Guidelines for coastal resource co-management in the Caribbean:

communicating the concepts and conditions that favour success

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in association with the
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and
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1 Introduction

1.1 Background

These guidelines are a final output of the Caribbean Coastal Co-management Guidelines Project. The goal of the project was to ensure that integrated coastal management in the Caribbean is done in a way that involves and benefits those who depend on the resources of coastal areas, especially where there is poverty. The purpose was to understand the conditions required for establishing and sustaining successful co-management of coastal resources in the Caribbean.

The guidelines were developed from lessons and experiences of co-management initiatives in the Caribbean and other regions. These lessons were combined with new information generated from case studies of coastal and marine resources co-management at selected sites in Barbados, Belize and Grenada. These guidelines embrace the wide range of aspects that can affect the sustainability and performance of co-management arrangements and activities from resources and fisheries, to cultural and institutional dimensions.

The project, funded by the United Kingdom (UK) Department for International Development (DFID), was part of the Natural Resources Systems Programme (NRSP) for the Land Water Interface (LWI) in the Caribbean. The Caribbean Conservation Association (CCA), a regional NGO based in Barbados, lead the participatory action research in partnership with the Marine Resources Assessment Group Ltd. (MRAG) of the UK and the Natural Resources Management (NRM) Programme of the University of the West Indies (UWI) Cave Hill Campus in Barbados. The Centre for Resource Management and Environmental Studies (CERMES) delivered the NRM Programme at Cave Hill.

1.2 Coasts of the Caribbean

The countries of the Wider Caribbean (Figure 1.1) host a diverse range of cultures, languages, religions, environments, and coastal and marine resources.

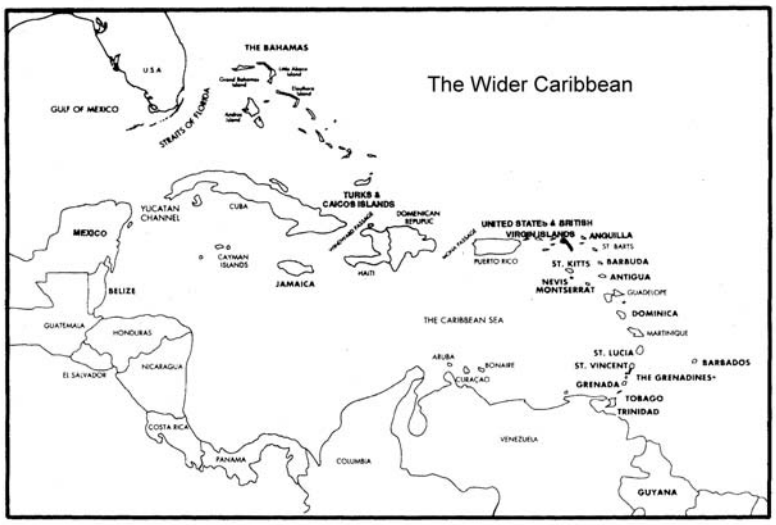


Figure 1.1 The Wider Caribbean is a region of many kinds of diversity

Despite this diversity, the countries and territories of the region share some features in common. For example, several belong to geographic, economic and political groups such as the Organisation of Eastern Caribbean States (OECS), Caribbean Community (CARICOM), Association of Caribbean States (ACS) and others. Many share characteristics typical of Small Island Developing States (SIDS) such as high dependency on their coastal living spaces and livelihoods based on coastal resources. Coasts are particularly important to sustaining development, and integrated management is required to facilitate sustainability.

Therefore, to be effective and sustainable, management within these coastal areas should adopt a coordinated multi-sectoral approach. This means taking account of the needs and potential impacts of complementary and competing industries including agriculture, fishing, manufacturing, recreation, shipping and tourism. Pollution, habitat destruction and several other forms of environmental degradation exist in the Wider Caribbean. Maintaining healthy coastal and marine ecosystems is fundamental for sustaining livelihoods. Critical habitats and ecosystems include mangroves and other wetlands, beaches, seagrass beds and coral reefs. It is often not easy to manage these resources and competing demands in an integrated and coordinated manner. The combined effort of governments and groups of interested people (the stakeholders), often called co-management, is increasingly seen as essential for effective and sustainable management.

The people of the Caribbean region, especially the poor and other disadvantaged groups, should be able and allowed to effectively engage in partnerships with government to sustain livelihoods that are dependent upon coastal resources. This principle is reflected in regional policy such as the St. George's Declaration of Principles for Environmental Sustainability in the Organisation of Eastern Caribbean States (OECS). These guidelines offer advice on how to implement co-management arrangements that are equitable, cost effective and sustainable.

1.3 Using these guidelines

The people who participated in this research emphasised that these guidelines should focus mainly on communicating key concepts and conditions for successful co-management. Several different concepts of co-management exist, and this often causes confusion. Many co-management initiatives in the Caribbean have only recently begun. Therefore sharing ideas and concepts at this stage 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 document is written, as much as possible, in everyday language. It contains information that most people with an interest or stake in the co-management of coastal resources should find useful. These stakeholders may 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 policy-makers. Of the above, coastal managers are the primary audience.

We do not assume that readers have a technical or scientific background, but that they are well-informed and experienced users or managers of coastal resources. A glossary explains some of the specialised terms. Recognising regional diversity, these guidelines do not attempt to provide specific recommendations or 'blueprint' solutions. Instead they offer general guidance on the conditions believed to be necessary for implementing and sustaining effective co-management arrangements. Inevitably, the relative importance of these conditions will vary according to local conditions. References and further reading are provided in a bibliography.

In terms of format, we were advised to provide a simple document from which extracts for training and reference could easily be drawn without being overloaded with detail that was available elsewhere. The sections ask and answer questions that are arranged to present the key concepts and desirable conditions for achieving effective co-management arrangements. Key learning points are emphasised by *italics* throughout the text. This layout (Figure 1.2) facilitates use of these sections as teaching aids or presentation notes.

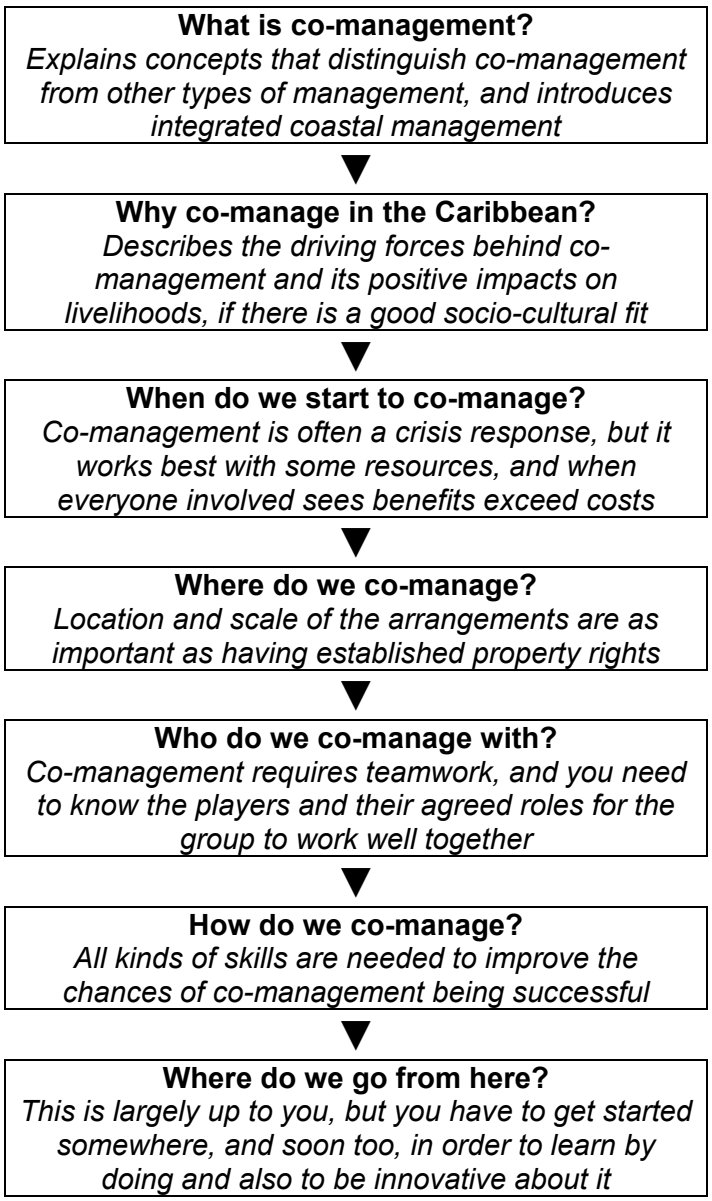


Figure 1.2 Document map of the guidelines' contents

2 What is co-management?

Co-management may be a new term to many readers or may mean different things to different people. This section helps to clarify the meaning of co-management by explaining some of its key underlying concepts.

2.1 Analysing co-management means learning about relationships

Co-management is the sharing of responsibility and authority for the management of resources between government and stakeholders. These guidelines are concerned only with the co-management of natural resources that occur along and offshore Caribbean coasts, but other types of resources can also be co-managed such as forests, grazing lands and water resources. People who do research on co-management develop models to describe these relationships (Figure 2.1). Items in the bibliography provide more details on frameworks for analysis.

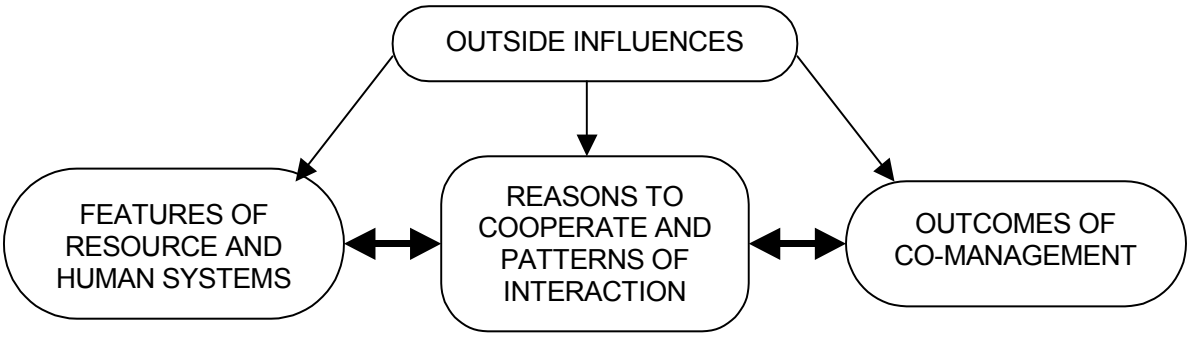


Figure 2.1 Co-management is about relationships

Stakeholders are people and groups whose interests, resources, power or authority result in them being likely to substantially impact, or to be impacted by, management or the lack of it. The way stakeholders interact with one another partly depends on who they are. Figure 2.2 shows a typical set of stakeholders, with an interest in coastal resource management, may sit around a table. They are the representatives of various groups that have an interest in costal resources. Co-management is largely about agreeing upon rules of interaction, as well as the roles and responsibilities of each stakeholder.

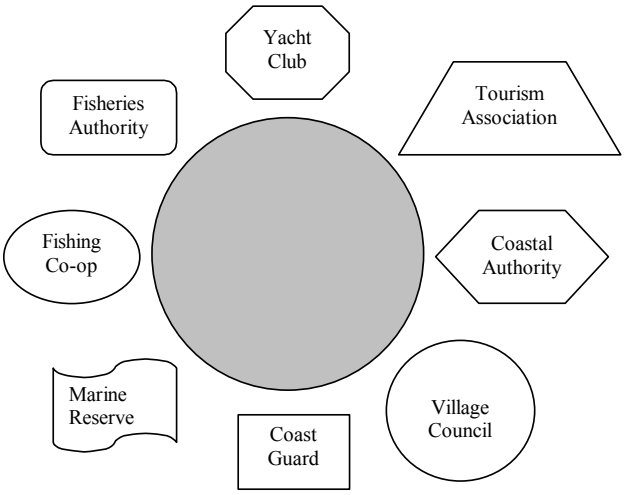


Figure 2.2 Co-management is a combination of negotiation and action taken by stakeholders

Some countries actually use terms like “round-table discussion” to emphasise that stakeholders ideally have an equal voice at the table and negotiations are not dictated by a person at the head of the table

Another important term is “institution”. *Institutions are the formal and informal sets of rules and types of interactions that people develop in order to function effectively*. Institutions may be both larger and smaller than organisations.

Addressing scale is important when planning co-management initiatives since institutions exist at many scales and can take a variety of forms. Figure 2.3 shows several scales of operation and analysis. For example, village councils or local area management authorities are common at the community and district levels, whereas fisheries advisory committees in the Caribbean tend to operate at the country or national level.

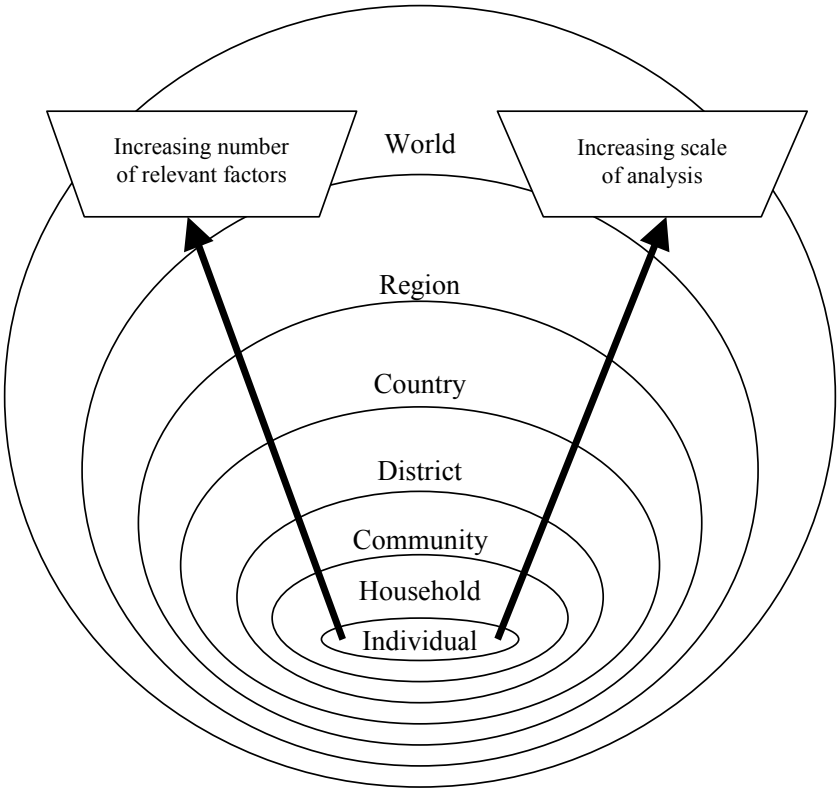
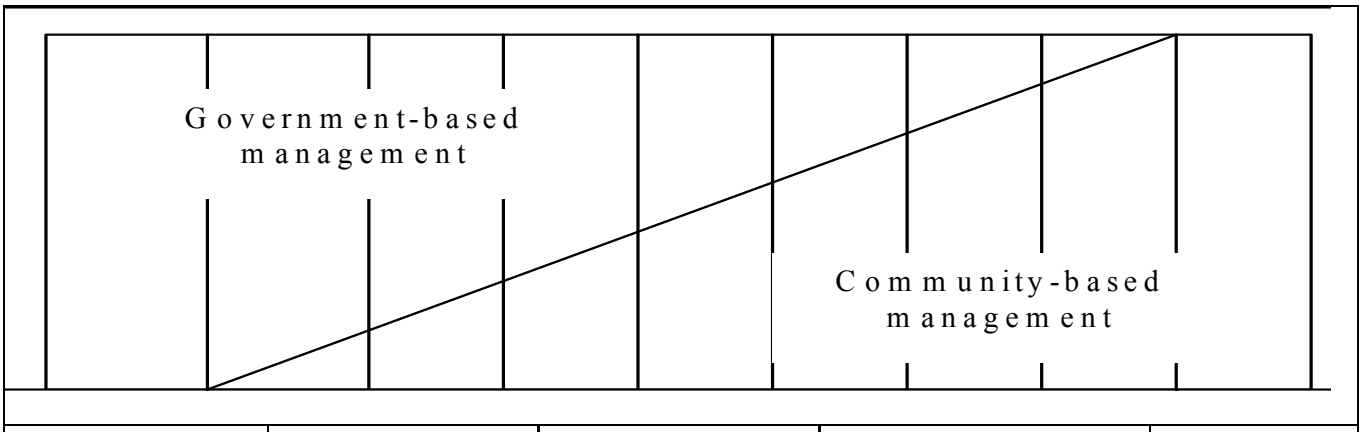


Figure 2.3 Knowing the scale of co-management is important

Management institutions at the individual, community and national level are relevant for coastal resource management in the Caribbean. *Note that the term “community” can be interpreted in various ways that range from the place where people live to a group of people that share the same interests or livelihoods*.

2.2 Types of co-management

Co-management emphasises participatory management, and encompasses several types of arrangements in the distribution of responsibility and authority between government and stakeholders. Since there are few sharp distinctions between these types of arrangements, they are often shown as a spectrum, continuous gradation or scale from government-based management through to community-based management (Figure 2.4).



Government officials and decision-makers have the most control	**Consultative co-management**	**Collaborative co-management**	**Delegated co-management**	*Citizens and community representatives have the most control*
	Government interacts often but makes all the decisions	Government and the stakeholders work closely and share decisions	Government lets formally organised users/stakeholders make decisions	

Figure 2.4 Three main types of co-management along the scale of arrangements

Three common *types* of co-management are:

- "*Consultative co-management*" is fairly common and typically refers to situations where the decision-maker (usually a national level management institution such as the Department of Fisheries) merely consults or seeks the opinion of other stakeholders on decisions made.
- "*Collaborative co-management*" implies a stronger, and more equitable, partnership. Some people use the term "cooperative co-management" to mean the same thing, but this is avoided here because using "cooperative" may cause confusion with fishery cooperatives.
- "*Delegated co-management*" includes, but is not limited to, community-based management where stakeholders outside of government are delegated nearly full decision-making power.

These types of co-management do not necessarily form a sequence either in time or as "good, better and best"; any one of them may be most appropriate for a particular situation.

2.3 Phases of co-management

Establishing successful co-management is seldom immediate. Like most participatory processes it takes time and careful tending. Many phases or stages can be recognised, but three main ones can concisely describe the complete sequence (Table 2.1).

Table 2.1 Implementation of co-management has three distinct phases over time

1. Pre- implementation →	**2. Implementation →**	**3. Post- implementation**
Realise need for change	Try out new management	Maintain best arrangements
Meet and discuss change	Educate people in new ways	Resolve conflicts and enforce
Develop new management	Adjust and decide what is best	Continue evaluating, adapting

In Asia and the Pacific region there are many examples of mature, post-implementation co-management. However, many co-management initiatives in the Caribbean are at pre-implementation or early implementation phases. Stakeholders are now experimenting and trying out different types of arrangements for management to see what may work best. Consequently fewer opportunities exist to make "before" and "after" comparisons with which to identify desirable conditions for co-management and effective processes for its implementation. A few situations, such as the Soufriere Marine Management Area (SMMA) in St. Lucia, have been considered mature enough to be labelled post-implementation. Even here, however, efforts continue to refine and improve the co-management arrangements in response to change and as lessons are learned. The information on desirable conditions for success, which forms the basis of these guidelines, is therefore based largely on the opinions and limited experiences of stakeholders engaged in initiatives at the pre-implementation stage. There is evidence that collaborative co-management is of most interest to people in the region, but is in an early stage.

Commitment is imperative. It is not unusual for co-management to take up to ten years to become the established and accepted approach to integrated coastal management. Especially important is the need to ensure that government authorities or external agents sustain co-management initiatives in order to prevent a "stop-and-start" pattern in which stakeholders become frustrated, and the idea of co-management becomes associated with frequent failure. Fishing cooperatives in Barbados have suffered badly from this fate. One way to prevent this is to openly acknowledge that co-management is an experiment, and then design it for all stakeholders to monitor and evaluate it as a learning process. *Transparency and participatory monitoring and evaluation are important ingredients for success*.

2.4 Integrated coastal management and adaptive management

Co-management can be an effective approach to integrated coastal management (ICM). ICM is a process for taking decisions on the sustainable use, development, and protection of coastal and marine areas and resources. Its advantage over other approaches is that it acknowledges the intricate relationships among coastal and marine uses and environments. It promotes linkages and harmonization among coastal activities and the physical processes of nature. It provides a comprehensive perspective for management (Figure 2.5).

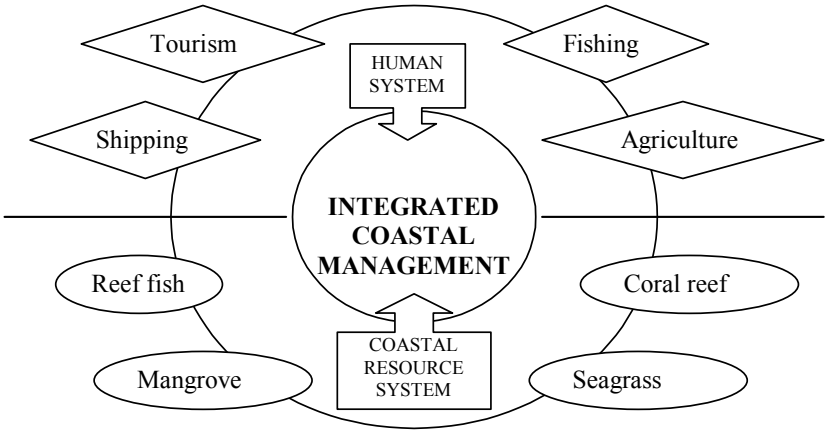


Figure 2.5 Integrated coastal management includes many types of relationships

The smaller Caribbean island countries are comprised almost entirely of coastal area; their inland areas are very small and still close to the sea. National, regional and international authorities are aware of this, and it is worth noting some of the relevant policies and concepts. Coastal and inland areas are only short distances from each other in the small islands of the eastern Caribbean, and they affect each other in many ways. In the OECS the concept of Island Systems Management acknowledges this, and promotes a holistic treatment of coastal matters. The 1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, more commonly known as the Cartagena Convention, provides a powerful and comprehensive policy platform for ICM in the area. The 1995 international Code of Conduct for Responsible Fisheries argues for the integration of fisheries into coastal management and has been adopted as guiding policy in many countries.

Institutional arrangements for coastal management vary considerably around the region. Study sites such as Barbados and Belize have well-established authorities and legislation, with active programmes for promoting co-management. In both of these cases there was considerable interaction between the coastal management and fisheries management authorities that reflects an integrated approach. In other countries, like St. Lucia, one government department carries out both functions, and this facilitates integration of jurisdiction and administrative matters.

As important as integration is, the ability of management systems to be flexible is paramount. This entails incorporating learning about what makes ecosystems resilient. Resilience means being able to absorb impacts and changes, and still persist in a healthy state. Management systems should also be as comprehensive and holistic as is feasible. Resource management that takes into account interactions among components in the ecosystem is called ecosystem-based management. Increasingly, ICM is becoming more ecosystem-based. All of this means that good co-management ideally requires all of the participants to have comprehensive and integrated views of both the resource systems and human systems.

Getting all of this right does not happen overnight. There is usually a period of learning with lots of uncertainty about features of the human system and ecosystem. One approach is to manage by trial and error, without paying much attention to accumulating knowledge about the systems. *A better approach is to learn through adaptive management*. Adaptive management is an experimental, learning approach where management measures are designed, tested and evaluated to determine the features of the managed system that inform the most appropriate management for subsequent testing and refinement. It involves institutional learning where all of the co-management stakeholders share information and record conclusions or decisions about the human and natural resource systems. By careful analysis and documentation, the co-management institution, as a whole, learns together for improvement. Systems for data collection, analysis, monitoring and evaluation must be adequate to facilitate making informed management decisions.

References and further reading: Brown et al, 2002; Cicin-Sain and Knecht 1998; Clark 1992; GESAMP 1996. Chua 1993; ICLARM and IFM 1998; Renard 1991a; Noble 2000; Pomeroy and Williams 1994; Pomeroy and Carlos. 1997; Pomeroy et al. 2001; Normann 1998; Sverdrup-Jensen and Nielsen 1999; Renard 2000; McConney and Mahon 1998; McConney 1998; Pomeroy 1998; Brown and Pomeroy 1999; Kurien 1988; McConney et al.1998; Jacobs 1998; McConney and Mahon 1998; ICLARM and IFM 1998; CANARI 1999d; CANARI 2000b; CANARI 2001; CCA 2001; Arnstein 1969; Pinkerton 1989; McConney 1998; Pomeroy 2001; Berkes et al. 2001; Jentoft 1989; Kuperan and Abdullah 1994; Pomeroy and Berkes 1997; CANARI web site www.canari.org;

3 Why co-manage in the Caribbean?

Change is often not easy. There must be good and substantial reasons for wanting to try co-management as an alternative to the conventional management mainly by government that some describe as “command-and-control” due to its heavy reliance on formal regulation. This section sets out why co-management is becoming more common worldwide, and the appropriate choice for managing Caribbean coastal resources.

3.1 Demand for co-management

What drives the demand for coastal resource co-management in the Caribbean? It is important to be able to answer this question especially when promoting co-management at the policy level and building a regional perspective on the subject. At the national, district and local levels there will also be stakeholders who need to be assured that co-management is not, or will not be, unique to their situation. They share experiences with many others from around the region. Identifying commonalities is part of capacity and institution building.

In researching these guidelines, co-management stakeholders recognized several reasons behind the demand for successful and sustainable coastal resource co-management, including:

- Increasing conflicts among coastal and marine resource users not being managed
- Many resources being fully or overexploited under management by government alone
- Coastal habitats being increasingly degraded by marine and land-based pollution
- Public sector reform and down-sizing of state agencies changing the nature of governance
- Trend towards empowering non-governmental organisations, communities and civil society
- Citizens’ demands for greater legitimacy and transparency in management decision-making
- Donor agencies often have establishing co-management as a condition for receiving funds
- Where there are significant populations of indigenous people, it is seen a traditional right
- Multilateral environmental agreements contain provisions for cooperation in management

Not all of the above apply everywhere, and in some places the list will be longer or different. In terms of policy, the international Code of Conduct for Responsible Fisheries seeks to ensure that fishers are fully integrated into coastal management. Regional instruments and declarations that espouse co-management concepts include the OECS St. George’s Declaration of Principles for the Environmental Sustainability and the Protocols to amend the Caribbean Community’s Treaty of Chaguaramus.

Involving stakeholders early in marine protected area (MPA) planning and management is now standard practice for reducing the likelihood of “paper parks” with ineffective management. Tourism has many impacts on reefs, mangroves, seagrass and beaches, so coastal settlements engaged in community-based tourism and eco-tourism may seek to co-manage threatened critical habitats and the flows of visitors. Agro-chemicals washed down from distant locations in the watershed, or that originate nearby, are of special concern to coastal areas since the diverse nature of land-based sources of pollution presents many challenges to involving the, sometimes unsuspecting, persons causing the problems in co-management.

3.2 Poverty and pro-poor perspectives

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 may have natural science education that omits social policy issues such as poverty. They will need to acquaint themselves with aspects of poverty, which is

a complex concept that relates to where a person or household may be relative to standards of acceptable quality of life. How people identify and measure poverty varies with method, time, culture and other factors. *Pro-poor policies and practices improve the well being of poor people, but do not exclude providing benefits to other groups as well*.

Financial institutions such as the World Bank and Caribbean Development Bank find it difficult to generalise about poverty in a region as diverse as the Caribbean. Economies range from Haiti, the poorest country in the Western Hemisphere with an annual per capita income of less than US$500, to the Bahamas with an annual per capita income of more than US$12,000. However, depending on how you measure it (and there are many different ways), 25 to 40% of the people in the Caribbean can be classified as poor. This translates to nearly 10 million people.

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. Eradication or alleviation of poverty is often accompanied by attention to livelihoods, governance, health and education.

Some characteristics of poverty in the Caribbean:

- Regarding gender and poverty, women and men are almost equally vulnerable
- Poverty is often associated with female-headed households, but not necessarily so
- Male youth are considered particularly vulnerable, particularly if poorly educated
- Poor households exhibit large family size, low levels of education and overcrowded housing
- Poor people are likely to be victims of crime, violence and declines in social services
- Economic growth is fundamental to poverty reduction, but pro-poor growth must be planned
- Limited opportunities for unskilled youth to obtain on-the-job training perpetuate poverty
- Macroeconomic instability and deficiencies in the labour market result in limited job growth
- Poor people suffer from the low wages in the informal sector where many work
- Public poverty goes beyond individuals and households, to the State being impoverished

Institutional analysis provides insight into how social and economic institutions interact with each other and contribute either to the perpetuation or reduction of poverty. There are chronic, structural and seasonal poor in the Caribbean, with fishers often as an example of the latter. Fishers and other coastal resource users in the informal sector may easily slip through the net of State employment surveys and assistance schemes unless specifically targeted.

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. Pro-poor strategies must address causes of poverty that operate at all levels, and ensure that government policy effectively engages these causes either directly or by creation of an environment that facilitates positive action by other parties.

3.3 Livelihoods: sustainable, alternative, complementary

Research has shown that most Caribbean fisheries and coastal authorities do not currently have a livelihoods perspective on management. Many of us are accustomed to thinking that livelihood

simply means the work that you do to make a living. This focuses our attention on activities, but the concept also includes the capabilities and assets that we use to carry out these activities.

Livelihood diversification:
- Is common in Caribbean socio-culture
- Reduces income-related vulnerability
- Features highly in pro-poor policies
- Makes part-time fishing a preference
- Is assisted by occupational mobility
- May be favoured by open access

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. Complementary livelihoods may evolve into alternatives if the conditions and benefits are right. New recruits should not replace those getting out of the livelihood that is unsustainable.

In the Asia-Pacific region the focus is on alternative livelihoods since coastal resources are severely depleted and habitats are degraded. In the Caribbean, resources are often still adequate for use to be sustainable if complementary livelihoods are found to ease the pressure without completely changing lifestyles. For example, fishermen displaced by MPAs in Belize are being re-trained as fly-fishing and nature tour guides to obtain additional income in the tourist season and facilitate increased compliance with fishing restrictions. Tourism occupations are frequently suggested alternative or complementary coastal livelihoods, but their sustainability is questionable in terms of vulnerability to external shocks (exogenous factors). The seasonality of tourism is not usually an issue since Caribbean people are often multi-occupational, and have other income sources either seasonally (sequentially) or at the same time (concurrently). Not all sea users are multi-occupational in terms of switching jobs. Fishers often switch among various fisheries in order to reduce the seasonality of income, but if several fisheries are overexploited this is not a sustainable practice.

Sustainable livelihoods initiatives:
- Are often part of holistic people-centred policy
- Require interdisciplinary and holistic research
- Are better done in partnership with beneficiaries
- Are multi-level beyond individual and household
- Recognise that livelihood strategies are dynamic

Co-managers must be sensitive to livelihood situations, especially where any group is poor or has limited options that result in destructive strategies of resource use as a matter of short-term survival. Presenting conservation initiatives and management measures that do not take into account the livelihoods of stakeholders is almost certain to alienate the affected groups. These groups may not be homogenous. Attributes such as gender, age, access to assets, external income, education and others may breakdown an occupational category such as fisher or fish vendor into smaller livelihood groupings for the purpose of understanding them, and for appreciating the circumstances of individuals.

3.4 Social and cultural fit

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. The case studies revealed considerable variation in how well coastal resource co-management fit, socially and culturally, into the way of life of people and institutional arrangements in the countries. 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. 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. A worrisome trend, reported in several countries, is the loss of a community or self-help “maroon” spirit.

More citizens now demand a say in how resources are managed via their letters to newspapers, call-in radio programmes, town hall meetings and other popular participatory mechanisms. Yet, there is still a large gap between, for example, the reported aspirations of the fishing industry for co-management, and the actual evidence of effort made by fisherfolk to move in this direction. Coastal resource co-management initiatives remain largely driven by government. This says that the social and cultural drive to establish management partnerships is not always firmly established yet at the grassroots level. The social and cultural diversity of the Caribbean must also be borne in mind, and there are exceptions to these general observations that apply mainly to the English-speaking Caribbean.

The case of Belize illustrates, however, that media attention, public information, practical hands-on experience, active resource management and civil society NGOs can be key ingredients for institutionalising co-management. These ingredients are lacking or weak in other countries. This gives clear guidelines on the necessary elements of promotion, while appreciating that coastal resource co-management will not be achieved overnight. It has only recently been introduced to the region. The most significant impact on improving the social and cultural fit may come from learning by doing in order to establish the customary practices and perspectives that favour co-management. Small, successful activities and projects are some of the best building blocks.

Other means of improving the social and cultural fit may include:

- Systematic research into social and cultural aspects of co-management
- Use of terrestrial management cases for comparison and lessons learned
- Promotion of the compatibility between co-management and democracy
- Provision of everyday examples of cooperation and organisation as models

References and further reading: Kelleher and Kenchington 1992; Salm et al. 2000; Geohagen et al. 2001; Roberts et al. 2001McField 2000Berkes et al 2001Smith 1994CANARI 1999a; Clauzel 2001Heyman and Graham 2000; Centre for Development Studies 2000; DFID-NRSP 2001;Carney 1998; Dorward et al. 2001; Carney 1998; Ashley and Carney 199; Allison and Ellis 2001;Kairi Consultants 1999; Brown 2001; World Bank 1996

4 When do we start to co-manage?

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 under certain conditions of stress or crisis. This section describes conditions that favour the successful introduction of co-management.

4.1 Some resources are more easily co-managed than others

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 motivates people to work together in management, or not to cooperate, is often a challenge.*

4.2 Resource use crises: conflicts, dependence and scarcity

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 the stage of 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 frequent 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 themselves. While pressure groups can be important, they will not become full co-management partners unless they are also willing to take direct and collaborative management action.

On the other hand, a view prevails among some fisherfolk that there can be no resource use problems since only nature controls the dynamics of coastal and marine resources. If this attitude prevails at a site or in a fishery, there may be little interest in co-management since it would be seen as inherently futile. This perspective was evident in the Barbados and Grenada case studies. *In general, action has to be taken to strengthen stakeholder confidence in using marine science and co-management as means to address resource problems and improve the circumstances of resource users and others in the Caribbean*.

Some features of resource use problems:

- Natural phenomenon or human cause
- Prevent, mitigate, solve, adapt or ignore
- Chronic (long-term) or acute (short-term)
- Assess risk (how likely and how bad?)
- Widespread or local occurrence/impact
- Precautionary principle or well informed
- Urge self-reliance or further dependency

Resource use problems have numerous features. Case studies revealed that while several management authorities had defined resource use problems, sometimes through participatory processes, information about resource problems was not widely shared. For example, fishery-specific objectives in management plans in several countries clearly set out the problems and proposed solutions, but the plans are not promoted so that all of the

parties involved can keep in mind the issues and what is involved in solving them. The plans are not used as the basis for management. They are generally ignored, both by government and other stakeholders. It is essential to use these moments of conflict and crisis to encourage co-management to be established as more than a quick fix to problems. *The benefits of co-management as a means of avoiding or solving issues as a continuous process need to be emphasised.*

Sharing problems helps to establish common interests and facilitate co-management. Often a problem has several parts that can be tackled simultaneously by various stakeholders in different ways. Sometimes it is only through combining efforts that a durable solution can be reached. Arranging for mutual assistance becomes a vital and cost-effective mechanism for problem-solving in places with limited capacity. Joint examination of concerns and problems usually builds partnerships. Differences in education, training, perspectives, agendas and other backgrounds need to be appreciated and respected, but not allowed to become obstacles to seeking joint solutions.

People who are focused primarily on surviving and basic needs may knowingly contribute to a problem such as overexploitation due to lack of viable alternatives. Even governments may knowingly maintain what they see as a small problem in order to solve a larger problem e.g. allowing resource overexploitation when or where there is high unemployment. Stakeholders, including government agencies, have been said to create or perpetuate a problem where it gives access to a flow of resources and as a means of keeping busy with what they know and feel comfortable addressing. For example, an NGO or authority may be able to ask repeatedly for funds to raise awareness about a destructive fishing gear, but never take steps to eliminate this irresponsible fishing. These negative behaviours to maintain problems and divert assistance are threats to the establishment of successful co-management.

4.3 Benefits to groups and individuals

Stakeholders in the researched case studies expect that there should be net benefits for organisations and individuals from engaging in co-management over time. However, many felt that it was too soon to say what these would be or the actual amount of the benefits. Some added that benefits could only be accurately assessed after co-management arrangements had matured enough not to need interventions and inputs from external agents such as donors and researchers. These interventions tend to inflate benefits or reduce costs in the short term only. This was especially the situation in Belize where there is an abundance of external agencies and stakeholders were acutely aware of possible costs (Table 4.1).

Table 4.1To act as incentives, benefits of co-management must outweigh costs

Some possible costs of co-management	Some possible benefits of co-management
♦ Requires initial financial investment	♦ Improves information flows
♦ Time requirements for participation	♦ Promotes conservation
♦ May result in smaller share of resource	♦ Helps to sustain livelihoods
♦ May result in less and shared power	♦ Encourages self-reliance
♦ Information has to be communicated	♦ Reduces many conflicts
♦ May take long to reach joint decisions	♦ Facilitates compliance
♦ Requires skills such as facilitation	♦ Lowers long run costs
♦ May cause demands in other areas	♦ Increases empowerment

*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 return*s. Although they vary with the specific case, there are some commonly cited benefits from successful co-management (Table 4.1). However, these alone are not enough, and tend to be benefits shared by the entire co-management institution.

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. The few people who represent the group may be personally convinced of the benefits to the group, but individual members may also want to know what is in it for them.

Incentives may not always work in favour of co-management and conservation. At the individual level, if open access overfishing causes demand to exceed supply and keeps prices high, despite declining catches, fishers may not see the benefit of co-management unless the long term damage is highlighted to them. In cases of significant uncertainty of catch or income, from any source, the certain cost of participating in management may seem to outweigh benefits that are largely unpredictable. Both of these negative incentives operate in the Barbados sea urchin fishery, and fishers there are reluctant to become involved in co-management. Introducing and strictly enforcing limited access, through licensing, is the main way to provide incentives for co-management in this case. *In general, restricting access and establishing property rights will be powerful incentives once the socio-cultural resistance to limiting access is overcome*.

In the Barbados case fishers have an incentive to participate in management at least to the stage of consultation in order to advise government on the most appropriate fishing season. The incentive here is fear that without consultative co-management the fisheries authority will make the wrong decisions about season opening, with severe impacts on incomes and livelihoods. The fishers also consider consultation to be an appropriate level of investment of their time in relation to the risk and uncertainty of the situation.

Prospects of power, recognition, reward and personal gain can also draw stakeholders into a co-management arrangement. However, unless they are specifically related to the collective goal, these incentives are not likely to contribute positively to the co-management group effort, and may de-rail it if other stakeholders perceive inequities. *A good incentive operates at the individual level without compromising the integrity of the group process***.** An example could be the second payment of a fishing cooperative where the individual gains from marketing catch through the group, and the catch rules are based on conservation.

References and further reading: Kelleher and Kenchington 1992; Salm et al. 2000; Geohagen et al. 2001; Roberts et al. 2001McField 2000Berkes et al 2001Smith 1994CANARI 1999a; Clauzel 2001Heyman and Graham 2000; Centre for Development Studies 2000; DFID-NRSP 2001;Carney 1998; Dorward et al. 2001; Carney 1998; Ashley and Carney 199; Allison and Ellis 2001;Kairi Consultants 1999; Brown 2001; World Bank 1996 [see e-docs]

5 Where do we co-manage?

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. This section sets out some of the location features that make successful co-management more likely.

5.1 Boundaries and scale

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. Figure 5.1 shows possible marine boundaries of countries and territories in the wider Caribbean, illustrating the geographic and political complexity of the area. Sub-regional groups of countries include the OECS and CARICOM Member States.

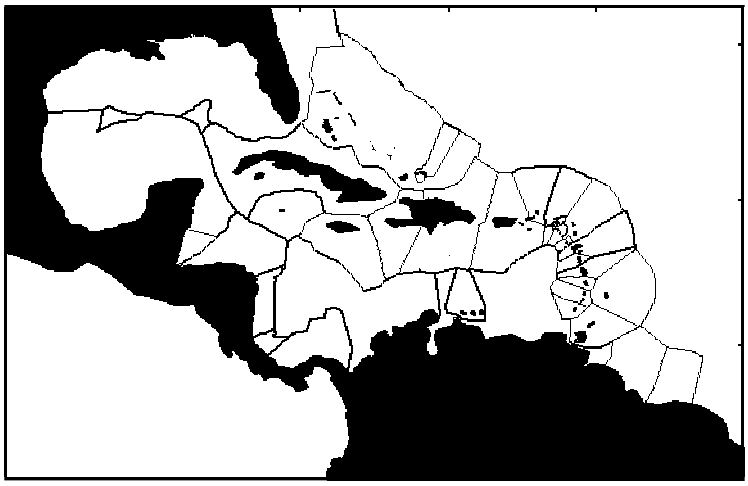


Figure 5.1 The wider Caribbean is a complex area of possible Exclusive Economic Zones

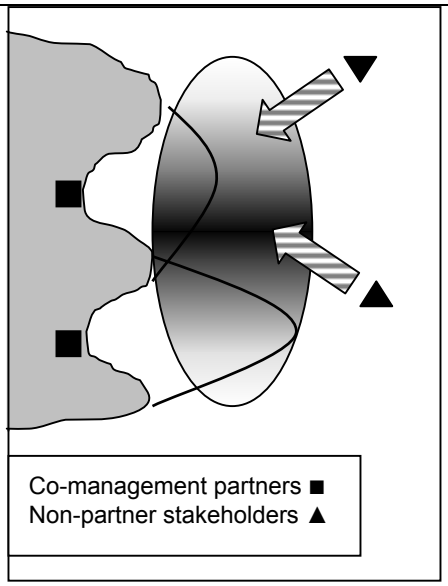


Figure 5.2 Many boundaries in a simple case of co-management

Marine boundaries enclose Exclusive Economic Zones (EEZs) and territorial seas. Countries define these areas of jurisdiction in law and fisheries management plans. Living resources such as fish, their eggs and larvae, cross them unknowingly. Managers of fisheries and MPAs try to determine the best way to share and conserve these resources. Figure 5.2 shows that this can be challenging, even between two adjacent communities (shown as squares) that have technical or customary boundaries for their fishing range (e.g. due to boat or engine size or traditional use). They may have formed a co-management agreement, but non-partner stakeholders from afar (the triangles) may exploit the same resource and threaten its sustainability plus the co-management agreement. This is a fairly common scenario in the Caribbean given the close proximity of countries and settlements.

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). This scale of co-management is beyond the scope of these guidelines. It is reassuring, however, to know that the Caribbean Regional Fisheries Mechanism (CRFM) is taking bold steps towards a regional co-management fisheries 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. One can also consider technical boundaries such as the different gear types that differentiate fishers. Administrative and legal boundaries apply especially to government agencies to set out their management responsibilities. NGOs and external agents will normally have boundaries in terms of their mandates, and CBOs also have the boundaries of the communities that they serve. *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.

Where the combined capacity and range of influence of co-managing partners is less than the scale at which the resources should be managed, such as with some shared resources, it is necessary to weigh the consequences of taking management action or not. Attempting good management can persuade others to join the co-management initiative. It may be possible to make a significantly positive impact on your own depending on the ecology of the resources. You may be able to protect critical spawning or nursery areas. Sometimes taking action without the involvement of other users is not a choice, but a necessity, if you want to sustain your own resources. A common case is where some users have a relatively small impact on the resources and have determined that their costs of management exceed the likely benefits. Many examples concern small-scale fleets of small countries versus industrial fleets of large countries.

Connectivity is a term often signifying that the adult resources in one area are dependent on the production of eggs and young in another area, the two areas being connected by currents or essential habitats. Scientific research on connectivity between MPAs is increasingly showing the benefits of having a series of small strategically placed reserves instead of trying to cordon off very large areas that are more difficult to manage. *What this may imply for co-management is that the communities or countries along the path of connectedness will need to co-manage the resource for it to successfully complete its life cycle and maintain healthy population levels.* The spiny lobster is receiving much attention in this regard.

5.2 Property rights

With the exception of the Grenada beach seine fishery, the case studies did not reveal well-established traditions or interest in property rights. *Property rights were generally not burning issues in the 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 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

In everyday language, property is simply what someone owns. The, more accurate, conceptual notion of property as sets of rights and relationships is very complex. It has occupied 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 based on experience. All but open access can be compatible with sustainable resource use.

Coastal resources that come under co-management are not likely to be private property. Coastal and marine common property resource institutions are either scarce or not well documented in many parts of the Caribbean. Some terrestrial coastal resources such as mangroves and coral cayes are likely to be owned by the State, as is the seabed. Most of the marine fishery resources of the Caribbean are open access. This is quite problematic.

Categories of property regimes:
- Private or personal property
- State or public property
- Communal or common property
- Open access or non-property

Without going into the detail available in the references and further reading, suffice it to say that open access allows almost anyone to participate in a fishery. MPAs, by definition, are restricted areas although the nature and severity of limits on activities and uses varies. The fundamental problem is that successful management typically results in benefits that as soon as they are realised are eroded by new entrants to resource exploitation. This adds to harmful practices that existing participants may engage in as they seek to compete for a share of the resource. 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*. The Grenada beach seine case study provides an example of territorial use rights in a fishery (TURF). It illustrates the importance of informal and traditional practices, including the role of government in sustaining these systems of tenure through formal recognition. Several of the OECS countries are in similar positions.

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 considerably with location. In the sea urchin fishery it is very strong in Barbados, but weaker in St. Lucia. *Where open access is prevalent it is still possible for co-management to make a positive difference by ensuring that the agreed management measures are as effective as possible*. If fishing effort can be limited by a combination of other means and regulations, then conservation may still be feasible. It is important to understand the reasons why stakeholders continue to support open access even when aware of the problems it causes. In Barbados the reasons encompass a complex set of historical, social, economic, cultural, ethical and geographical factors. Property rights will be difficult or impossible to establish unless socio-cultural attitudes towards property also change. Despite the likely resistance, it is important to keep property rights at the forefront of the attention of co-management partners.

Progress with the establishment of property rights is most likely to occur with MPAs that are delegated for NGO co-management such as in Belize. In the case of countries such as St. Lucia where embayments and settlements tend to correspond it may also be easier to establish or strengthen rights to manage the adjacent area. In more open countries such as Barbados, especially where there is intense and competing use of the coast, the options may be limited to types of licensing or quotas.

References and further reading: Berkes 1989; Berkes and Folke 1998; Hanna and Munasinghe 1995; Hanna et al. 1996; McCay and Acheson 1987; George and Joseph 1999; Finlay 1996; Chakalall et al 1998; CCA 2001; Jacobs 1998; Jacobs 1999; Kelleher and Kenchington 1992;

6 Who do we co-manage with?

Co-management requires teamwork. Although stakeholders have common interests they also have differences. Working together towards common goals requires collective action. Trust and mutual respect are essential for this to happen without undue conflict. This section considers these dimensions of co-management, including how government structures power sharing.

6.1 Stakeholders and partners

Earlier we stated that 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. We should not forget that government represents primary stakeholders and resource users along with having its own interests. 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. Where the government shows little interest in co-management, it will eventually need to become involved at some stage.

Stakeholders in the fisheries and MPAs researched were fairly easy to identify. Management authorities and other participants had 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, organisation 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. Some of these aspects are addressed later.

In cases such as the Grenada beach seine and Barbados sea urchin fisheries, open access and livelihood opportunism resulted in stakeholder group membership being very fluid and dynamic. In the Belize MPA case, stakeholders included visitors and resource user groups from far away. *Not limiting entry to a fishery, so as to exclude opportunists in particular, reduces the chances of co-management being successful*. It becomes much more complicated to manage a fishery or coastal area when there are numerous resource users who are not organised, and are also very mobile. Often the conservation ethic among them will be weaker than among the fewer resident stakeholders, and special steps have to be taken to inform them about management initiatives.

It is also necessary to determine who represents the public interest, including consumers. This could be a State agency, but a broad-based civil society group may also be appropriate. NGOs, CBOs and civil society groups are not as well developed in the Caribbean as in other places where marine and coastal co-management has matured. *It may be necessary to try to establish stakeholder organisations in the process of introducing co-management.* This has been the case in Barbados. 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.

6.2 Trust and respect

The stakeholders who participated in this research generally ranked the levels of trust and respect amongst co-management partners as being quite low. However, the frequency of events and projects in which partnerships are formed for implementation of co-management activities suggests that there are higher levels of trust and respect than people perceive or admit. Their points of reference are ideals that are difficult to achieve. 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.* This should be avoided.

It has been observed that in some places people expect government to take action on their behalf, and to treat them fairly, but at the same time they do not trust government to do these things. Where there is distrust of government, often no alternatives are sought, and this leads to strained relationships between citizens and the State. This was the situation in both of the Grenada cases and also the Barbados sea urchin study. The result was a constant state of low level tension rather than open conflict, and this made mobilisation of resource users difficult.

There are common dimensions of trust and respect that help us to better understand these terms (Table 6.1). 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.

Table 6.1 Trust and respect have many dimensions or meanings

Some dimensions of creating and maintaining trust in co-management:	Some dimensions of creating and maintaining respect in co-management:
♦ Looking after common interests ♦ Promoting the partnership ahead of oneself ♦ Expecting oneself and others to meet responsibilities ♦ Exchanging information and opinions freely ♦ Depending on the group to maintain the spirit of collective action ♦ Ensuring equitable distribution of rewards and benefits	♦ Acknowledging partners' contributions of ♦ Creating equal opportunity for participation ♦ Assisting the disadvantaged to make their own inputs ♦ Recognising the special knowledge of resource users ♦ Restraining from using power over others ♦ Accommodating critical interests of the stakeholders.

Often due to the smallness of communities and countries, strong interpersonal relations are an essential part of Caribbean culture, even in management situations such as between fisheries officers or MPA wardens and resource users. *Resource users expect a level of personal trust and respect in these interactions that goes beyond simply representing a government agency*. These personal relations form the foundation for getting things done informally. The individual officer is more trusted than the formal management system. In introducing co-management to resource users, and in community organising, it is useful to identify that official who is highly trusted and respected. He or she, although perhaps at junior or middle level, is more likely to be the key to effective communication with these stakeholders than the head official. The latter may only be expected to support and confirm the official stance of the management authority.

The danger of this in co-management occurs when the institution comes to rely too much on that particular individual. Management can become over-personalised if only a few people are trusted and respected instead of the institution or organisation as a whole. It is a feature of

many institutions that are made unnecessarily vulnerable and fragile because of over-reliance on a few people. *The situation can be improved by greater transparency and accountability so that any person can function in the system without a high level of personal endorsement.*

Some government officers and authorities may not be trusted or respected because what they do is not clear to the resource users. Rarely do management authorities seek to explain the full range of their responsibilities and operations to resource users. Secrecy, instead of openness and transparency, is still the hallmark of many Caribbean public administrations. Without full disclosure of the motives for introducing co-management, and hence the fuelling of suspicion and distrust, some authorities may find it difficult to obtain the cooperation of resource user groups. *In addition to improving communication, there may be a need to build trust and respect from working together*. Fishers are especially keen to see fisheries managers at sea in order to demonstrate their appreciation of the work that fishers do and to experience their working conditions. Pilot projects to demonstrate practical aspects of co-management can be useful.

Listening closely is a sign of respect. The demands of resource users in Grenada and Barbados for fisheries officers to consult them for their management inputs on the beaches and wherever they work is evidence of seeking more trust and respect for their knowledge. While building stronger management relationships is important, this has to be balanced with available capacity. It may be appropriate to challenge the resource users to call their own gatherings in the field and invite the authorities to address issues of interest. This approach serves several purposes and is more efficient than trying to communicate individually.

The Grenada lobster case demonstrated an erosion of trust through government using its veto power to override a co-management agreement for the greater good of the country, although the fishers did not appreciate this at the time. *Government should use its ultimate decision-making power with caution and restraint, but when it has to do so every effort should be made to communicate the reasons for this action in order to maintain trust even if conflict results*.

6.3 Collective action and organisations

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:

1. Determine the specific aims and objectives of those in the group
2. Agree, preferably by consensus, on the course of action to take
3. Implement the decision or action and monitor results, with feedback

Collective action needs special attention, especially in relation to fisherfolk organisations. Weaknesses of fishery organisations in the Caribbean suggests 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, and crisis responses often feature intense, 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 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 their inability or the lure of 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 mobilisation and keeping the group together through difficult periods.*

Group process steps to solving free rider problems
- Discuss clear goals with the group
- Arrange to monitor and evaluate progress
- Agree on schedules for achieving results
- Discuss each person's responsibilities
- Have a transparent feedback system
- Manage conflicts without confrontation

Political fear of collective action may prompt external interventions that seek to stifle it. In co-management there is a need to reassure partners of shared goals and willingness to work together. This causes collective action across 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.

Several countries have cooperatives and fisherfolk associations. However, these groups will not automatically be suitable as representative organisations in co-management. It is likely that they 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 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.

6.4 Decentralisation, delegation and devolution

Decentralisation, delegation and devolution are about the extent to which stakeholders, other than the government authority, have power to make decisions on their own (Figures 6.1, 6.2).

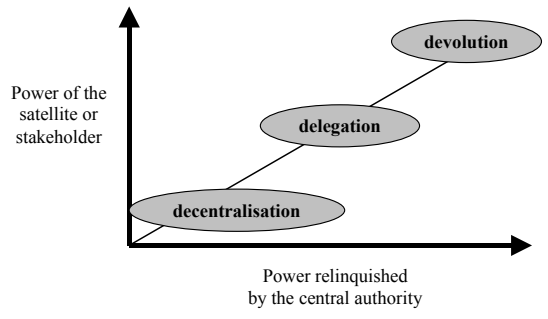


Figure 6.1 Changes in power distribution

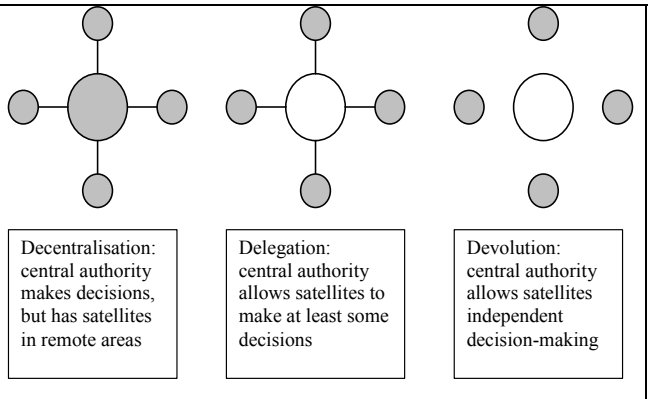


Figure 6.2 Empowerment for decision-making

Except for private property, the status of the State as the ultimate authority usually makes it impossible for other stakeholders to legally assume power in resource management decision–making unless granted that right or privilege by a government authority.The 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. 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.

There may be limitations in stakeholder and state agency capacity, and legal framework, that are barriers to decentralisation, delegation and devolution. For example, in Barbados the fisheries regulations need to be amended to provide for delegation of authority to fisherfolk organisations and to promote collaborative co-management through the Fisheries Advisory Committee. These provisions may then be used as leverage to strengthen the organisations, 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 re-distribution 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.

6.5 External agents and resources

In all of the cases investigated, the co-management stakeholders had received assistance from external agents. The latter include donor and development agencies, international NGOs, private foundations, UN agencies and some large corporations. Assistance was usually technical, financial or through consultancies for institutional strengthening. In most cases the external agents were from outside of the country, but some were national agencies outside of the co-management arrangement. In none of these cases did the external agent have a negative impact on co-management, such as by fostering dependency or imposing their own agenda. However these latter concerns were particularly prominent in Belize given the large number of international agencies and NGOs operating there that may be either assets or liabilities (Table 6.2).

Table 6.2 External agents may be seen as either potential assets or liabilities

External agents as potential assets:	External agents as potential liabilities:
♦ Provide many operational resources	♦ Encourage dependency on assistance
♦ Offer linkages to large global networks	♦ Too short term to assure sustainability
♦ Attract attention from other agencies	♦ May impose own views and agendas
♦ Stimulate new plans and perspectives	♦ Can overwhelm small organisations
♦ Facilitate building capacity quickly	♦ Often ignore national plans in progress

Government and other stakeholders in co-management arrangements are likely at some point to seek assistance from external agents. Assistance may be sought for an individual stakeholder, a group of them or the entire institutional arrangement as a whole. In all cases there are some factors that should be taken into account. The ways in which relationships with external agents can be assets are well known, but there are also potential liabilities. The agent may not intend harm, but greater funds, resources, capacity and efficiency can create a tension between following directions that are likely to maintain flows of assistance, and following a path that responds more to the needs of the resource and human systems.

Most of the 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. External agents can be useful in promoting co-management at policy level. Local stakeholders may have relatively little influence on policy, but some external agents have relatively easy access to policy-makers, or the conditions for receiving their assistance may prompt reform of governance towards being more participatory.

The news media will be agents external to most co-management initiatives, however they provide a mechanism to get stakeholder viewpoints and information into the public arena where policy-makers tend to pay more attention. In the Barbados sea egg case, fishers made extensive use of the media to influence decisions on the length of the fishing season. Politicians also used the media to air their views about the need to incorporate more local knowledge into management decision-making.

References and further reading: Mikalsen and Jentoft 2001; Grimble 1998; Brown and Pomeroy 1999; Brown 1997; CCA 2001; Geoghagen and Smith 1998; Johnson 2002; Kurien 1988; MCConney et al 1998; Noble 2000; Palacio 2002; Pomeroy and Berkes 1997; Renard 1991a and b;

7 How do we co-manage?

The previous sections 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. It is impossible to cover everything you need to know, but this section presents some of the skills that should lead to a sound arrangement or strengthen it.

7.1 Participatory and strategic planning

The case study research included opportunities to bring the present or potential partners in co-management together to discuss common interests or problems and to plan what next to do. If people and organisations 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, 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 as shown in the flow chart (Figure 7.1). These are stages of the process agreed to by the Fisheries Advisory Committee of Barbados and used for fisheries management plans. Each stage may be participatory or not, depending on the circumstances.

Figure 7.1 A fisheries planning process

Learning by doing things together successfully builds capacity, trust, respect and legitimacy of both content (the plan) and process (the planning). The nature of the 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. This usually means that resource users will make their input after there is a first draft or at least an outline of plan contents.

A multi-stakeholder group such as a Fisheries Advisory Committee may be asked to do a first draft that can be taken to a wider stakeholder audience or the general public for comment and revision. This is often more efficient. 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 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. This is important in MPAs for which co-management agreements have been signed, such as in Belize. For all stakeholders, but especially organisations 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 stage of the fisheries planning process. A methodology that has been used in several Caribbean marine and coastal management situations is shown in Figure 7.2. A specific sequence of stages is followed in order to progress logically, but within the overall sequence there may be feedback loops that allow plans to be evaluated and revised.

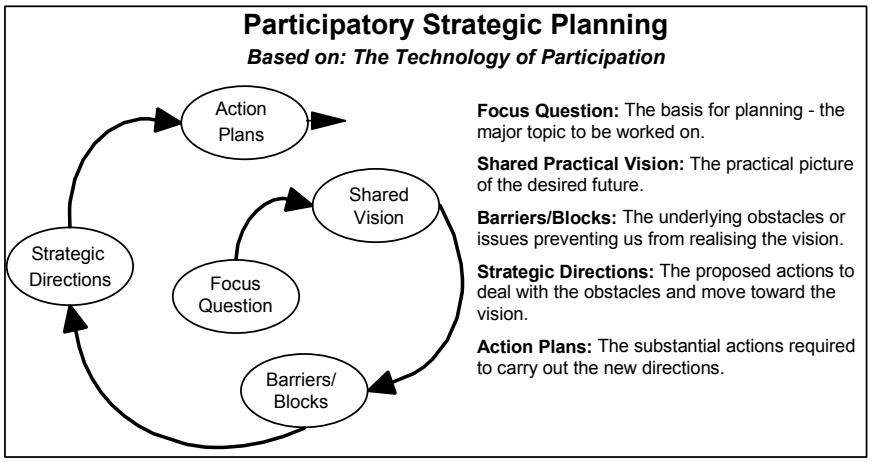


Figure 7.2 Strategic planning from vision through to action
(Adapted from Spencer 1989)

The planning process is run as a very effective meeting, often held over two to four days. At the end of it, the plan that is produced should be acceptable to all of the co-management stakeholders. Ideally, the latter organisations should each have their own strategic plan that is integrated with the resource management plan so that roles and responsibilities are very clear, especially for the implementation phase. The action plans should cover short periods (90 days is suggested) and be designed for simple monitoring and evaluation so that learning by the co-management institution and its components is facilitated without much additional effort.

7.2 Management objectives

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 efficient. Stakeholders, ranging from civil society to policy-makers, want to ensure that they are getting value for money.

Good management objectives state very clearly and concisely what is intended to be achieved by when. We can say that they are SMARTER, using the first letter of key features as an aid to memorise what we want the objectives to be.

- ✓ **S**pecific — refer to exactly what is intended in clear and easily understandable language
- ✓ **M**easurable — use quantities to monitor progress and locate when the end is reached
- ✓ **A**chievable — be realistic about what can be accomplished under the normal conditions
- ✓ **R**elevant — relate objectives to a larger goal that stakeholders have already agreed to
- ✓ **T**ime-bound — use times to assist in monitoring and making adjustments along the way
- ✓ **E**valuated — build in a process for assessing the outputs of the monitoring programme
- ✓ **R**eviewed — arrange to review objectives and adjust them depending upon the evaluation

We focus mainly on the national and community scales in these guidelines, and ideally the management objectives at these levels should overlap or be nested. There may be many levels in larger countries such as Venezuela, Cuba or Guyana. The purpose of overlapping and nesting is to ensure that, for example, the objectives of community co-management of an area for small-scale shrimp trawling are linked to the national shrimp production targets in a logical manner. Relating objectives at different levels also facilitates decision-making at different levels.

Where there is not much information about the resource or its use it may be necessary to formulate precautionary objectives. The precautionary principle states that lack of information is not a basis for avoiding implementation of responsible management measures. Precautionary objectives are designed to favour conservation, and in a co-management situation they are likely to be controversial since stakeholders will have different perceptions of risk and what the safe course should be. People will often not want to be conservative if the outcomes of this are uncertain, especially if meanwhile their livelihoods are negatively impacted. This is particularly the case with resources that are very variable by nature, and are open access for exploitation by people who are outside of the co-management group. Barbados sea urchins are an example.

7.3 Facilitation and information

As the name suggests, facilitation is a process that helps exchanges, meetings or decision-making processes run smoothly and reach desirable ends. *It is useful to have a trained facilitator guide participants through the planning processes and reduce any claims of lack of objectivity or transparency*. The facilitator may eventually come from among the stakeholder groups, but an external agent is usually necessary in the initial stages when there is the greatest need for clear neutrality and distance from the issues. This external facilitator should be from outside the co-management system, but there are advantages to using someone from within the country who has a feel for the social, cultural and institutional landscape. A facilitator should possess certain skills in order to work with diverse groups of stakeholders and under sometimes very difficult circumstances, such as when there is conflict.

Skills and abilities of a trained facilitator:

- Distinguishes process from content
- Manages the client relationship
- Prepares thoroughly for planning
- Uses time and space intentionally
- Evokes participation and creativity
- Maintains objectivity at all times
- Reads underlying group dynamics
- Releases blocks to the process
- Adapts to the changing situation
- Shares responsibility for process
- Demonstrates professionalism
- Shows confidence and authenticity
- Maintains personal integrity

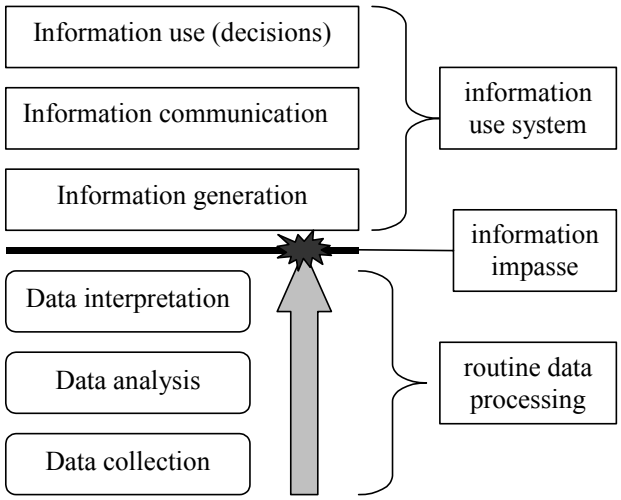


Figure 7.3 Processing data for decisions

It is crucial to remember that, in addition to a sound process, good plans are based on good information. *While informed stakeholders can provide valuable information, it is necessary to have an adequate amount of information on both the resource and human systems at hand, especially when addressing the technical details of action plans*. It is common for authorities to have lots of data, but reach an "information impasse" that prevents data from being converted into information useful for planning and management (Figure 7.3). *Good co-management arrangements ensure that data generate information that is exchanged and used in decisions*. Unblocking of the information impasse can also improve objective setting and iterative planning as more information becomes available or the same information is interpreted differently.

7.4 Local and scientific knowledge

In general, it is the approach to determining and implementing management measures, rather than the technical/scientific choice of regulation, that sets co-management apart from conventional management. *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 due to the close and ongoing relationships that are established*. In conventional management the State tends to rely more on expert scientific advice. 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 always provide the best information on their own. They may need to rely heavily on resource users for detailed knowledge of the resources. Stakeholders should also be aware that managers are required to use the best available scientific information for decision-making. Local and scientific knowledge can complement each other (Figure7.4).

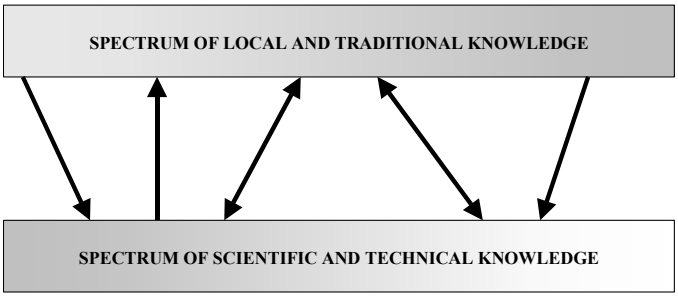


Figure 7.4 Exchange of local and scientific knowledge and learning is beneficial to all parties

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. Some of these exchanges can be part of formal research, but much will occur informally. It helps if authorities show willingness to communicate by translating technical documents into layman's language.

7.5 Stakeholder analysis

The art and science of 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. There is no single best method of stakeholder analysis, and a fair amount of situation-specific commonsense must be applied. 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. There is no absolute rule for dealing with this, but a person or organisation wearing many hats can be as much of an asset as a liability. It will always be necessary to be certain "who is speaking" at any given time.

Stakeholder analysis identifies stakeholders by asking questions including:

- Who is directly affected by the problem situation being addressed?
- What are the interests of various groups in relation to the problem?
- How do groups perceive the management problem to affect them?
- What resources do groups bring to bear (for good or bad) on the problem?
- What organizational or institutional responsibilities do the groups have?
- Who should benefit, or be protected from, management interventions?
- What conflicts may groups have with each other and management strategies?
- What management activities may satisfy the interests of the various groups?

7.6 Decision-making, power and equity

There is considerable variety in levels and types of institutional arrangements for formal and informal decision-making around the region. There are several degrees of stakeholder involvement and power. Real power and perceived power are factors in determining the interest and willingness of stakeholders to engage in dialogue and negotiations. *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.

An issue in decision-making is that resource users often have not sought to use their organisations as vehicles for representation, or have not been effective in doing so. For example, fishers in many places consider themselves to be relatively powerless in relation to other stakeholders in the fishing industry and coastal zone, especially in relation to tourism-related groups (Figure 7.5).

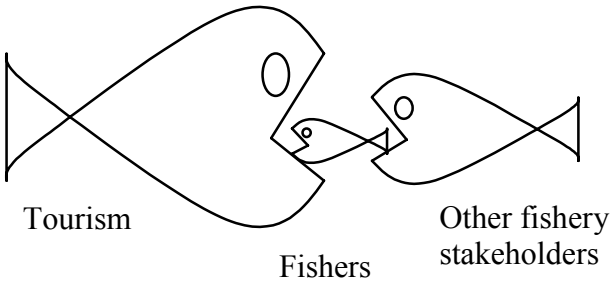


Figure 7.5 Fishers may feel relatively powerless in coastal decision-making

Unlike tourism groups, many fisherfolk associations and cooperatives are not very active in championing the causes of their members. An exception is in Belize where cooperatives are powerful. If representation is inadequate and there are large differences in power, inequitable decisions are likely. This works to the detriment of the co-management institution, especially if those who are dissatisfied do not comply with the decisions that are made.

Co-management is likely to re-distribute power and to be resisted by those who want to avoid losing, or sharing, power. In cases of large power differences amongst stakeholders, especially where conflict exists or is likely to arise, it may be necessary to first have compatible sub-groups work together and then have representatives meet in facilitated or mediated settings to avoid power differences being unduly disruptive. This hierarchical scenario is very similar to the common occurrence of having co-management decisions being made at several different levels in a country, with representatives of the lower levels meeting with higher authorities to take major or wide-ranging decisions (Figure 7.6).

Common levels of decision-making in countries of the Caribbean region are:

- Local — village council, elders
- Municipal — town council, mayor
- District or parish — parliamentary
- National — central government
- Regional — OECS, CARICOM
- International — UN agencies

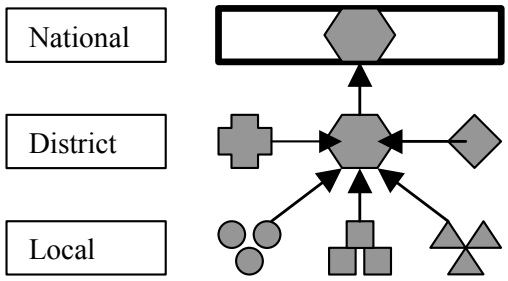


Figure 7.6 Decisions made at different levels of representation

Patronage politics perpetuates the powerlessness of vulnerable stakeholders by maintaining dependency. In various Caribbean locations, small-scale fishers have become a classic example. In some cases, despite having the capacity to improve, fisherfolk groups maintain subordinate roles and relationships partly because it minimises responsibility and maximises flows of benefits. They wish to remain perceived as the underdogs in order to gain support from more powerful allies. *Co-management arrangements can assist in motivating organisations to realise their true potential and increase self-reliance if they gain confidence from successful outcomes of decisions in which they have played a major part*.

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 cultivate a larger constituency and increase their power. Stakeholders should beware of

such relationships where there is a danger of degeneration into co-optation or coercion. Similarly, a powerful stakeholder may seek to populate the co-management arrangements with less powerful groups that are aligned with it. Such power plays are common in politics at all levels, and can be expected. *In the typically small scales of resource management in the Caribbean, political manipulation of this type can discredit the arrangement, especially due to the personal levels of involvement of the stakeholders in connection with their livelihoods*.

Although it is usually desirable to give decision-making in co-management a legal basis, it is not essential as shown by comparing the cases of the fisheries advisory bodies in Barbados and Belize. The former is in law, but the latter is not and has more effective decision-making power. Therefore stakeholders need not wait until legal provisions are in place before experimenting informally with co-management arrangements. Learning from initial errors and difficulties should inform the formal legal arrangements. In most jurisdictions it is difficult and time-consuming to change legislation once it is in place. *It may be better to learn from mistakes with informal arrangements, especially if these approximate to the intended formal institutions*.

A good stakeholder analysis should lead to appropriate representation of these groups in the co-management arrangement. *It is important that the representatives who sit at the table communicate with their constituencies and group members to provide feedback and additional input*. Problems occur where representatives turn out not to be truly representative, and exercise more individual power in decision-making than their constituents wish or mandate them to do. This can do irreparable damage to the credibility of the co-management institution. Fishers tend to be especially suspicious that people who offer to lead are mainly seeking power.

In some cases, people at the table are really there in personal capacities as experts. They only secondarily represent a point of view from the stakeholder category to which they belong. This is the case of industry members on the Fisheries Advisory Committee in Barbados. In other situations the person may represent a cause more than a group of human constituents. This is the situation with environmental groups that advocate for conserving wetlands and reefs more for maintaining biodiversity than utilisation. In these situations their legitimacy may be judged by the extent to which their perspectives represent expert or popular opinion. Having radical groups, of any sort, in a co-management agreement complicates matters. However, they should not be excluded simply on the basis of their views not conforming to accepted norms. These groups can serve to stimulate novel perspectives, solutions, creativity and innovation.

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*. These groups should have been identified in the stakeholder analysis.

7.7 Building capacity

The case study research clearly showed that building stakeholder capacity for co-management is essential in the Caribbean, and a critical first step in many cases. This finding is consistent with the documented needs of the region in general. For example, the Programme of Action for Small Island Developing States (SIDS-POA) coming out of the 1994 global conference on SIDS identifies capacity building as a key requirement.

Co-management is usually negotiated between government and organised stakeholders. It is not usually an arrangement between government and large numbers of unorganised individuals. When there is more than a small number of 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. Good coastal resource management always involves wide participation, even if not called co-management.

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. Several skills and disciplines are drawn upon to cover these dimensions.

CANARI has developed a framework for capacity building that contains seven main elements organisations should focus on, illustrating the breadth of capacity building beyond training:

- *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

In addition to the areas in which organisations generally need capacity, coastal co-management stakeholders need to understand resource system and human system relationships. In the research that informed these guidelines 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 stakeholders engaged in collaborative activities in which complementary 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.

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 fisher 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. The transfer of skills should also be planned and implemented. 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.

7.8 Leadership

Leadership is a key element of building capacity. Without good leadership it is unlikely that appropriate capacity will be built in any organisation. The case studies revealed that there is an abundance of good leaders in both government and stakeholder organisations in respect of technical matters. Boat captains are leaders of fishing enterprises and many are exceptionally knowledgeable about their working environment. Crews follow instructions from captains at sea, but captains may be out of their depth when negotiating with the fisheries authority. For this, 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.

Almerigi's book on leadership for fisherfolk lists some of the most important characteristics and personal qualities that fishers of the Caribbean region look for in their organisational leaders:

- 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

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. However, egalitarianism is not a negative attribute in all salutations. 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 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. Barbados presents a case in which this has occurred.

Classification of leadership style:

- Authoritarian or autocratic
- Participative or democratic
- Delegating or *laissez faire*

Style of leadership is 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.

7.9 Communication, cooperation and coordination

According to co-management partners in the region there is need for considerable improvement in communication, cooperation and coordination. These terms are closely related, but different. Communication is the basis for the other two. Cooperation follows communication if the parties that have been informed decide to work with, and not in conflict with, each other. Cooperation does not necessarily result in coordination, but is needed for it. Coordination requires communication and leadership for harmonisation of activities. This is facilitated by assignment of responsibilities in co-management. All three concepts are critical to co-management.

Figure 7.7 describes the basics of communication. The main point is that communication is seldom as straightforward as it seems. The many stakeholders, with diverse backgrounds, that comprise a co-management arrangement can make effective communication quite challenging.

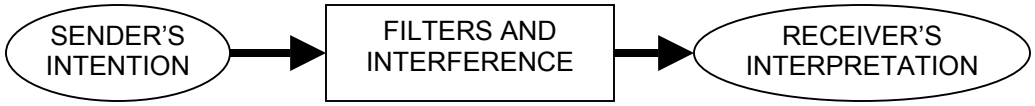


Figure 7.7 Communication can be a complex process

Pathway: channel or institution, e.g. NGO, school
Product: package, e.g. video, newspaper article
Activity: associated event, e.g. workshop, lecture
End users: targets of communication, e.g. fishers

These challenges can be overcome by being conscious of the characteristics of the various end users of information revealed in the stakeholder analysis, and by learning how best to reach each of them using a variety of pathways, products and activities. As stakeholders discover that they share common interests it is likely that they will want to pursue the benefits of cooperation. Conflict can be reduced 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. Research shows that fisherfolk like to see fisheries officers in the field for one-on-one exchanges, as their culturally preferred mode of communication. Even if it were possible to increase the frequency of these personal interactions, despite the limited human resources of Fisheries Divisions, it may weaken conditions that favour co-management. With individual attention from the fisheries authority there would be less reason for fishers and others to form the groups required for efficient co-management. Acknowledging the strong preference for personalised communication in the Caribbean, more effort must also be placed on encouraging acceptance of institutionalised and collective communication.

The notion and use of social and communications networks can be especially useful in small, closely knit, communities. Key "brokers" can help pass along communications to formal stakeholder organisations and informal groups. Thus targetting these key communicators can

be quite effective. If there is conflict between formal bodies, then the use of brokers and specially targeted communications becomes even more important. In the coordination of government agencies, and among some NGOs and CBOs, hierarchy (and consequently power) adds another dimension. The other stakeholders must respect the coordinating agency for it to successfully lead the co-management arrangement.

Note that misinformation, or rumour, also travels fast. Unless there is an effective extension service, or stakeholders are organised to approach the management authority at a high level for accurate information, it is likely that misinformation will persist with no checks on veracity. One way to proactively combat misinformation is to always promote and ensure transparency.

Transparency tends to have follow-on effects that facilitate positive developments in co-management. These include fostering the trust in access to information that is often reciprocated via information exchange. This chain of communication with positive feedback is shown in Figure 7.8.

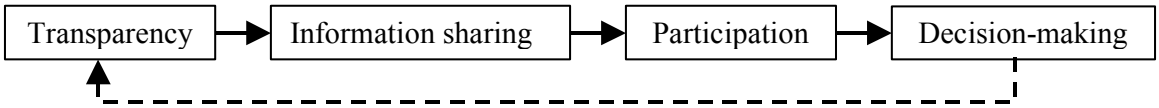


Figure 7.8 Transparency has many positive effects

Managers and others need to be aware of the functional details of communication. There must be adequate attention paid to issues of language and literacy. Dialects are spoken in most countries, and it is often assumed that resource users such as fishers are less literate than average citizens. Factors such as these determine the most appropriate products and media. *In co-management it is especially important to ensure that stakeholders can receive information, and also present it, in the manner that is most suitable for them*. This is linked to respect.

7.10 Conflict management and negotiation

There was little evidence of serious conflict in the case studies, and no evidence of formal mechanisms for its management should conflict arise. Stakeholders recognised a tendency of low levels of conflict to persist and occasionally flare up, but to no serious consequence. 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.

Conflict management is facilitated negotiation. Third party interventions increase as you read down this list:

- Unassisted interaction — information exchange
- Relationship building assistance — team-building
- Moderate assistance — guidance, facilitation
- Major assistance — full mediation, settlement board
- Non-binding decision —tribunal or arbitration panel
- Binding decision — binding arbitration, dispute panel

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 to express their differences and solve their problems for win-win, or mutually beneficial, outcomes.

Conditions that facilitate conflict management:
- 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

Not all disputes are candidates for conflict management. Certain conditions should be met before and during the process in order to have a reasonable chance at reaching resolution. Conflicts cannot be managed well, or a negotiated resolution achieved, without adequate information. Like most social interactions, conflicts have many dimensions that should be properly understood before interventions are made. Often there will be more than one source of conflict. Correct identification of the nature of the source of the conflict requires getting past the symptoms until the root cause(s) are reached. Potential sources of conflict include:

- Relationships — values, beliefs, prejudices, past injustices, poor communication
- Information — poor quality information, misinformation, differing interpretations
- Interests — perceived or actual; substantive/physical or intangible/perceptual
- Structures — institutions, authority, resource flows, time constraints, financing

There are several stages in conflict management. Five headings apply to most processes:
1. Initiation — a stakeholder or outsider invites help to manage the conflict
2. Preparation — conflict analysis, information sharing, rules, participant selection
3. Negotiation — articulating interests, creating win-win options, packaging preferred options
4. Agreement — concluding jointly on best option package, recording final decisions
5. Implementation — publicising outcomes, signed agreement (optional), monitoring

Selecting the right third party to lead the process is important. The wrong conflict manager will not be trusted. He or she must be seen by all as fair and wishing to see an equitable outcome. One of the most difficult activities, but sometimes also a liberating one, is fact-finding and information sharing. Seeing the dispute from the other side is vitally important. However, in highly technical situations there may be serious disparities in the capacities of stakeholder groups to interpret and use the information provided. In such situations it may be necessary, as part of the process, to allocate specialist expertise to groups in need.

Mutually beneficial outcomes can usually only be realised if participants progress from negotiating on the basis of positions to negotiating in keeping with their underlying interests. Positions may change, but interests are likely to remain the same, or be modified upon understanding the interests of the other side(s). In the bestselling book on negotiation, “Getting to Yes”, the authors set out a system for negotiation on the basis of merits rather than power or positions. Four principles are:

- Separate the people from the problem — do not personalise the problems or rely on trust
- Focus on interests, not positions — address the root causes, not symptoms or postures
- Invent options for mutual gain — develop a series of innovative solutions and choose later
- Insist on using objective criteria — use agreed upon standards for deciding among options

7.11 Compliance and enforcement

Many stakeholders and studies report that compliance with, and enforcement of, environmental legislation is generally poor in the Caribbean. This applies to terrestrial as well as coastal and marine situations. 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. The field enforcement agency may not be the fisheries or coastal authority, and this complicates matters unless that field agency (marine police, coast guard or navy) is drawn into the co-management arrangements. 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. For example, the Belize Fisheries Advisory Board occasionally had the marine wing of the defence force as a member. Failing this, enforcement agencies can be invited to the most relevant meetings or activities. In several countries there is a close relationship between the coast guard and fishers due to search and rescue responsibilities, and this familiarity can be beneficial. It can also be problematic, especially in small communities, due to the apparent contradiction of helping on one hand and punishing on the other. Not knowing whether a person will be playing the role of friend (e.g. extension officer) or foe (enforcement officer) can be unsettling. For this reason fisheries and other coastal authorities often leave most enforcement to the specialist agencies (wardens, police or coast guard) unless there is sufficient staff for non-conflicting division of labour. Co-management can also be an asset to enforcement agencies by bringing stakeholders together in a forum where issues can be resolved jointly. *Weak enforcement undermines co-management by increasing the uncertainty of resource sustainability and decreasing the returns on participation in co-management*.

Factors influencing compliance include:
- Benefits from non-compliance
- Deterrents, penalties and sanctions
- Actual outcomes of enforcement
- Perceived legitimacy of regulations
- Practicality of the regulations
- Norms and morals of the individual
- Level of participation in management

In some places good results have been achieved with active or former fishers, or other resource users, as community wardens or becoming full enforcement officers. Arguments in favour of this arrangement include familiarity with the undesirable fishing practises and offenders, ability to apply social sanctions and deep appreciation for the consequences of irresponsible resource use. In other cases fishers have maintained that community policing was impractical due to fear of victimisation, likely disrespect or intimidation, corruption and inability to be (or be seen as) neutral or objective. In such situations the government retains full responsibility, but some fishers may be incorporated informally into monitoring, control and surveillance. If the government cannot uphold its responsibilities in enforcement, it may not be accepted as seriously seeking to promote and support co-management by reducing uncertainty due to illegal activity.

Fishers argued that if government cannot make reasonable efforts to enforce the law, then they should not be expected to make unreasonable efforts to comply, since there is not much benefit from compliance in open access situations where unpunished offenders reduce returns to law-abiding citizens. Societal and environmental behavioural norms also play a role in shaping these attitudes. Positive attitudes towards turtle conservation, for example, can result in cooperation with management despite open access and minimal enforcement of management regulations.

References and further reading: Bay of Bengal Programme 1990; Nielsen and Mathiesen 2003; Berkes et al 2001; Mahon 1997; CANARI 2002; Margolis and Salafsky 1998; Abbot and Guijt 1999; Almerigi 2000; Manson and Die 2001; McConney 1998; Cochrane 2002

8 Where do we go from here?

Co-management is a critical part of integrated coastal management. Co-management arrangements may be characterised, among other things, by the:

- Type of resource being managed
- Categories of stakeholders involved
- Management initiatives of stakeholders
- Degree of formality of the arrangement
- Scale, both politically and geographically
- Extent of authority and responsibility shared
- Number of interests involved
- Level of maturity of the arrangements

Conventional, top-down, command-and-control approaches to coastal resource management do not work well in the Caribbean, or elsewhere. The people whose livelihoods depend on coastal resources need to be intimately involved in management, whether they want to or not. They may not want to because of historical patterns of behaviour or maybe they cannot because they do not have the capacity to participate. Perhaps they are too poor to do anything more than focus on survival. Yet, if they want to sustain or improve their livelihoods, and pass opportunities down to their children, they have little choice but to actively take part in management. Most government agencies cannot manage coastal resources without input from stakeholders, through consultation, collaboration or delegation.

These guidelines have answered some basic questions about co-management and provided information that should help to establish or strengthen co-management institutions in the Caribbean. The emphasis has been on communicating key concepts and conditions. A lot of information has been summarised or omitted and sources of further information have been suggested. However, as repeated throughout the guidelines, the only way to really tackle co-management is from learning by doing. There are no universal recipes or solutions.

Since co-management is new to the Caribbean, there is a lot of learning to be done, so we need to get started. We have to do something. The current, conventional approaches to management are not effective. In this situation, trying something new may be better than maintaining the status quo.

What do you have to do? You should think about these new concepts and techniques and about how you can use them in everyday life. If we are to succeed, we must open our minds and refresh our thinking. The future of our marine and coastal resources is at stake. People's lives and futures are at stake. You can make a difference through co-management. Get involved!

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McConney, P. 2003. Grenada case study: the lobster fishery at Sauteurs. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 65pp.

McConney, P., R. Mahon and C. Parker. 2003. Barbados case study: the sea egg fishery. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 74pp.

McConney, P., R. Mahon and H. Oxenford. 2003. Barbados case study: the Fisheries Advisory Committee. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 77pp.

McConney, P., R. Mahon and R. Pomeroy. 2003. Belize case study: Fisheries Advisory Board in the context of integrated coastal management. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 70pp.

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.

Pomeroy, R., P. McConney and R. Mahon. 2003. Comparative analysis of coastal resource co-management in the Caribbean. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 30pp

10 Appendices

10.1 Glossary, abbreviations and acronyms

Adaptive management: Often applied to systems on which there is insufficient information, adaptive management relies on feedback learning or learning-by-doing. Typically, experiments are designed to accelerate learning; policies may be used as experiments; and the distinction between the scientist, the manager and the resource user are broken down.

Capacity building: The sum of efforts needed to nurture, enhance and utilize the skills and capabilities of people and institutions at all levels, toward a particular goal, e.g. sustainable development.

CARICOM: Caribbean Community

CBO: Community-based organisation

CERMES: Centre for Resource Management and Environmental Studies at UWI

Co-management: A partnership arrangement in which government, the community of local resource users (fishers), external agents (non-governmental organizations, academic and research institutions), and other fisheries and coastal resource stakeholders (boat owners, fish traders, money lenders, tourism establishments, etc.) share the responsibility and authority for decision making over the management of a fishery.

Common property (common pool) resources: A class of resources for which exclusion (or control of access) is difficult, and where each user has the potential of subtracting from the welfare of all other users.

Community: A social group possessing shared beliefs and values, stable membership, and the expectation of continued interaction. It can be bounded geographically, by political or resource boundaries, or socially as a community of individuals with common interests.

Community-based resource management (CBRM): This is a central element of co-management. CBRM is people-centred and community-focused, having a narrower scope and scale than co-management. Government most often plays a minor role in CBRM, providing mainly legitimacy and accountability, since only government can legally establish and defend user rights and security of tenure at the community level.

Community-centred co-management (CCCM): Includes both the characteristics of CBRM and co-management, i.e., people-centred, community-oriented, resource-based, and partnership-based. It has the community as its focus, but recognizes that to sustain such action, horizontal and vertical links are necessary, and meaningful partnerships can only occur when the community is empowered and organized.

DFID: Department for International Development

Divisibility: The feasibility or extent to which a common property resource can be divided up for private possession; the question of boundary conditions that applies to the management of a resource such as a fish stock

Ecological resilience: A measure of flexibility of an ecosystem to maintain its structure and function. The ability of an ecosystem to absorb change and still persist.

Ecosystem-based management: Resource management that takes account of interactions of a given resource with other components in the ecosystem in which it is a part

Empowerment: Having the power and responsibility to do something; the ability of a person or a group of people to control or to have an input into decisions that affect their livelihoods.

Exclusion problem: The problem of how to control access to the resource, given that it is difficult or costly to exclude potential users from gaining access to the resource.

Exclusive Economic Zone (EEZ): All waters beyond and adjacent to the territorial sea up to a maximum of 200 nautical miles (including territorial sea). In the EEZ, the State has rights and responsibilities as defined in the UN Convention on the Law of the Sea.

FAO: Food and Agriculture Organisation of the United Nations

Fisher: A person (male or female) participating in a fishery (in preference to the previously used term 'fisherman'). An individual who takes part in fishing conducted from a fishing vessel, platform (whether fixed or floating) or from the shore.

Fisheries Management Plan (FMP): A plan to achieve specified management goals and objectives for a fishery or set of fisheries. It includes data collection, analyses, and management measures for the fishery.

Fishery Ecosystem Plan (FEP): This is a plan that addresses the problems and needs of fisheries at the ecosystem level. This differs from the usual management plan that deals specifically with the exploited resource. In the USA an FEP is required under the Sustainable Fisheries Act.

Fishing effort: The amount of time or fishing power used to harvest fish. Fishing power can be expressed in terms of gear size and quantity, boat size, horsepower, fuel consumption, manpower, etc.

Geographic Information System (GIS): An information system that stores and manipulates data which is referenced to locations on the earth's surface, such as digital maps and sample locations.

Household: A basic unit for socio-cultural and economic analysis. It includes all persons, kin and non-kin, who live in the same dwelling and share income, expenses and daily subsistence tasks. The concept of household is based on the arrangements made by persons, individually or in groups, for providing themselves with food or other essentials for living.

Indicator: A variable, pointer, or index. Its fluctuation reveals the variations in key elements of a system. The position and trend of the indicator in relation to reference points or values indicate the present state and dynamics of the system. Indicators provide a bridge between objectives and action.

Indigenous knowledge: Local knowledge held by a group of indigenous people, or local knowledge unique to a given culture or society; traditional ecological knowledge is a subset of indigenous knowledge.

Information management: Managing a structured set of processes, people and equipment for converting data into information, and then using it for specified purposes.

Institutions: Socially constructed codes of conduct that define practices, assign roles and guide interactions; the set of rules actually used.

Local knowledge: Knowledge based on local observations by resource users themselves; differs from traditional knowledge in not being multigenerational or culturally transmitted.

LWI: Land-Water Interface production system

Management authority: The legal entity which has been assigned by a State or States with a mandate to perform certain specified management functions in relation to a fishery, or an area (e.g. a coastal zone). Generally used to refer to a state authority, the term may also refer to a local or international management organisation.

Management objective driven (MOD): This is an approach to fishery management in which research, assessment and management measures are based primarily upon the desired management objectives.

Management objective: A formally established, state of the fishery that is actively sought and provides a direction for management action.

Management reference direction (MRD): A direction in which management seeks to take a fishery through action, when there is insufficient information or resources to specify an exact target.

Management unit: A fishery unit, including the resource and the fishers that is known, or assumed to be sufficiently discrete that it may be managed separately from other units, and cannot be effectively managed on a smaller scale.

Marine protected area (MPA): A spatially defined area in which all populations are free of exploitation.

Maximum economic yield (MEY): This is the level of overall yield from a fishery that provides the maximum economic return as defined by the difference between the monetary cost of fishing and the monetary value of the yield.

Maximum sustainable yield (MSY): The largest average catch that can be taken continuously (sustained) from a stock under average environmental conditions. MSY is often used synonymously with the term Potential Yield as the target reference point to guide fisheries managers in resource utilization.

Monitoring: The collection of information for the purpose of assessing progress and impacts.

NGO: Non-governmental organisation

NRSP: Natural Resource Systems Programme

Occupational pluralism or multiplicity: The situation where a person derives their income from several types of work done in parallel throughout the year, or sequentially (seasonally).

OECS: Organisation of Eastern Caribbean States

Open access: Free-for-all; resources freely open to any user; absence of property rights

Optimum sustainable yield (OSY): This is a level of yield that is defined based on a combination and rationalisation all of the outputs that are considered to be important for the fishery in question, provided that these outputs are sustainable.

Policy: The course of action for an undertaking adopted by a government, a person or another party.

Precautionary approach: Set of measures taken to implement the precautionary principle. That is, a set of agreed cost-effective measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risk to the resource, the environment, and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong.

Property rights: Claim to a benefit stream that is collectively protected, in most cases by the state.

Reference point: An estimated value derived from an agreed scientific procedure and/or model, which corresponds to a specific state of the resource and of the fishery, and that can be used as a guide for fisheries management. A reference point indicates a particular state of a fishery indicator corresponding to a situation considered as desirable (Target Reference Point) or undesirable and requiring immediate action (Limit Reference Point).

Resilience: See Ecological resilience

Shared stocks: Fish stocks that occur at some point in their life history in the waters of more than one country and are hence shared by the fishers of the countries. Responsibility for management must also be shared. Stocks may also be shared between jurisdictions within countries.

Social capital: Features of social organization, such as trust, norms and networks; a group with a high degree of trust among its members, shared values, and extensive networks to share information or resources are said to have high social capital

Social-ecological system: A term used to emphasize the point that social and ecological systems are in fact linked, and that the delineation between social and ecological (and between nature and culture) is artificial and arbitrary. The integrated concept of humans-in-nature.

Stakeholders: Individuals or groups (including governmental and non-governmental institutions, traditional communities, universities, research institutions, development agencies and banks, donors, etc.) with an interest or claim.

Stakeholder analysis: This is a process that seeks to identify, and to describe the interests of, all of the stakeholders in a fishery. It is considered to be a necessary precursor to participatory management.

Stock assessment: The process of collecting and analyzing biological and statistical information to determine the changes in the abundance of fishery stocks in response to fishing, and, to the extent possible, to predict future trends of stock abundance.

Stock assessment driven (SAD): This is an approach to fishery management in which conventional quantitative stock assessment aimed at estimating present and desired levels of fishing mortality, is considered to be a prerequisite to management, and becomes the top priority activity.

Stock: A grouping of fish usually based on genetic relationship, geographic distribution and movement patterns that can be considered a discrete entity for management purposes.

Subtractability: How each person's use of the resource subtracts from the welfare of the others.

Traditional ecological knowledge: A cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment.

Traditional knowledge: A cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission.

Tragedy of the commons: A metaphor formulated by Garrett Hardin to explain the individually rational use of a resource held in common, in a way which eventually brings ruin to all who depend on the resource.

UNCLOS: United Nations Convention on the Law of the Sea.

UWI: University of the West Indies

Variable: A quantity that varies or may vary. Part of a mathematical expression or model that may assume any value, sometimes within specified limits.

10.2 Internet resources

There are many resources relevant to co-management available on the Internet. Those listed below are not the only resources, neither are they specially endorsed by the authors. They are put to encourage stakeholders to research the areas and conditions that interest them. A key word search will provide many more sites. Sites listed below may change address or become

inaccessible after a while. Use “bookmarks” and “favourites” to return the sites you find most useful. The Internet should be used as a tool for building capacity and equity through equal access to information once the basic requirements are met. It is a tool of empowerment when used judiciously, and an excellent medium for cost-effective communication. Please try it out.

Organisation or topic	**Web site address**
Caribbean Coastal Area Management (CCAM) Foundation	www.ccam.org.jm
Caribbean Conservation Association (CCA)	www.ccanet.net
Caribbean Natural Resources Institute (CANARI)	www.canari.org
Centre for Resource Management and Environmental Studies (CERMES)	www.cermes.cavehill.uwi.edu
Coastal Management Web Sites	www.ncl.ac.uk/tcmweb/tcm/czmlinks.htm
FAO Working Group on Participatory Approaches	www.fao.org
Fisheries Management Science Programme (FMSP)	www.mrag.ic.ac.uk/odafmsp1.html
Gateway to Development Information (ELDIS)	www.eldis.org
ICLARM Project in Fisheries Co-management	www.co-management.org
IDS Participation Group	www.ids.ac.uk
Institute of Cultural Affairs (ICA)	www.icaworld.org
International Association for the Study of Common Property (IASCP)	www.indiana.edu/~iascp
International Development Research Centre (IDRC)	www.idrc.ca
International Institute for Environment and Development (IIED)	www.iied.org
International Institute of Rural Reconstruction (IIRR)	www.narra.cav.pworld.net.ph/~iirr
Island Resources Foundation	www.irf.org
Livelihoods Connect	www.livelihoods.org/index.html
Marine Resources Assessment Group Ltd. (MRAG)	www.mragltd.com
Natural Resource Perspectives	www.odi.org.uk/nrp/index.html
Natural Resources Systems Programme (NRSP)	www.nrsp.co.uk
One Ocean (Phillippines information centre)	www.oneocean.org
Participation Group in the Social Development Department of the World Bank	www.worldbank.org
Participation Toolkit website	www.toolkitparticipation.com
UNEP -- Caribbean Environment Programme	www.cep.unep.org