney[1], R. Pomeroy[2] and R. Mahon[1]

[1]*University of the West Indies, Cave Hill Campus, Barbados*
[2]*University of Connecticut-Avery Point, USA*

Abstract

In the small island developing states of the Caribbean the term "co-management" is increasingly used in the context of promoting conservation, especially of overexploited small-scale coastal fisheries. The term is used often and liberally by government fisheries management authorities, and also among non-governmental organisations such as fishing associations, cooperatives, community-based environmental groups and other key stakeholders. Yet shared concepts of what the categories, phases and other dimensions of co-management are seem to be scarce. Also missing are clear objectives of what the parties expect to be achieved through co-management. The stakeholders, who genuinely support the notion of improving collaboration for fisheries conservation and socio-economic development, embrace very different perspectives on co-management. In order to maximise the returns from participation, civil society and State stakeholders need to distinguish means of achieving successful collaborative co-management from those that relate more to co-optation and coercion. These are some of the conclusions arising from six institutional analysis case studies, undertaken between 2001 and 2003, on marine resource co-management initiatives in the Caribbean. Key conditions for improving the situation include more effective communication amongst the stakeholders through participatory planning, management and evaluation designed for institutional learning. For this to happen, and for it to have an impact on conservation, capacity and power must be increased within the government agencies and their non-governmental partners. Guidelines on key concepts and conditions to facilitate successful coastal resource co-management, developed from these case studies, are presented to encourage the introduction of improved institutional arrangements.

Introduction

The Wider Caribbean includes the northeast coast of South America, the Caribbean Sea, the Gulf of Mexico, and the south-eastern Atlantic coast of North America. The region is geographically complex with the highest density of separate states per unit area in the world (Chakalall et al. 1998). Across these states, as part of a global trend, recognition that resource

users can play several valuable roles in coastal resource management has prompted increased efforts at their inclusion in governance (James and Fourniller 1993; Smith and Berkes 1993; Finlay 1996; McConney and Mahon 1998). Such initiatives are described as participatory, collaborative or cooperative management (usually shortened to co-management), and include community-based management. Co-management is about government agencies and stakeholders sharing management responsibility and authority for identified resources (McConney 1998; Brown and Pomeroy 1999; Pomeroy et al. 2001; Berkes et al. 2001). Although the term is now used frequently in government and NGO circles, concepts associated with co-management are often not well known or shared, especially among resource users in the Caribbean.

The Caribbean Conservation Association (CCA) implemented the Caribbean Coastal Co-management Guidelines Project (2001-2003) with the University of the West Indies and Marine Resources Assessment Group Ltd. as research partners. The project was funded by the UK Department for International Development (DFID) Natural Resources Systems Programme (NRSP) for the Land-Water Interface (LWI). The long term goal of the project was to ensure that integrated coastal management in the Caribbean could be done in a way that involves and benefits those who depend on the resources of coastal areas, especially those who are poor. The purpose was to understand the conditions required for establishing and sustaining the successful co-management of coastal resources in the Caribbean.

This paper describes the research findings, and summarises the guidelines for successful co-management that were the main output of the Caribbean Coastal Co-management Guidelines Project. The guidelines were developed from a synthesis of lessons and experiences of co-management initiatives in the Caribbean and other regions of the world. These lessons were coupled with new information generated from case studies of coastal and marine resources co-management at selected sites in Barbados, Belize and Grenada. The *Guidelines for coastal resource co-management in the Caribbean: communicating the concepts and conditions that favour success* (McConney et al. 2003) are intended to improve the sustainability and performance of co-management arrangements and activities in the Caribbean,

Co-management concepts

Studies of co-management in Africa (Normann et al 1998) and Asia (Pomeroy et al 2001) have used the institutional analysis research framework developed by the International Centre for

Living Aquatic Resources Management (ICLARM) and Institute for Fisheries Management and Coastal Community Development (IFM) (ICLARM and IFM 1998) (Figure 1).
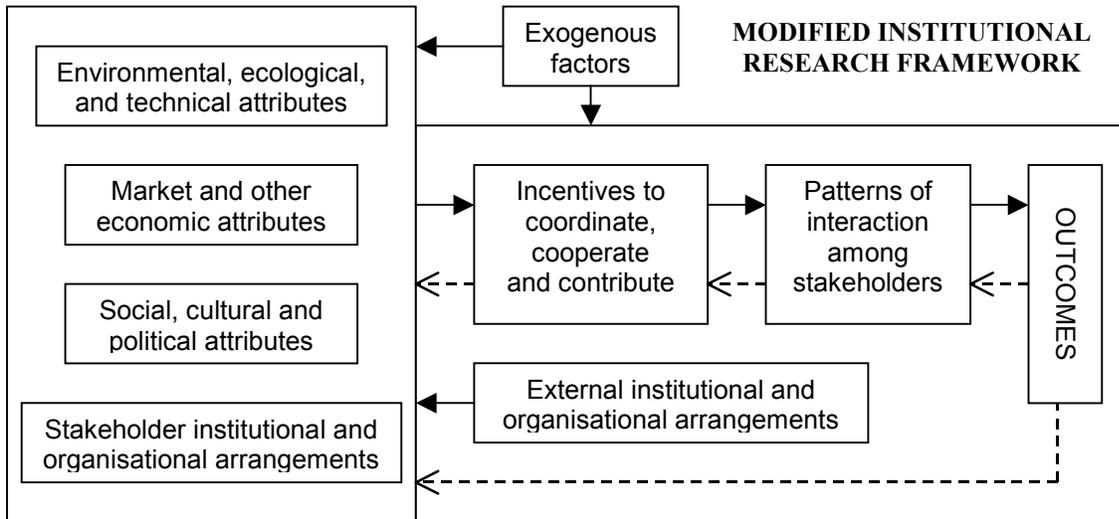

Figure 1. Modified ICLARM/IFM Institutional Analysis and Design Research Framework

The framework categorises sets of contextual variables (environmental, ecological, economic, social, cultural, political, and institutional) that are influenced by exogenous and external factors. The resulting incentives to cooperate or not result in observable patterns of interaction and outcomes that feedback into the system. The research used this framework.

Co-management encompasses a wide range of institutional arrangements, often depicted as a scale based on the relative balance of responsibility and authority between state and stakeholders (Jentoft 1989; Kuperan and Abdullah 1994; Pomeroy and Berkes 1997). Three main categories of co-management were adopted for the analysis (Figure 2).

Government has most control	*Consultative co-management* _____ Government interacts often, buts makes all the decisions	*Collaborative co-management* _____ Government and the stakeholders work closely and share decisions	*Delegated co-management* _____ Government lets formally organised users/stakeholders make decisions	*People have most control*

Figure 2. Categories of co-management

"Consultative co-management" is common in the Caribbean literature (Brown and Pomeroy 1999). Next is a level of joint action and decision-making. This is where several countries seem to be headed. The term "collaborative co-management" is preferred to "cooperative co-management" because it connotes stronger relationships of partnership, and "cooperative" may be confused with the formal organisations of the same name. "Delegated co-management" includes, but is not limited to, community-based management. Few countries in the Caribbean appear to be at the latter level, but it is not uncommon in other developing countries (Baird 2000). National co-management structures based on multi-stakeholder boards or committees are common in fisheries management in the English-speaking Caribbean (Jacobs 1998; McConney and Mahon 1998).

While these three categories illustrate a gradation from less to more civil society empowerment, they are not necessarily phases along a path towards community-based management. Each category is a suitable goal in its own right. Aiming at community-based management may not be appropriate. However, establishing successful co-management is seldom immediate, and progression through several categories of co-management is often apparent as institutional relationships are developed and mature. Like most participatory processes, this takes time and careful tending. Pomeroy (1998) recognises three phases of co-management and describes the sequence of steps within these in detail. A much-simplified version is in Figure 3.

Pre- implementation →	*Implementation* →	*Post- implementation*
Realise need for change Meet and discuss change Develop new management	Try out new management Educate people in new ways Adjust and decide what is best	Maintain best arrangements Resolve conflicts and enforce Accept as standard practice

Figure 3. Phases of co-management

Co-management in the Caribbean has not yet been comprehensively documented. The section below provides a very brief overview of this topic, based on literature review and case study research under this project.

Co-management in the Wider Caribbean

Language contributes to complexity in the Wider Caribbean. English, Spanish, Dutch and French are spoken in addition to several creole languages. Language differences accompany a variety of economic, cultural, social and governance systems. The six case studies of this co-management guidelines project were confined to locations in the English-speaking Caribbean, but the project acknowledged that co-management also occurs in other territories.

Recently there has been considerable networking and collaboration in co-management studies across the region and among languages. The IUCN Working Group on Collaborative Management (CMWG) promotes such exchanges. Over 100 possible cases of coastal co-management (74) or indigenous managed areas (26) have been compiled based on published literature for Central America and the Caribbean, with the majority in Spanish-speaking territories (Hugh Govan pers. com.).

The Caribbean Natural Resources Institute (CANARI) uses the term "participatory management" (CANARI 1999c). It reports that coastal co-management is being tried at the Samana Bay Biosphere Reserve in the Dominican Republic and at La Parguera Fisheries Reserve in Puerto Rico (CANARI 1999b). The Community Based Coastal Resources Management (CBCRM) Program of IDRC has published outcomes of its first phase of projects with case studies from Columbia, Costa Rica, Cuba, Honduras, Mexico and Nicaragua as non-English speaking countries (IDRC 2002). The project is in its second phase. These are only a few of the several co-management research and pilot project initiatives in the Wider Caribbean.

Co-management in CARICOM countries

Brown and Pomeroy (1999) documented cases of fisheries co-management in several Caribbean Community (CARICOM) countries. This project adds to the body of case study research with analyses of six fisheries and marine protected area (MPA) initiatives. Some initiatives not included in the co-management guidelines project are described before addressing the detailed cases used to construct the guidelines.

Dominica

Soufriere/Scotts Head Marine Reserve — A multi-stakeholder local area management authority (LAMA) set up under the fisheries legislation attempts to manage this scenic area on the south

coast of the island that is heavily used by locals and visitors. Managing the impacts of hurricanes, fishing and tourism are some of the challenges.

Jamaica

Portland Bight Protected Area — A local NGO, the Caribbean Coastal Area Management Foundation (C-CAM), has undertaken to introduce co-management to an area of land and sea totalling almost 19,000 hectares. The process has took about 7 years of preparation to get to the stage at which the State was willing to share responsibility. This is one of the few examples of a watershed scale terrestrial and marine protected area.

Negril Marine Park — In October 2002 the Negril Coral Reef Preservation Society (NCRPS) signed an agreement with the Natural Resources Conservation Authority (NRCA) that delegated responsibility under the NRCA Act to the NCRPS for the conservation and management of the Negril Marine Park. The delegation is for a five-year term, renewable at the end if both parties agree. The National Environment and Planning Agency (NEPA) monitors and reviews implementation of the delegation instrument. While the NCRPS has responsibility, it still lacks the capacity to adequately discharge its duties of park management.

St. Lucia

Soufriere Marine Management Area — The SMMA is the most thoroughly documented case of MPA co-management in the eastern Caribbean. Early in 2001 it changed its legal character to become a, more autonomous, not-for-profit local company. Although seen widely as a model of success in terms of process, the SMMA stakeholders still see it as an experiment in progress with many challenges ahead.

Sea urchin management — Unlike Barbados, the management of sea urchins in St. Lucia follows the more classic community-based model. The fisheries authority has engaged the fishing industry in specific locations in monitoring and management of adjacent areas due to fisheries collapses and closures. There is evidence that involving resource users in management has assisted in conservation when compared to other areas.

St. Vincent and the Grenadines

Tobago Cays Marine Park — Situated in the Grenadines islands of St. Vincent, this MPA under government control is seldom regarded as a co-management case, but is gradually moving towards greater stakeholder participation. Early in 2004 concerned citizens formed a group called the Friends of the Tobago Cays (FOTC) that was instrumental in persuading the

government not to lease the park to foreign private enterprise to manage. Their objective was to ensure that the local community was empowered to participate in management.

Trinidad and Tobago

Fisheries Monitoring and Advisory Committee — This committee is based on a 1997 agreement between government and stakeholders to promote sustainable management and optimal utilisation of the coastal fisheries of Trinidad and Tobago. The MAC provides a forum for stakeholders to meet, resolve conflicts and make a direct input into fisheries policy and decision-making.

Matura Bay sea turtle conservation — The northeast coast of Trinidad is an important nesting area for leatherback turtles. The community-based Nature Seekers group has engaged in turtle conservation with the Wildlife Section of the Forestry Division that includes guided tours and other facets of ecotourism. Turtles are tagged and nests are safeguarded.

Co-management guidelines case studies

Six cases of co-management in three countries were selected for detailed examination:

Barbados

Sea egg fishery — A food fishery for white sea urchins (*Tripneustes ventricosus* locally called "sea eggs") has declined on several occasions. After several closures to facilitate recovery, the government recently initiated co-management. Stakeholder groups include the Fisheries Division and Coastal Zone Management Unit (CZMU) of the government; and the Barbados National Union of Fisherfolk Organisations (BARNUFO).

Fisheries Advisory Committee — Under its 1993 Fisheries Act the government of Barbados activated a multi-stakeholder Fisheries Advisory Committee (FAC) in 1995. The FAC has struggled to define and meet its co-management mandate. Stakeholder groups include the Fisheries Division of the government; individual and organisational members of the FAC.

Belize

Laughing Bird Caye National Park and Gladden Spit Marine Reserve MPAs — These MPAs in Belize's barrier reef are co-managed by an NGO under co-management agreements with the Forestry and Fisheries Departments. Government stakeholders include the Fisheries and Forestry Departments, Coastal Zone Management Authority and Institute. Friends of Nature, Belize Tourism Industry Association and Belize Fisherman's Cooperative Association are some of the NGOs.

Fisheries Advisory Board — Belize has a Fisheries Advisory Board (FAB) that has been a powerful force in fisheries for over 30 years. However, it has not been well documented as an example of co-management. Stakeholder groups include government Fisheries and Cooperatives Departments, Belize Fisherman's Cooperative Association, members of the FAB.

Grenada

Lobster fishery at Sauteurs — At the rural town of Sauteurs government recently started a co-management project to encourage use of more responsible fishing gear for lobster harvest, and the fishing co-operative in the area is presently being revived. Stakeholder groups include government Fisheries and Cooperatives Divisions, the Agency for Rural Transformation, St. Patrick's Fishermen's Co-op.

Seine net fishery at Gouyave — The beach seine fishery in Grenada is a case of an attempt by government to systematically document traditional fishing rules and customs in order to incorporate them into fisheries management plans and legislation. Stakeholder groups include the Fisheries Division of government, Agency for Rural Transformation, Grenada Community Development Agency, Gouyave Improvement Committee and St. John's Fishermen Association.

Comparative analysis of case studies

Comparative analysis of the case studies yielded several results that assisted in informing the content of the guidelines. Among the most significant were the following.

♦ Mostly consultative co-management with some collaborative cases

♦ Mainly in pre-implementation and implementation phases

♦ Co-management is largely a government-driven initiative

♦ Limited capacities of all stakeholders is a major constraint

♦ Shared recognition of resource problems but not solutions

♦ Clear objectives for management are on paper, not shared

♦ Good fit between scale of resource and management units

♦ Communication among stakeholders is effective informally

♦ Many resource users are not interested in empowerment

♦ No one model of co-management will work for the region

♦ Need to share co-management lessons and experiences

♦ Collaborative planning and projects are essential for success

Co-management guidelines: concepts and conditions

People who participated in the research emphasised that the guidelines should focus mainly on communicating key concepts and conditions for successful co-management. Many co-management initiatives in the Caribbean have only recently begun. Sharing ideas and concepts is critical to foster a common understanding of co-management and to promote its potential for improving the livelihoods of coastal communities in the Caribbean. This section highlights some of the content of the guidelines. The layout (Figure 4) facilitates use as presentation notes.

| **What is co-management?** |
| Explains concepts that distinguish co-management from other types of management, and introduces integrated coastal management |

▼

| **Why co-manage in the Caribbean?** |
| Describes the driving forces behind co-management and its positive impacts on livelihoods, if there is a good socio-cultural fit |

▼

| **When do we start to co-manage?** |
| Co-management is often a crisis response, but it works best with some resources, and when everyone involved sees benefits exceed costs |

▼

| **Where do we co-manage?** |
| Location and scale of the arrangements are as important as having established property rights |

▼

| **Who do we co-manage with?** |
| Co-management requires teamwork, and you need to know the players and their agreed roles for the group to work well together |

▼

| **How do we co-manage?** |
| All kinds of skills are needed to improve the chances of co-management being successful |

▼

| **Where do we go from here?** |
| This is largely up to you, but you have to get started somewhere, and soon too, in order to learn by doing and also to be innovative about it |

Figure 4. Document map showing the flow of the guidelines' contents

The guidelines (McConney et al. 2003) are written, for the most part, in everyday language. They contain information that most people with an interest or stake in the co-

management of coastal resources should find useful. These stakeholders include fisheries and coastal managers and their staff; non-governmental organisations (NGOs) and community groups; fishers, tourism operators and other resource users; regional and international donor and development agencies; and national or regional policy-makers.

The guidelines do not provide 'blueprint' solutions. Instead they offer general guidance on conditions necessary for implementing and sustaining effective co-management. The relative importance of these conditions varies according to local circumstances. The sections ask and answer questions that are arranged to present the key concepts and conditions for effective co-management. The section headings of the guidelines are set out in Boxes. After each Box is a brief summary of what seems to favour successful coastal co-management in the Caribbean.

Box 1 Introduction
1.1   Background
1.2   Coasts of the Caribbean
1.3   Using these guidelines

Many of the points in Box 1 were presented in the introduction to this paper.

Box 2 What is co-management?
2.1   Analysing co-management means learning about relationships
2.2   Types of co-management
2.3   Phases of co-management
2.4   Integrated coastal management and adaptive management

The sections in Box 2 explain, as presented earlier in this paper, a typology of categories and phases of co-management that recognises the diversity embodied in the concept. To be fully understood in use, the term needs to be qualified by descriptions of the nature of arrangements specifically being referred to at any time and place.

It is also important to understand that co-management fits well within the framework of integrated coastal management (ICM), and is perhaps the only approach that can serve the needs

of poor people or otherwise disadvantaged stakeholders. Properly designed and evaluated adaptive management, not just management flexibility, is crucial for learning from experiences.

Box 3 Why co-manage in the Caribbean?

3.1   Demand for co-management

3.2   Poverty and pro-poor perspectives

3.3   Livelihoods: sustainable, alternative, complementary

3.4   Social and cultural fit

Change is often not easy. There must be good reasons for wanting to try co-management as an alternative to the conventional management by government alone that some describe as "command-and-control" due to its heavy reliance on formal regulation. Box 3 sets out why co-management is becoming the appropriate choice for managing Caribbean coastal resources.

Stakeholders identified several reasons for demanding successful and sustainable coastal resource co-management in the Caribbean:

♦ Increasing conflicts among coastal and marine resource users

♦ Many coastal resources being fully or overexploited

♦ Coastal habitats being increasingly degraded by pollution

♦ Public sector reform and down-sizing of state agencies

♦ Trend towards empowering NGOs and civil society

♦ Citizens' demands for greater legitimacy and transparency

♦ Donor agencies have co-management as a condition for funding

♦ Populations of indigenous people see it as a traditional right

♦ Multilateral environmental agreements provide for cooperation

Case study research revealed that agencies responsible for social services, welfare and poverty alleviation seldom have a working relationship with coastal management authorities. Managers of coastal and marine resources typically have natural science education that omits social policy issues such as poverty. They will need to acquaint themselves with aspects of poverty. Financial institutions find it difficult to generalise about poverty in a region as diverse as the Caribbean. Poverty has only recently (since the 1990s) received systematic and quantitative attention in the Caribbean. However, poverty is now recognised as one of the critical

constraints to development, and a systems perspective on poverty and pro-poor issues is required. As long as poverty is prevalent in coastal communities, managers' efforts to achieve sustainability and best use of resources will be frustrated.

These are some characteristics of poverty in the Caribbean:

♦ Women and men are almost equally vulnerable

♦ Poverty is often associated with female-headed households

♦ Male youth are considered particularly vulnerable

♦ Poor households exhibit large family size and low levels of education

♦ Poor people are victims of crime, violence and declines in services

♦ Economic growth is fundamental to poverty reduction

♦ Limited opportunities to obtain on-the-job training perpetuate poverty

♦ Poor people suffer from the low wages in the informal sector

♦ Public poverty goes beyond individuals and households, to the State

Critical to the success of co-management is the extent to which community-based organisations (CBOs) engage in poverty eradication and alleviation. This encompasses empowerment and the concept of "voice". Poor people need their voices to be heard in co-management arrangements or they will be unlikely to comply with what is decided.

Most Caribbean fisheries and coastal authorities also do not currently have a livelihoods perspective on management. The livelihoods concept includes the capabilities and assets that we use to carry out these activities. A sustainable livelihood is resilient to disruption and can be maintained or improved upon without depleting natural resources. An alternative livelihood replaces an unsustainable one such as irresponsible or destructive fishing or pollution. A complementary livelihood is similar, but recognises that people who work by the sea often cling tenaciously to their main lifestyle as an expression of their culture and personality, preferring complementary work.

Co-management is more successful when it becomes part of the fabric of society and way of doing things in the lives of ordinary people. In general, there is not yet a very good fit for co-management, largely due to the novelty of civil society participation in natural resource governance in the Caribbean. Some argue that the colonial period, followed by persistent patronage politics, has fostered a climate of dependency among citizens that today's more participatory democratic movements have found difficult to eradicate.

Box 4   When do we start to co-manage?
4.1   Some resources are more easily co-managed than others
4.2   Resource use crises: conflicts, dependence and scarcity
4.3   Benefits to groups and individuals

Although it would be ideal to be proactive and have co-management instituted as the norm, it is more common for co-management to be introduced mainly under conditions of stress or crisis. The sections in Box 4 describe conditions that favour successful introduction of co-management.

A wide variety of coastal and marine resources exist in the Caribbean. Not all are equally suitable for the application of co-management. Those that are most challenging for co-management are often also problematic for conventional management. Some characteristics of resources that are generally more easily co-managed, and often also over-exploited, include:

♦ Sedentary creatures and ones that do not range far in their life cycles (e.g. most reef-related resources)

♦ Resources whose distribution corresponds with human settlement (e.g. sea urchins in Laborie Bay, St. Lucia)

♦ Resources that fall under one jurisdiction for management (e.g. small coastal pelagics)

However, the nature of the resource is only one aspect of co-management. Understanding what can cause people to work together in management is often more difficult. Co-management is often introduced when there is a resource crisis such as conflict and/or scarcity, especially when people are highly dependent on the resources. Often, only when problems have reached crisis are people really motivated to invest time and effort in co-management. Even then, mutual acknowledgement of a problem does not mean that all parties will want to be part of the solution. Where there is a history of dependency on government, or a tendency to put responsibility on others, people are more likely to form groups to pressure authorities for action, than to form groups to take action. While such pressure groups can be important, they will not become co-management partners unless they are also willing to take management action.

Co-managers need to be concerned about benefits, or incentives, for all of the participating stakeholders so as to ensure that motivation is sustained, especially in delicate early

stages where investments or costs can be high with few evident returns. Stakeholders have their own real costs and need real returns for themselves, often to justify participation to a larger constituency that they represent such as fishers, divers or water taxi operators. A good incentive operates at the individual level without compromising the integrity of the group process.

Box 5   Where do we co-manage?

5.1   Boundaries and scale

5.2   Property rights

Just as not all resources are equally suitable for co-management, neither are all places. Some features, both physical and institutional, favour co-management more than others. The sections in Box 5 set out some of the location features that make successful co-management more likely.

Managers of coastal and marine areas in the Caribbean deal with several kinds of boundaries. Some are physical, but many are intangible and conceptual boundaries devised by people to categorise or delimit various things. Transboundary and highly migratory species require international, regional and sub-regional arrangements for cooperation. These are provided for under the 1982 Law of the Sea and other, more recent, agreements. There is a need to undertake transboundary co-management of many Caribbean marine resources according to the provisions of multilateral environmental agreements (MEAs). The Caribbean Regional Fisheries Mechanism (CRFM) is taking bold steps towards a regional co-management regime.

Having jurisdictional boundaries generally favours co-management because they allow stakeholders to know where their responsibilities lie. The closer these boundaries correspond to the distribution of the natural resources, the greater are the chances of management success. While boundaries that act as barriers can reduce the flexibility of co-management arrangements, knowing how the different types of boundary apply to the arrangements can help reduce conflict, assign appropriate responsibilities, and facilitate monitoring and evaluation. If boundaries are unclear at the outset of the co-management initiative, then it is appropriate for them to be negotiated within the context of the co-management arena.

Property rights were generally not burning issues for fisheries and coastal management authorities, or among the other stakeholders. This contrasts with the concern in other regions

with establishing property rights as fundamental requirements for efficient and equitable resource management. Property rights encompass:

♦ Individual or communal exclusive access

♦ Expectation of streams of benefits from use

♦ Right to dispose of, damage and destroy

♦ Ability to sell, transfer or divide ownership

Property occupies a large part of the literature on managing resources, especially fisheries. It is customary to think of four major property regimes that describe commonly understood sets of rights and rules.

Categories of property regimes:

♦ Private or personal property

♦ State or public property

♦ Communal or common property

♦ Open access or non-property

All except open access can be compatible with sustainable resource use. Open access is typically not sustainable in developing commercial fisheries. Partners in co-management are unlikely to contribute significantly to the effort over the long term if they do not expect to be able to maintain or increase the benefits of their investment in participation. A key to success is to reduce the openness of access to coastal and marine resources through the establishment of property rights. However, open access is likely to remain a feature of Caribbean coastal resource management for some time due to a deeply held belief that access to marine resources is a basic right rather than being only a privilege. The strength of this belief varies with location.

Box 6	Who do we co-manage with?
6.1	Stakeholders and partners
6.2	Trust and respect
6.3	Collective action and organisations
6.4	Decentralisation, delegation and devolution
6.5	External agents and resources

Co-management requires teamwork. Working together towards common goals requires collective action. Trust and mutual respect are essential for this to happen without undue conflict. The sections in Box 6 consider these dimensions of co-management, including how government structures power sharing.

Stakeholders are those whose interests, resources, power or authority suggest that they are likely to substantially impact, or be impacted by, management or its absence. 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 organisations then these organisations should make all efforts to draw government in as a partner, even if in the context of conflict management. Even if the government shows little interest, by law it will need to become involved.

It may be necessary to try to establish stakeholder organisations in the process of introducing co-management. An incremental design to co-management can be important for success. It is not necessary to have all co-management stakeholders join the arrangement at the same time either by coercing those that are not ready or by delaying until all groups are ready. Recognising the differences in capacities, aspirations and interests of partners is essential.

Trust and respect are fundamental to durable co-management partnerships, but they are not tangible or easily measurable. If people perceive that there is insufficient trust or respect, then they will behave as if this is so and constrain the progress or promotion of co-management. While fishers' knowledge of resources seems to be universally respected by authorities and policy-makers, there may be less trust of and respect for them as full partners in co-management given the typical deficiencies in their organisations mainly due to low capacity.

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 deserves special attention, especially in relation to fisherfolk organisations. The weakness of fisherfolk organisations in the Caribbean suggests that much will have to be done to promote sustained collective action if co-management is to be institutionalised. Crisis driven management responses are prevalent in both government and industry, and crisis responses often feature intense but temporary collective action. Sustained collective action is necessary to make co-management successful. It is an integral part of organisations. Two of the most common

challenges to collective action are lack of coordination and prevalence of free riders. A free rider seeks to obtain benefits without cost or effort. Problems of apparent free riding, must be distinguished from genuine lack of capacity to contribute, need to focus on survival as a priority (consider poor members), mistrust of leaders, expectation of free patronage benefits based on political experience and other factors that cause group members not to actively contribute due to inability or more attractive options. Sometimes the problem is lack of skills in mobilisation, causing the initial momentum to die down as the crisis passes and people tire of organisational ineffectiveness. Collective action requires constant attention to the means of mobilisation and keeping the group together.

Several countries have cooperatives and fisherfolk associations. However, it does not mean that these groups will automatically be suitable as representative organisations in co-management. It is likely that they were established with objectives that relate more to increasing exploitation, marketing and the incomes of members. Changes in outlook will be necessary for these groups to play major roles in management. These changes may be difficult and lengthy, especially if the organisation is still struggling with its original development mandate. Putting more focus on management may strain the internal cohesion of the organisation. 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.

Decentralisation, delegation and devolution are all about the extent to which stakeholders, other than the government authority, have the power to make decisions on their own. Research revealed very little decentralisation or delegation, and no devolution, of significant responsibility and authority by government authorities to fishers, except in Belize. Governments have relinquished more power in MPAs, especially in Belize, but also in other places like St. Lucia and Dominica. There may be limitations in stakeholder and state agency capacity, and the legal framework, that serve as barriers to decentralisation, delegation and devolution. If stakeholders are ready to assume more management 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.

Co-management stakeholders may receive assistance from external agents. Most liabilities can be avoided or reduced by sound strategic and action planning prior to requesting assistance. Any assistance received should then be more in keeping with the objectives and plans of the organisation and less likely to become side tracked. Assistance in advocacy should not be overlooked.

Box 7	How do we co-manage?
7.1	Participatory and strategic planning
7.2	Management objectives
7.3	Facilitation and information
7.4	Local and scientific knowledge
7.5	Stakeholder analysis
7.6	Decision-making, power and equity
7.7	Building capacity
7.8	Leadership
7.9	Communication, cooperation and coordination
7.10	Conflict management and negotiation
7.11	Compliance and enforcement

Previous Boxes provided the background or framework for appreciating what is involved in co-management. There are some ways or methods of doing co-management that favour success more than others. The sections in Box 7 present some of the skills that should lead to a sound arrangement or strengthen it.

Co-management is more likely to be successful, and objectives-driven, when it incorporates a participatory planning process. Learning by doing things together builds capacity, trust, respect and legitimacy of both content (the plan) and process (the planning). The type of participation 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. The plan should be endorsed at a political or legal level in preparation for implementation. Prior to implementation the plan should also be widely publicised 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 institutionalise the plan.

Although management planning 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. Participatory strategic planning has been used in several Caribbean marine and coastal management situations

The importance of having good objectives has recently been emphasised in both fisheries and marine protected area management particularly in the context of evaluating the effectiveness of management. This is to make sure that efforts at management are actually achieving the intended results, preferably in a manner that is not wasteful or otherwise inefficient. Where there is not much information about the resource or its use it may be necessary to formulate precautionary objectives.

In a co-management arrangement the local and traditional ecological knowledge of fishers and other sea users is more likely to become incorporated into the planning and management. Capacity is so limited in most small Caribbean fisheries and coastal authorities that the responsibility for science and management often resides in a few people who cannot provide the best information on their own. They may need to rely heavily on resource users for detailed knowledge of the resources. Local and scientific knowledge can complement each other. Co-management is most likely to succeed if the resource is one that stakeholders already have good knowledge of. Exchange of knowledge and learning is very beneficial to all parties and includes non-harvest aspects such as marketing and distribution of seafood where insider knowledge or firsthand experience is essential for thorough understanding.

Stakeholder analysis helps to systematically determine who needs to be a partner in the co-management arrangement, and whose interests are too remote to make this necessary. It is an important analytical tool that also helps to promote transparency when the need to select co-management partners arises. For practical and other reasons some stakeholders may be excluded from the initial partnership, perhaps of their own choice. Special care must be taken to ensure that voiceless and disadvantaged groups that may include women, youth, the elderly and poor people, are not excluded from the analysis. Multiple memberships in groups are common, especially in small island settings. It will always be necessary to be certain "who is speaking" at any given time.

Real power and perceived power are factors in determining the interest and willingness of stakeholders to engage in co-management. The power advantages of the strong and the disadvantages of the weak make them both reluctant to co-manage because of nothing to gain and too much to loose, respectively. It is essential to be aware of power differences and dynamics. Co-management is likely to re-distribute power and to be resisted by those who want to avoid losing, or sharing, power. Fisheries management agencies are often low in the hierarchy of public service departments. Sometimes the fisheries authority will seek to become an ally of fisherfolk organisations in an effort to demonstrate a larger constituency in order to increase their power. Stakeholders should beware of such relationships where there is a danger of degeneration into co-optation or coercion.

Equity is about ensuring fairness to co-management stakeholders in several respects. It differs from equality in recognising that capacity, authority and responsibility will vary amongst the partners, but that each should play a role that is appropriate. One of the main factors is the role that government plays since this determines the type of co-management and how decisions are made and implemented. Equity is linked to power in that disadvantaged groups (perhaps including the poor, women, youth, elderly, ethnic or religious minorities etc.) may need to be informed and empowered in order to bring them to positions of equity within the co-management arrangements.

Building stakeholder capacity for co-management is essential in the Caribbean, and a critical first step in many places. Organisational capacity building is multi-faceted and much more than training. Its aim is to make organisations more efficient and effective within a well-defined vision or ideal model of what they hope to be and do. It 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. In many cases capacity can be built fairly simply if the stakeholders were to engage in collaborative activities in which complementary skills transfer was intended. This is from learning by doing within partnerships. It is an approach well suited to strengthening co-management institutions and is usually cost-effective.

Leadership is a key element of building capacity. Without good leadership it is unlikely that appropriate capacity will be built in any organisation. A book on leadership for fisherfolk lists characteristics that fishers from the region look for in an organisation leader (Almerigi 2000):

- Embraces, and is committed to pursuing, the group's goals
- Identifies the needs, and respects the values, of members
- Knows the problems and aspirations of the membership
- Values consensus decision-making and every contribution
- Treats the members fairly, transparently and equitably
- Encourages flexibility, creativity, tolerance, self-discipline
- Learns from mistakes and motivates others to excellence

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 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 could be more developed.

According to co-management partners in the region there is need for considerable improvement in communication, cooperation and coordination. All three concepts are critical to co-management. As stakeholders discover that they share common interests it is likely that they will want to pursue the benefits of cooperation. Much conflict can be avoided through effective communication that can be either formal or informal. Formal and informal communication, cooperation and coordination have to be used wisely at the appropriate junctures. Things may sometimes get done faster informally, but this can undermine formal structures and processes if used excessively. Dependence on informal communication may arouse suspicions if transparency and institutional memory are weakened by the absence of recorded decisions. Excessive informality reduces the legitimacy of the systems and structures of management.

There was little evidence of serious conflict in the case studies, and no evidence of formal mechanisms for its management should conflict arise. It was agreed, however, that more attention to formal conflict management was necessary to ensure that minor matters did not threaten the success of co-management arrangements. Conflicts are not necessarily negative. They may cause more equitable power relationships to emerge, correct bad environmental practices or improve policy. The issue is how to manage conflicts in order to reach (at least

temporary) solutions in the most appropriate and least disruptive or harmful manner. The goal of conflict management is not to avoid conflict, but to supply skills that can help people express their differences and solve their problems for win-win, or mutually beneficial, outcomes. Not all disputes are conflict management candidates. Certain conditions should be met before and during the process in order to have a reasonable chance at reaching resolution. Conditions that facilitate conflict management are:

♦ All the disputing parties are known

♦ Willingness to negotiate resolution

♦ Reaching resolution is important for all

♦ Parties trust conflict management method

♦ A mutually beneficial outcome is a possibility

♦ Parties have authority to make deals

♦ Funds, time and other resources are available

♦ Resolution is desirable in the wider context

Many stakeholders and studies report that compliance with, and enforcement of, environmental legislation is generally poor in the Caribbean. Some MPA, fisheries or other existing regulations are weak or inappropriate. However, many are sufficient to make a positive difference and facilitate the sustainability of the resource if enforced or complied with. These are challenging areas for co-management because while all stakeholders may contribute towards compliance, it is often only the State that can deal with enforcement in a definitive manner. Other stakeholders may assist with enforcement, but the ultimate responsibility usually rests with the government. Even so, with very limited capacity and huge responsibility, many enforcement agencies have higher priorities such as border patrols, drug interdiction, combating smuggling of goods and deterring illegal aliens. Co-management arrangements facilitate enforcement by incorporating the responsible agency as a stakeholder where possible.

Discussion and follow-up recommendations

Similar to African case studies (Normann et al. 1998), the Caribbean cases are mostly in pre-implementation or early implementation phases of co-management. A few such as the Soufriere Marine Management Area (Renard 2000) may be mature enough to be labelled post-implementation. A significant consequence of this is that comparing "before" and "after"

conditions due to co-management interventions is less feasible in the Caribbean than other locations such as in Asia where much more work has been done (Pomeroy et al. 2001).

Although the term is used frequently, and is rapidly gaining popularity in government and NGO circles, the concepts of co-management are often not well known or defined, especially among resource users. In many of these initiatives, building the capacity of stakeholders to participate is a prerequisite for further progress and sustainability. Associated aspects of governance such as gender, poverty, alternative or complementary livelihoods and opportunities for the youth have only recently appeared on the agendas of governments in the region. Integrated coastal management and fisheries management emphasise the need for stakeholder involvement. Co-management is one expression of this trend towards inclusion.

We can therefore expect to see more co-management initiatives and chances to systematically document the factors that seem to facilitate sustainable success, especially if we note the following:

♦ It is essential to use several initiatives and approaches to assist in establishing successful small-scale fisheries co-management

♦ The case studies and guidelines may be used as teaching material in academic and training courses for students, managers and others

♦ Pilot projects with adequate funding are required in order to learn by doing co-management activities and building capacity this way

♦ Researchers are needed to assist in documenting and analysing the experiences with co-management, and to widely share the findings

♦ Information must be exchanged among stakeholders so that there is common understanding of what co-management means in practice

♦ Political and senior administrative leaders need to ensure that the policies governing small-scale fisheries include co-management as the preferred approach where there are good conditions for success

Acknowledgements

Environmental Studies (CERMES) for additional support. This work would not have been possible without the participation of several partners in civil society, non-governmental organisations and government agencies. Aspects of this work were previously presented at the annual meetings of the Gulf and Caribbean Fisheries Institute in 2002 and 2003, and the World Fisheries Congress in 2004.

Literature cited

Almerigi, S. 2000. Leadership for fisherfolk. CARICOM Fisheries Research Document No. 24. 63pp

Baird, I. G. 2000. Integrating community-based fisheries co-management and protected areas management in Laos PDR: Opportunities for advancement and obstacles to implementation. Evaluating Eden Series Discussion Paper No.14. London IIED. 17 pp.

Berkes, F., R. Mahon, P. McConney, R. Pollnac and R. Pomeroy. 2001. Managing small-scale fisheries: alternative directions and methods. International Development Research Centre, Canada. 320pp.

Brown, D.N. and R.S. Pomeroy. 1999. Co-management of Caribbean Community (CARICOM) fisheries. Marine Policy 23:549-570.

CANARI. 1999a. Community-based Tourism in the Caribbean: a Workshop held by the Caribbean Natural Resources Institute and the St. Lucia Heritage Tourism Programme, February 1999. Final report. CANARI Technical Report No. 258.19 pp

CANARI. 1999b. Evaluation of experiences in participatory planning and management of marine and coastal resources. CANARI Technical Report No. 259.50 pp.

CANARI. 1999c. Principals of Participation and Co-management: A Workshop For Professionals. CANARI Technical Report No. 260:24 pp

CCA. 2001. Report of the Executive Workshop on Co-management (28 - 29 August 2001) and Executive Workshop on Education and Outreach (30 August 2001), hosted by the Toledo Association for Sustainable Tourism and Empowerment (TASTE) in Punta Gorda, Belize. Report of the Coastal and Marine Management Program (CaMMP) of the Caribbean Conservation Association. 42pp.

Chakalall, B., Mahon, R., and P. McConney.1998. Current issues in fisheries governance in the Caribbean Community (CARICOM). Marine Policy 22:29-44.

Clauzel, S. 2001. Tourism in Laborie, St. Lucia: baseline study and identification of potential for development. CANARI LWI Project Document No. 3. CANARI Technical Report No. 293.15 pp

Finlay, J.A. 1996. Community-level sea use management in the Grenada beach seine net fishery: current practices and management recommendations. M.Sc.Thesis, University of the West Indies, Cave Hill, Barbados. 132pp.

Geoghegan, T., A. Smith, and K. Thacker. 2001. Characterization of Caribbean marine protected areas: an analysis of ecological, organizational, and socio-economic factors. CANARI Technical Report No. 287. 29pp.

Heyman, W and R. Graham (eds). 2000. The voice of the fishermen of southern Belize. TIDE, Punta Gorda. 44 pp

ICLARM and IFM. 1998. Analysis of Co-Management Arrangements in Fisheries and Related Coastal Resources: A Research Framework. Report Prepared by the Coastal Resources Co-Management Research Project Core Staff at the International Centre for Living Aquatic Resources Management (ICLARM) and Institute for Fisheries Management and Coastal Community Development (IFM): 21pp.

IDRC. (ed.) 2002. Balancing people and resources: interdisciplinary research and coastal areas management in the Wider Caribbean. IDRC, Canada. 594pp.

Jacobs, N. 1998. The Fisheries Advisory Board of Belize – a case study. Unpublished manuscript presented at the CFRAMP Regional Fishery Management Planning Workshop 22-24 April, Barbados. 7pp.

James, C. and K. Fourniller. 1993. Marine turtle management in northeast Trinidad: a successful community-based approach towards endangered species conservation. CANARI Technical Report No. 81:33 pp

Jentoft, S. 1989. Fisheries co-management: delegating government responsibility to fishermen's organizations. Marine Policy 13:137-154.

Kelleher, G. and R. Kenchington. 1992. Guidelines for Establishing Marine Protected Areas. A Marine Conservation and Development Report. IUCN, Gland, Switzerland. 79pp.

Kuperan, K and N.M.R. Abdullah. 1994. Small-scale coastal fisheries and co-management. Marine Policy 18:306-313.

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.

McConney, P., R. Pomeroy and R. Mahon. Caribbean coastal resources co-management — Part 1. Proceedings of the Gulf and Caribbean Fisheries Institute 55. In press.

McConney, P., R. Pomeroy and R. Mahon. Caribbean coastal resources co-management — Part 2. Proceedings of the Gulf and Caribbean Fisheries Institute 56. In press.

McConney, P.A. 1998. Using "common science' in co-management. Proceedings of the Gulf and Caribbean Fisheries Institute 50: 1115-1121.

McConney, P.A and R. Mahon 1998. Introducing fishery management planning to Barbados. Ocean and Coastal Management 39: 189-195.

McConney, P.A., A. Atapattu and D. Leslie.2000. Organizing fisherfolk in Proceedings of the Gulf and Caribbean Fisheries Institute 51: 299-308.

McField, M. 2000. Evaluation of management effectiveness Belize Marine Protected Areas System. Report to the Coastal Zone Management Authority and Institute. 21pp.

Normann, A. K., J. Raakjær Nielsen and S. Sverdrup-Jensen (eds.) 1998. Fisheries Co-management in Africa. Proceedings from a regional workshop on fisheries co-management research held 18-20 March 1997 at Boadzulu Lakeshore Resort, Mangochi, Malawi. Fisheries Co-management Research Project, Research Report No. 12.

Pomeroy, R. and F. Berkes. 1997. Two to tango: the role of government in fisheries co-management. Marine Policy 21: 465-480.

Pomeroy, R.S. 1998. A process for community-based co-management. AFSSRN News. ICLARM Contribution 1448:71-76.

Pomeroy, R.S., B.M. Katon and I. Harkes. 2001. Conditions affecting the success of fisheries co-management: lessons from Asia. Marine Policy 25: 197-208

Renard, Y. 1991. Strategies for increasing community involvement in ecotourism. CANARI Communication No. 21:6 pp

Renard, Y. 2000. Case of the Soufriere Marine Management Area (SMMA), St. Lucia. Prepared for the Seminar Integrating Stakeholders in Participatory Natural Resource Management, Kingston, Jamaica, April 2000. CANARI Technical Report No. 285: 8pp

Roberts, C.M., J. A. Bohnsack, F. Gell, J. P. Hawkins and R. Goodridge. 2001. Effects of marine reserves on adjacent fisheries. Science. 294:1920-1923.

Salm, R.V., J. Clark and E. Sirila. 2000. Marine and coastal protected areas: a guide for planners and managers. IUCN, Washington D.C. 371pp.

Smith, A. H. 1994. A collaborative approach to monitoring Caribbean reefs. Community and the Environment: Lessons from the Caribbean 3. CANARI/Panos Institute, Washington, D.C. 8 pp

Smith, A. H. and F. Berkes. 1993. Community-based use of mangrove resources in St. Lucia. International Journal of Environmental Studies 43(2/3):123-132.