

R8317
**Pro-poor Policies and Institutional Arrangements for Coastal
Management in the Caribbean**

**Experiment 2: Testing the Uptake of Co-management Tools and Messages in Training
Natural Resource Users and Managers**

LECTURE NOTES
**Guidelines for Coastal Resource
Co-management in the Caribbean:**

Communicating the concepts and
conditions that favour success

Prepared by:

K. Parsram
Caribbean Conservation Association (CCA)

P. McConney
Centre for Resource Management and Environmental Studies (CERMES)
The University of the West Indies

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Background

These lecture notes are an output of Experiment 2: *Testing co-management tools and messages for Training Natural Resource Users and Managers*, which forms part of the DFID funded research project “**Pro-poor Policies and Institutional Arrangements for Coastal Management in the Caribbean**”. The goal of the project was to ensure that integrated coastal management research in the Caribbean is promoted and benefits those who depend on the resources of coastal areas, especially where there is poverty. The purpose was to test the uptake of products of a previous DFID funded project R8134: Caribbean Coastal co-management guidelines, focussing on establishing and sustaining successful co-management of coastal resources in the Caribbean.

These lecture notes were developed from the **Guidelines for coastal resource co-management in the Caribbean: communicating the concepts and conditions that favour success** developed by P. McConney, R. Pomeroy and R. Mahon in 2003 for the Caribbean Conservation Association. The guidelines provide more information on the wide range of conditions that can affect the sustainability and performance of co-management arrangements and activities from resources and fisheries, to cultural and institutional dimensions. The lecture notes present the key concepts and conditions for co-management in a concise format for use in teaching about co-management.

Using these Lecture Notes

These lecture notes should be used in conjunction with the Guidelines for coastal co-management in the Caribbean, including the six accompanying case studies which are available for download from the Caribbean Conservation Association (CCA) website at <http://www.ccanet.net>. In addition to these lecture notes, a slide presentation of the guidelines for coastal co-management in the Caribbean and summary lessons learnt of each of the six case studies are available for download from the CCA's website and should be used as supporting materials in the various lectures.

The guidelines and lecture notes are aimed at the users and managers of coastal resources in the Caribbean. The lecture notes will be most useful for teaching students with an undergraduate degree.

The lecture notes are structured into four (4) separate lectures covering the key concepts and desirable conditions for achieving effective co-management arrangements. Orange colour coded boxes provide suggested class questions which can be used to stimulate discussions and group work. The Green colour coded boxes highlights key learning points, definitions and concepts.

Outline

The following lectures focus mainly on communicating the key concepts and conditions for implementing successful co-management of coastal resources in the Caribbean. Sharing ideas and concepts is critical to foster a common understanding of co-management and to promote its potential for improving the livelihoods of coastal communities in the Caribbean. These lecture notes answer the following questions about the concepts and conditions of co-management:

Lecture 1

What is co-management?

Explains concepts that distinguish co-management from other types of management, and introduces integrated coastal management

Why co-manage in the Caribbean?

Describes the driving forces behind co-management and its positive impacts on livelihoods, if there is a good socio-cultural fit



Lecture 2

When do we start to co-manage?

Co-management is often a crisis response, but it works best with some resources, and when everyone involved sees benefits exceed costs

Where do we co-manage?

Location and scale of the arrangements are as important as having established property rights



Lecture 3

Who do we co-manage with?

Co-management requires teamwork, and you need to know the players and their agreed roles for the group to work well together



Lecture 4

How do we co-manage?

All kinds of skills are needed to improve the chances of co-management being successful

LECTURE 1

What is Co-management?

Co-management may be a new term to many readers or may mean different things to different people. What do you understand by the term co-management?

Co-management is the sharing of responsibility and authority for the management of resources between **government** and **stakeholders**. Co-management is 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

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.

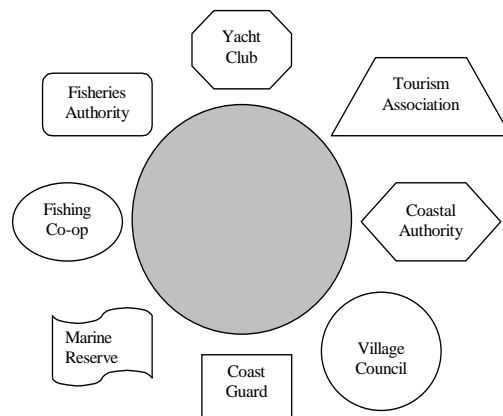


Figure 1: Co-management is a combination of negotiation and action taken by stakeholders

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.

Relationships: Co-management is about relationships, resulting in sharing of responsibilities and authority for the management of resources between government and stakeholders.

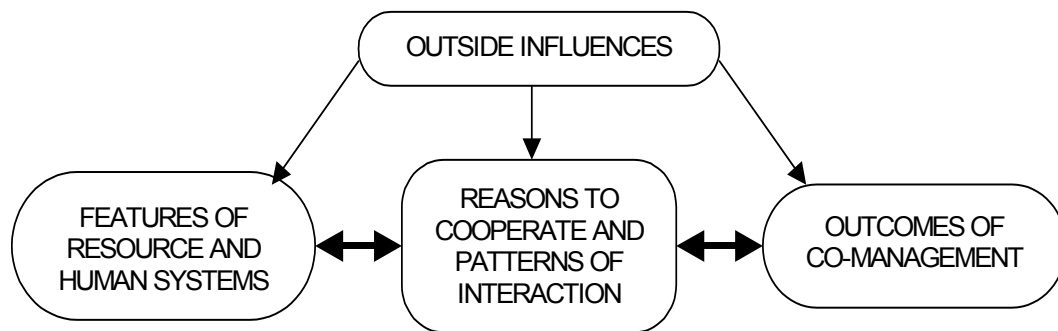


Figure 2: Co-management is about relationships

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.

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. 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.

Scale: Addressing scale is important when planning co-management initiatives since institutions exist at many scales and can take a variety of forms.

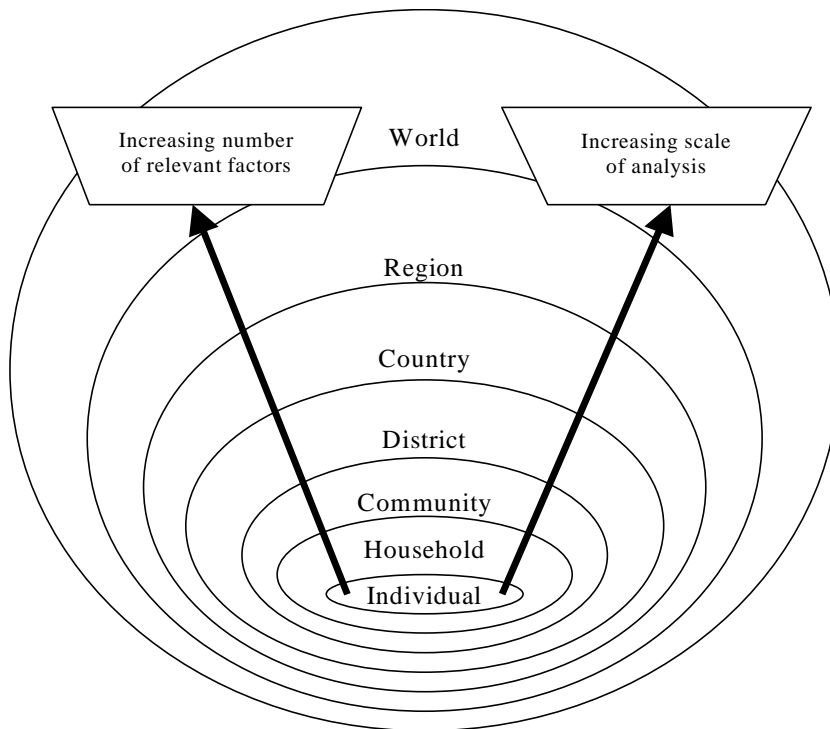


Figure 3: Knowing the scale of co-management is important

Figure 3 shows several scales of operation and analysis; can you provide some examples of institutions at the various scales from your experience?

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 or scale from government-based management through to community-based management (Figure 4).

Three common *types* of co-management: 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.

- ◆ **“Consultative co-management”** Government interacts often but makes all the decisions 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”** Government and the stakeholders work closely and share decisions 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”** Government lets formally organised users/stakeholders make decisions includes, but is not limited to, community-based management where stakeholders outside of government are delegated nearly full decision-making power.

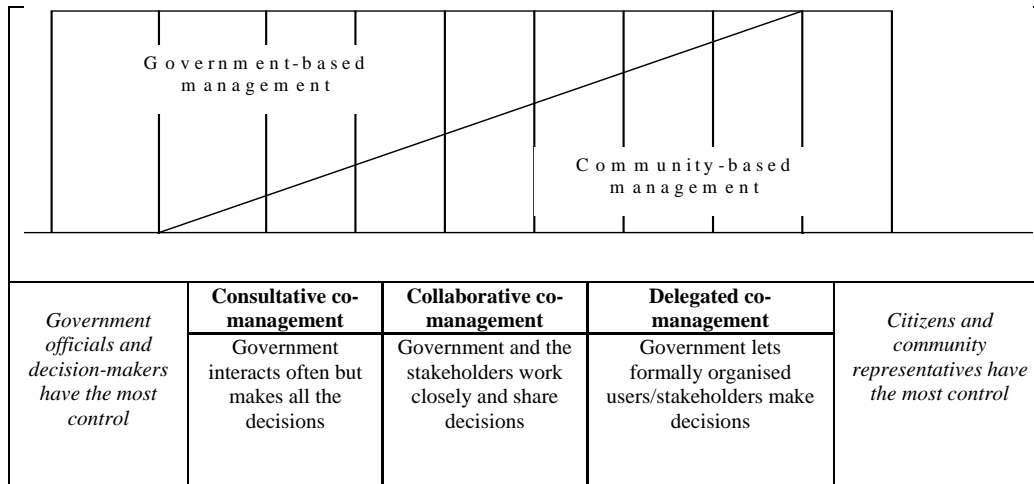


Figure 4: Three main types of co-management along the scale of arrangements

Can you provide examples of these types of co-management from your experience/country? OR Where does your country/institution fit?

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.

Pre- implementation	Implementation	Post- implementation
<ul style="list-style-type: none"> •Realise need for change •Meet and discuss change •Develop new management 	<ul style="list-style-type: none"> •Try out new management •Educate people in new ways •Adjust and decide what is best 	<ul style="list-style-type: none"> •Maintain best arrangements •Resolve conflicts and enforce •Accept as standard practice

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

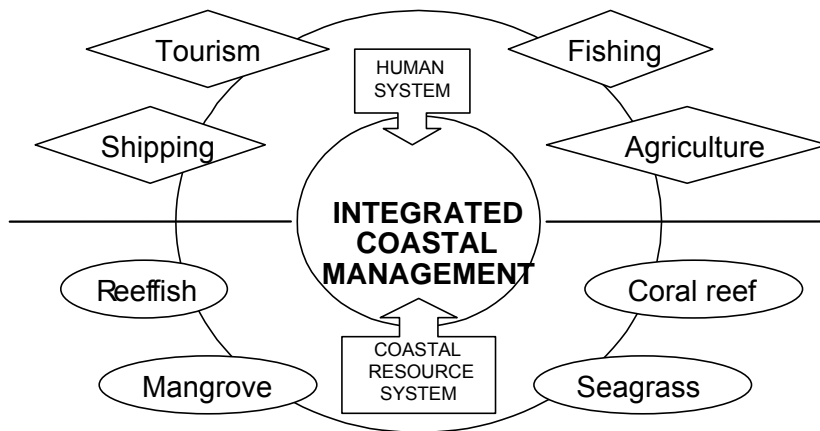


Figure 5: *Integrated coastal management includes many types of relationships*

As important as integration is, the ability of management systems to be flexible is paramount. A good 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.

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.

Demand for co-management

- ◆ 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.

Can you list additional drivers from your experience or country situation?

Poverty and pro-poor perspectives

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.

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

Livelihoods: sustainable, alternative, complementary

Livelihoods does not only refer to the work that one does to make a living, but the concept includes the capabilities and assets that are used to carry out the work

Most Caribbean fisheries and coastal authorities also do not currently have a livelihoods perspective on management. The livelihoods concept includes the capabilities and assets that we use to carry out these activities. A sustainable livelihood is resilient to disruption and can be maintained or improved upon without depleting natural resources. An alternative livelihood replaces an unsustainable one such as irresponsible or destructive fishing or pollution. A complementary livelihood is similar, but recognizes 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.

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.

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

Can you identify the livelihoods initiatives in your country or area?

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

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

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

Summary

The information presented in the first part of the lecture is a typology of categories and phases of co-management that recognises the diversity embodied in the concept. To be fully understood in use, the term co-management needs to be qualified by descriptions of the nature of arrangements specifically being referred to at any time and place. Importantly as well, co-management fits well within the framework of integrated coastal management (ICM) and is possibly the only approach that can serve the needs of poor people or disadvantaged stakeholders. The concept of adaptive management and not just management flexibility is stressed and is considered crucial for learning from experiences. The second part of the lecture sets out why co-management is becoming the appropriate choice for managing Caribbean coastal resources. The reasons for trying co-management as an alternative to the conventional management by government alone are evident. Poverty is now recognised as one of the critical constraints to development, and a systems perspective on poverty and pro-poor issues is required. Critical to the success of co-management is the engagement of community based organisations in the poverty eradication and alleviation. A livelihoods perspective, which includes the capabilities and assets that one uses to make a living, is critical to co-management success. Additionally co-management is more successful when it becomes part of the fabric of society and the way of doing things in the lives of ordinary people.

Lecture 2

When do we start to co-manage?

Although it would be ideal to be proactive and have co-management instituted as the norm where conditions are suitable, it is more common for co-management to be introduced under certain conditions of stress or crisis.

Some resources are more easily co-managed than others

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 pelagic fishes caught nearshore)

Can you name some of the resource types found in your country?

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.*

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.

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

Can you list other resource use problems from your experience or country?

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.

Benefits to groups and individuals

Engaging in co-management often results in benefits and costs for organisations and individuals overtime.

Co-managers need to be concerned about benefits, or incentives, for all of the participating stakeholders so as to ensure that motivation is sustained, especially in delicate early stages where investments or costs can be high with few evident returns.

Stakeholders have their own real costs and need real returns for themselves, often to justify participation to a larger constituency that they represent such as fishers, divers or water taxi operators.

Some possible costs of co-management

- ◆ Requires initial financial investment
- ◆ Time requirements for participation
- ◆ May result in smaller share of resource
- ◆ May result in less and shared power
- ◆ Information has to be communicated
- ◆ May take long to reach joint decisions
- ◆ Requires skills such as facilitation
- ◆ May cause demands in other areas

Some possible benefits of co-management

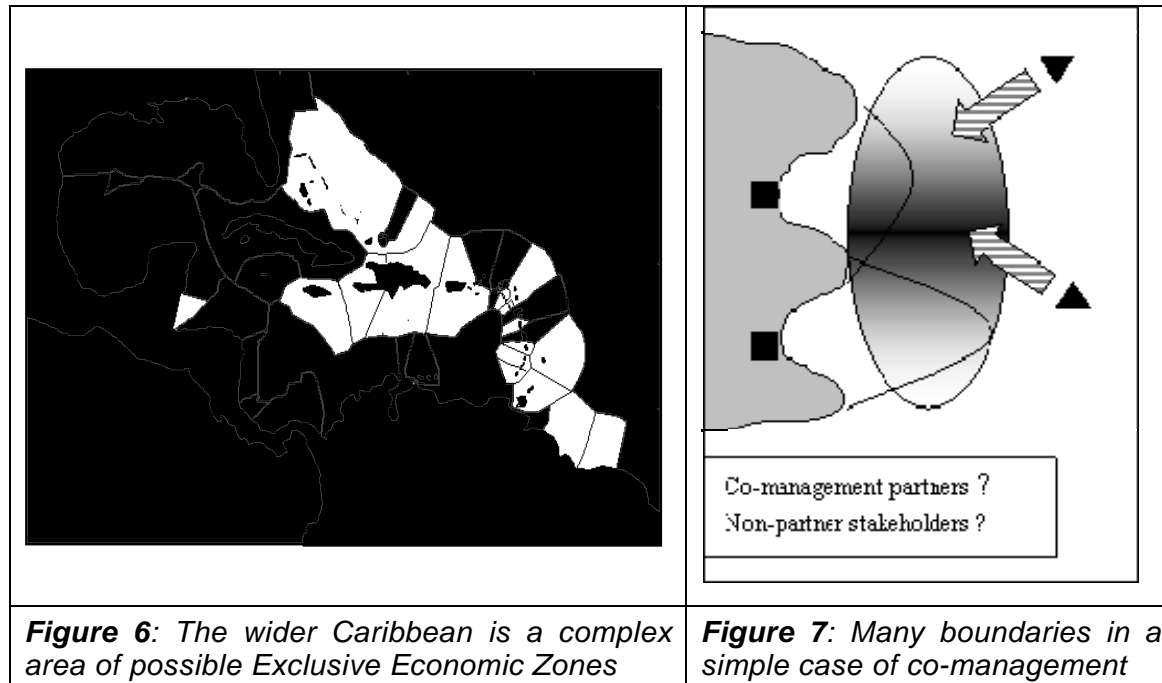
- ◆ Improves information flows
- ◆ Promotes conservation
- ◆ Helps to sustain livelihoods
- ◆ Encourages self-reliance
- ◆ Reduces many conflicts
- ◆ Facilitates compliance
- ◆ Lowers long run costs
- ◆ Increases empowerment

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.

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.



Having jurisdictional boundaries generally favours co-management because they allow stakeholders to know where their responsibilities lie. The closer these boundaries correspond to the distribution of the natural resources, the greater are the chances of management success.

While boundaries that act as barriers can reduce the flexibility of co-management arrangements, knowing how the different types of boundary apply to the arrangements can help reduce conflict, assign appropriate responsibilities, and facilitate monitoring and evaluation.

Transboundary and highly migratory species require international, regional and sub-regional arrangements for cooperation and are hence beyond the scope of co-management arrangements within one country on its own.

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.

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.

Property rights

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

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

Categories of property regimes:

- ◆ Private or personal property
- ◆ State or public property
- ◆ Communal or common property
- ◆ Open-access or non-property

Summary

The nature of the resource is only one aspect of co-management, understanding what can cause people to work together in management is often more difficult. Co-management is often introduced when there is a resource crisis such as conflict and/or scarcity, especially when people are highly dependent on the resources. Often, only when problems have reached crisis are people really motivated to invest time and effort in co-management. Even then, mutual acknowledgement of a problem does not mean that all parties will want to be part of the solution. Where there is a history of dependency on government, or a tendency to put responsibility on others, people are more likely to form groups to pressure authorities for action, than to form groups to take action. While such pressure groups can be important, they will not become co management partners unless they are also willing to take management action. Co-managers need to be concerned about benefits, or incentives, for all of the participating stakeholders so as to ensure that motivation is sustained, especially in delicate early stages where investments or costs can be high with few evident returns. Stakeholders

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

Secondly, 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. Property rights were generally not burning issues for fisheries and coastal management authorities, or among the other stakeholders. A key to success is to reduce the openness of access to coastal and marine resources through the establishment of property rights. However, open access is likely to remain a feature of Caribbean coastal resource management for some time due to a deeply held belief that access to marine resources is a basic right rather than being only a privilege. The strength of this belief varies with location.

Lecture 3

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.

Stakeholders and partners

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.

Trust and respect

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.

Some dimensions of creating and maintaining trust 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

Some dimensions of creating and maintaining respect in co-management:

- ◆ 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.

Resource users expect a level of personal trust and respect in these interactions that goes beyond simply representing a government agency.

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.

In addition to improving communication, there may be a need to build trust and respect from working together.

Government should use its ultimate decision-making power with caution and restraint, but when it has to every effort should be made to communicate the reasons for this action in order to maintain trust even if conflict results.

Collective action and organisations

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 requires constant attention to mobilisation and keeping the group together through difficult periods.

The problem of Free riders: In many contexts, all of the individual members of a group can benefit from the efforts of each member and all can benefit substantially from collective action. A free rider seeks to obtain benefits without cost or effort. Problems of apparent free riding, must be distinguished from genuine lack of capacity to contribute, need to focus on survival as a priority (consider poor members), mistrust of leaders, expectation of free patronage benefits based on political experience and other factors that cause group members not to actively contribute due to inability or more attractive options. Sometimes the problem is lack of skills in mobilisation, causing the initial momentum to die down as the crisis passes and people tire of organizational

ineffectiveness. Collective action requires constant attention to the means of mobilisation and keeping the group together.

Group process steps to solving free rider problems

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

Authorities should be prepared to support and strengthen the organisation as a whole rather than just steer it towards management roles.

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 8,9).

Decentralisation: Central authority makes decisions, but has satellites in remote areas.

Delegation: Central authority allows satellites to make at least some decisions

Devolution: Central authority allows satellites independent decision-making

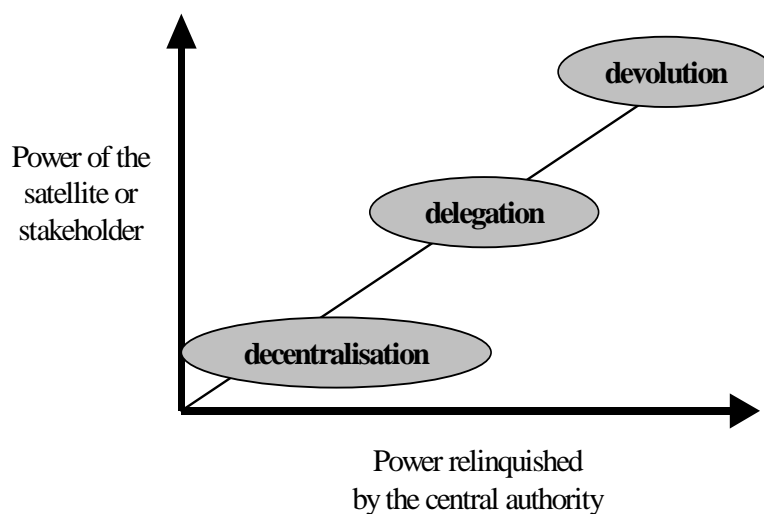


Figure 8: Changes in power distribution

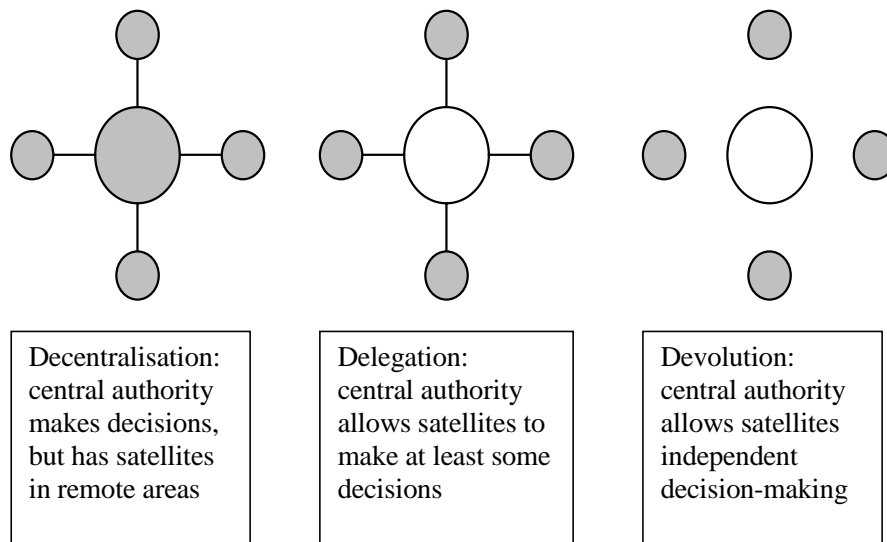


Figure 9: Empowerment for decision-making

There may be limitations in stakeholder and state agency capacity, and legal framework that are barriers to decentralisation, delegation and devolution.

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.

External agents and resources

External agents may be seen as either potential assets or liabilities

External agents as potential assets:

- ◆ Provide many operational resources
- ◆ Offer linkages to large global networks
- ◆ Attract attention from other agencies
- ◆ Stimulate new plans and perspectives
- ◆ Facilitate building capacity quickly

External agents as potential liabilities:

- ◆ Encourage dependency on assistance
- ◆ Too short term to assure sustainability
- ◆ May impose own views and agendas
- ◆ Can overwhelm small organisations
- ◆ Often ignore national plans in progress

Most of the liabilities can be avoided or reduced by sound strategic and action planning prior to requesting assistance.

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.

Summary

Co-management requires teamwork. Working together towards common goals requires collective action. Trust and mutual respect are essential for this to happen without undue conflict. Trust and respect are fundamental to durable co-management partnerships, but they are not tangible or easily measurable. Community organizing will be a critical component of introducing or strengthening co management in the Caribbean. This involves the promotion and support of collective action. Collective action deserves special attention, especially in relation to fisherfolk organisations. Two of the most common challenges to collective action are lack of coordination and prevalence of free riders. Collective action requires constant attention to the means of mobilisation and keeping the group together. Decentralisation, delegation and devolution are all about the extent to which stakeholders, other than the government authority, have the power to make decisions on their own. Co-management stakeholders may receive assistance from external agents. 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.

Lecture 4

How do we co-manage?

The previous lectures 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.

Participatory and strategic planning

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 below (Figure 10).

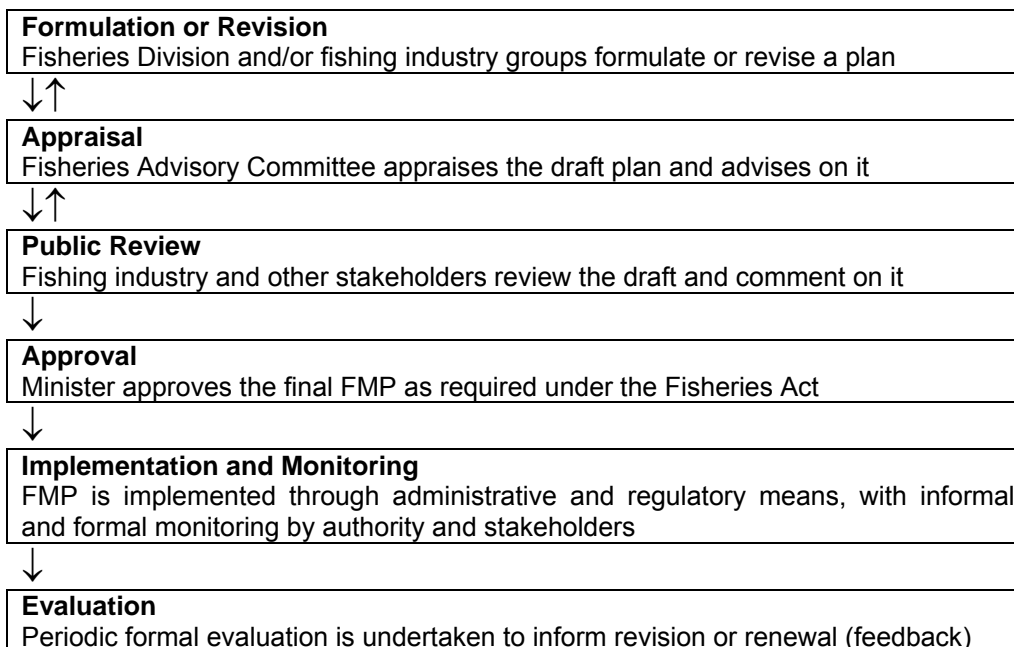


Figure 10: A fisheries planning process

(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).

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.

NGOs and other stakeholders can take the initiative to invite government to plan with them for a particular area or resource.

A methodology that has been used in several Caribbean marine and coastal management situations is shown in Figure 11. 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.

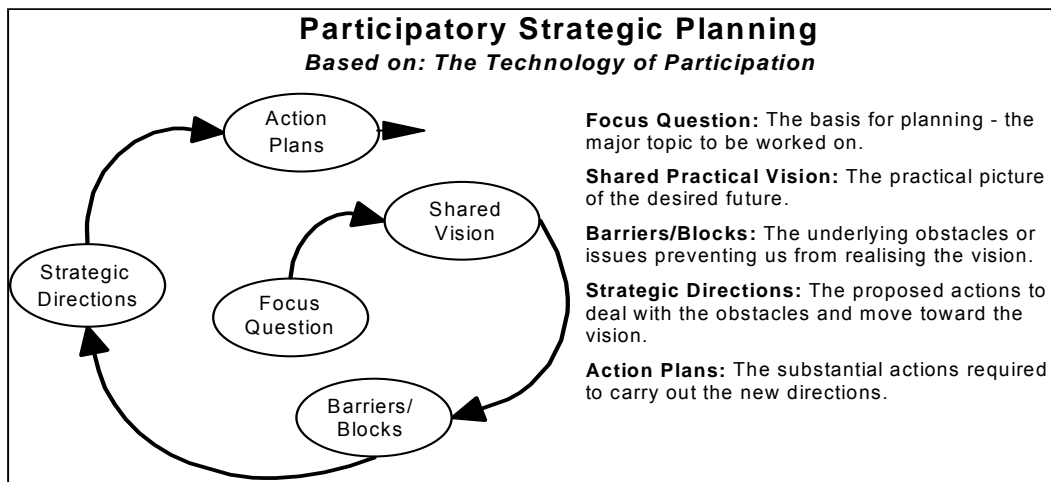


Figure 11: Strategic planning from vision through to action
(Adapted from Spencer 1989)

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.

- ✓ **Specific** — refer to exactly what is intended in clear and easily understandable language
- ✓ **Measurable** — use quantities to monitor progress and locate when the end is reached
- ✓ **Achievable** — be realistic about what can be accomplished under the normal conditions
- ✓ **Relevant** — relate objectives to a larger goal that stakeholders have already agreed to
- ✓ **Time-bound** — use times to assist in monitoring and making adjustments along the way
- ✓ **Evaluated** — build in a process for assessing the outputs of the monitoring programme
- ✓ **Reviewed** — arrange to review objectives and adjust them depending upon the evaluation

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.

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.

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

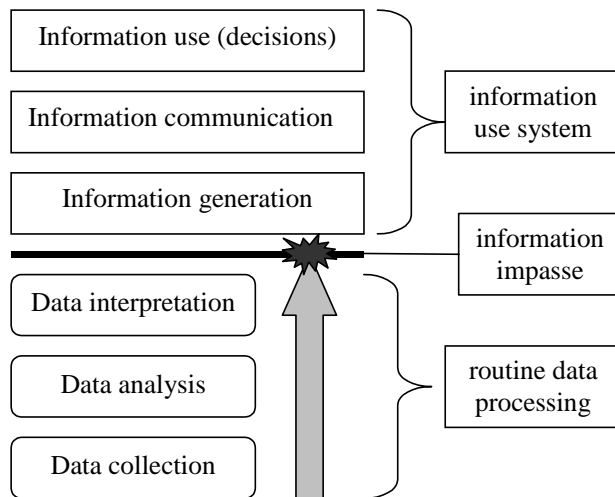


Figure 12: Processing data for decisions

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.

Good co-management arrangements ensure that data generate information that is exchanged and used in decisions.

Local and scientific knowledge

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

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

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

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.

Local and scientific knowledge can complement each other (Figure 13).

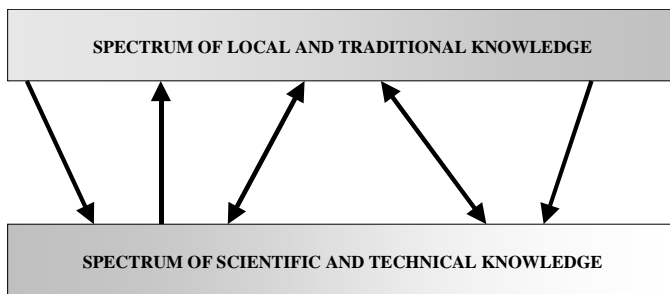


Figure 13: Exchange of local and scientific knowledge and learning is beneficial to all parties

Co-management is most likely to succeed if the resource is one that stakeholders already have good knowledge of.

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.

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.

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?

Decision-making, power and equity

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 lose, 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 14).

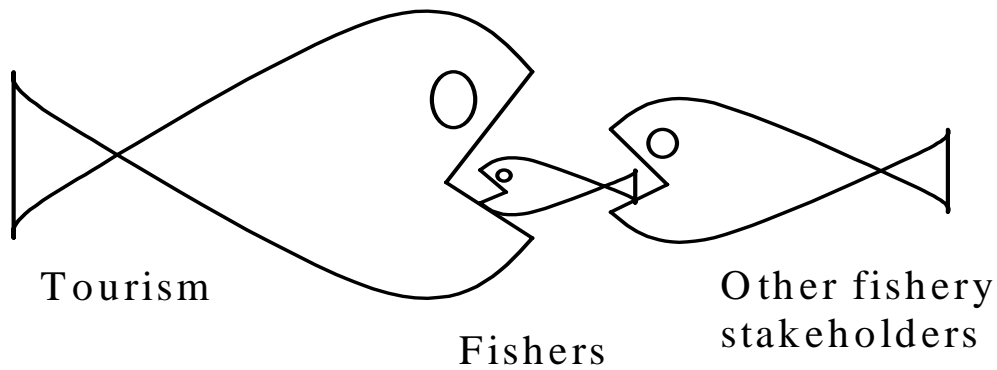


Figure 14: Fishers may feel relatively powerless in coastal decision-making

Co-management is likely to re-distribute power and to be resisted by those who want to avoid losing, or sharing, power.

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

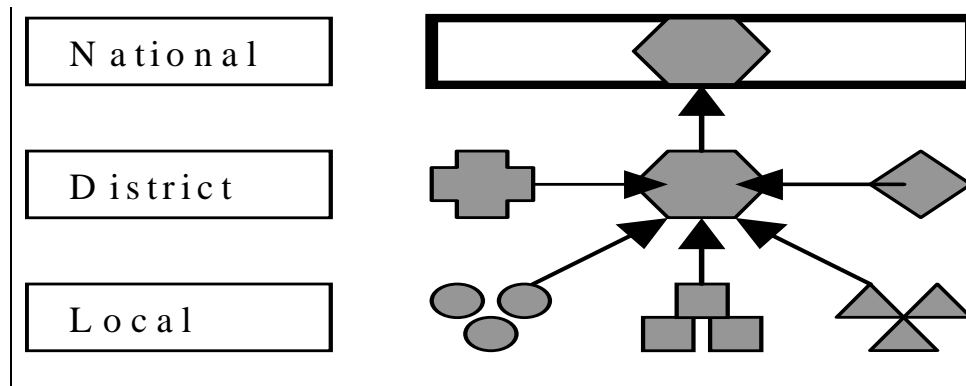


Figure 15: Decisions made at different levels of representation

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.

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.

It may be better to learn from mistakes with informal arrangements, especially if these approximate to the intended formal institutions.

It is important that the representatives who sit at the table communicate with their constituencies and group members to provide feedback and additional input.

Equity is linked to power in that disadvantaged groups (perhaps including the poor, women, youth, elderly, ethnic or religious minorities etc.) may need to be informed and empowered in order to bring them to positions of equity within the co-management arrangements.

Building capacity

Building stakeholder capacity for co-management is essential in the Caribbean, and a critical first step in many cases..

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 many cases capacity could be built fairly simply if the stakeholders engaged in collaborative activities in which complementary skills transfer was undertaken.

Organisations should set priorities and schedules for building capacity, with testing, monitoring and evaluation incorporated to measure success.

Leadership

Leadership is a key element of building capacity. Without good leadership it is unlikely that appropriate capacity will be built in any organisation. *It is a common mistake to take leaders out of their element and expect them to do equally well in another environment.*

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

Leadership style may determine the chances of successfully negotiating agreements, reaching consensus and encouraging buy-in to support compromise outcomes.

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.

Classification of leadership style:

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

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 16 describes the basics of communication.

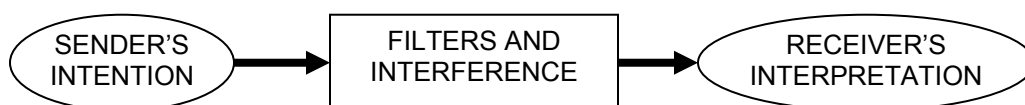


Figure 16: *Communication can be a complex process*

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.

This challenge can be overcome by being conscious of the characteristics of the various end users of information revealed in the stakeholder's analysis and by learning how best to reach each of them.

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

Formal and informal communication, cooperation and coordination have to be used wisely at the appropriate junctures. This chain of communication with positive feedback is shown in Figure 17.

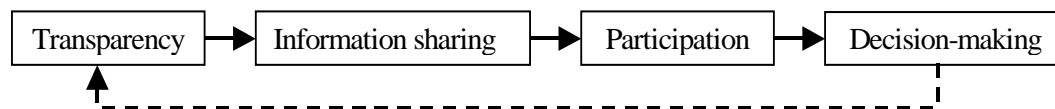


Figure 17: *Transparency has many positive effects*

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.

Conflict management and negotiation

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

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

Four principles of negotiation 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

Compliance and enforcement

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.

Co-management arrangements facilitate enforcement by incorporating the responsible agency as a stakeholder where possible.

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

Summary

Co-management is more likely to be successful, and objectives-driven, when it incorporates a participatory planning process. Learning by doing things together builds capacity, trust, respect and legitimacy of both content (the plan) and process (the planning). 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. Good objectives are important in the context of evaluating the effectiveness of management. This is to make sure that efforts at management are actually achieving the intended results, preferably in a manner that is not wasteful or otherwise inefficient. 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. Local and scientific knowledge

can complement each other. 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. 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. Co-management is likely to re-distribute power and to be resisted by those who want to avoid losing, or sharing, power. 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. Building stakeholder capacity for co-management is essential in the Caribbean, and a critical first step in many places. In many cases capacity can be built fairly simply if the stakeholders were to engage in collaborative activities in which complementary skills transfer was intended. Leadership is a key element of building capacity. Without good leadership it is unlikely that appropriate capacity will be built in any organization. According to co-management partners in the region there is need for considerable improvement in communication, cooperation and coordination. All three concepts are critical to co-management. More attention to formal conflict management is necessary to ensure that minor matters did not threaten the success of co-management arrangements. The goal of conflict management is not to avoid conflict, but to supply skills that can help people express their differences and solve their problems for win-win, or mutually beneficial, outcomes. Compliance with, and enforcement of, environmental legislation is generally poor in the Caribbean. Co-management arrangements facilitate enforcement by incorporating the responsible agency as a stakeholder where possible.

Conclusion

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.

Since co-management is new to the Caribbean, there is a lot of learning to be done, so we need to get started.

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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References and further reading

- McConney, P., R. Pomeroy and R. Mahon. 2003. *Guidelines for coastal resource co-management in the Caribbean: communicating the concepts and conditions that favour success*. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association. 56pp.
- 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.
- McConney, P. 2003. Grenada case study: the lobster fishery at Sauteurs. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 65pp.
- McConney, P. 2003. Grenada case study: legalisation of beach seine traditional rules at Gouyave. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 70pp
- 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
- Power point presentation. Guidelines for coastal resource co-management in the Caribbean: communicating the concepts and conditions that favour success. Caribbean Coastal Co-management Guidelines Project
- Abbot, J. and I. Guijt. 1999. Changing views on change: Participatory approaches to monitoring the environment. SARL Discussion Paper No.2, July 1998. 96pp.
- Allison, E.H. and F. Ellis. 2001. The livelihoods approach and management of small-scale fisheries. *Marine Policy* 25: 377-388.
- Almerigi, S. 2000. Leadership for fisherfolk. CARICOM Fisheries Research Document No. 24. 63pp
- Arnstein, S. 1969. A ladder of citizen participation. *American Institute of Planners* 35:216-224.
- Ashley, C. and D. Carney. 1999. Sustainable livelihoods: lessons from early experience. DFID, UK. 55pp
- Baird, I. G. 2000. Integrating community-based fisheries co-management and protected areas management in Laos PDR: Opportunities for advancement and obstacles to implementation. Evaluating Eden Series Discussion Paper No.14. London IIED. 17 pp.

- Baird, I. G. and M. S. Flaherty. 1999. Fish conservation zones and indigenous ecological knowledge in southern Laos: A first step in monitoring and assessing effectiveness. Project Lao/BI-B7/6200-IB/96-012. Pakse Agriculture and Forestry Division, Champassak Province. 41 pp.
- Bay of Bengal Programme 1990. Helping fisherfolk to help themselves: a study in people's participation. FAO Bay of Bengal Programme, Madras, India.
- Berkes, F., R. Mahon, P. McConney, R. Pollnac and R. Pomeroy. 2001. Managing small-scale fisheries: alternative directions and methods. International Development Research Centre, Canada. 320pp
- Brown, D.A.V. 2001. Poverty in the Caribbean. On-line lecture. University of the West Indies, St. Augustine Campus. [Web doc.]
- Brown, D.N. and R.S. Pomeroy. 1999. Co-management of Caribbean Community (CARICOM) fisheries. *Marine Policy* 23:549-570.
- Brown, N. 1997. Devolution of authority over the management of natural resources: the Soufriere Marine Management Area, St. Lucia. Caribbean Centre for Development Administration (CARICAD) and Caribbean Natural Resources Institute (CANARI), Barbados and St. Lucia.
- Brown, N. A. 1995. Popular participation and empowerment in natural resource management. CANARI Communication No. 56:14 pp.
- Brown, N. A. 1997. Devolution of authority over the management of natural resources: the Soufriere Marine Management Area, St. Lucia. 21 pp. ISBN: 1-890792-01-2. Case study prepared for the Caribbean Centre for Development Administration (CARICAD) Capacity 21 Programme.
- Brown, N.A. 1999. Finding their legs for seawater: women and seamoss mariculture in Praslin, St. Lucia. CANARI Technical Report No. 257: 16 pp
- Bunce, L., P. Townsley, R. Pomeroy and R. Pollnac. 2000. Socioeconomic Manual for Coral Reef Management. Australian Institute of Marine Sciences, Townsville, Australia.
- CANARI and National Environment Trust. 1999. Training Course on Skills and Methods for Participatory and Collaborative Natural Resource Management, Jamaica 3-14 May 1999. CANARI Technical Report No. 264:31 pp
- CANARI. 1999a. Community-based Tourism in the Caribbean: a Workshop held by the Caribbean Natural Resources Institute and the St. Lucia Heritage Tourism Programme, February 1999. Final report. CANARI Technical Report No. 258:19 pp
- CANARI. 1999b. Evaluation of experiences in participatory planning and management of marine and coastal resources. CANARI Technical Report No. 259:50 pp.
- CANARI. 1999c. Integrating gender issues in participatory and collaborative natural resource management. CANARI Workshop Report. 15 - 16 November 1999, Port of Spain Trinidad
- CANARI. 1999d. Principals of Participation and Co-management: A Workshop For Professionals. CANARI Technical Report No. 260:24 pp
- CANARI. 2000a. An assessment for capacity for reef monitoring in the Eastern Caribbean. Towards the creation of an Eastern Caribbean Global Coral Reef Monitoring Network (GCRMN) Node in collaboration with the United Nations Environmental Programme. CANARI Technical Report No. 266:12 pp.
- CANARI, 2000b. Participatory resource management approaches for managers and decision-makers. Week 1: Building institutions for participatory resource management. CANARI Workshop Report. 3-7 July, 2000, Falmouth, Antigua

CANARI, 2001. Participatory resource management approaches for managers and decision-makers. Week 2: Designing participatory institutions for effective management. CANARI Workshop Report. 22-26 January, 2001, Tobago

Carney, D. ed. 1998. Sustainable rural livelihoods: what contribution can we make? DFID, London. 213 pp.

CCA, CANARI and LFCC. 2003. Learning from sharing and comparing experiences in sea urchin management in Barbados and St. Lucia. Report of the workshops held in Laborie, St. Lucia, 30-31 January 2003. Caribbean Conservation Association, Barbados. 10pp.

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

Cecil, R.G. 1999. Half a century of fisheries in Barbados: a quest for socio-economic interpretation in the systematic literature and the popular press. Fisheries Division Report No. 1. Fisheries Division, Ministry of Agriculture and Rural Development. 165pp.

Centre for Development Studies. 2000. DfID Support for Pro-Poor Civil Society Organisations: A Good Practice Guide. Manuscript. Department of Economics and International Development, University of Bath

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

Chan A Shing, C. 2000. Case study of integrated coastal fisheries management project: a pilot project for the Gulf of Paria, Trinidad. CANARI Technical Report No. 280:11 pp

Chua Thia-Eng. 1993. Essential elements of integrated coastal zone management. Ocean & Coastal Management 21:81-108

Cicin-Sain B. and R.W. Knecht, 1998. Integrated Coastal and Ocean Management: Concepts and Practices. Washington, DC: Island Press. 517 pp.

Clark, J. R. 1992. Integrated Management of Coastal Zones. FAO Fisheries Technical Paper No. 327. Rome: Food and Agriculture Organization of the United Nations.

Clauzel, S. 2001. Tourism in Laborie, St. Lucia: baseline study and identification of potential for development. CANARI LWI Project Document No. 3. CANARI Technical Report No. 293:15 p

Cochrane, K. ed. 2002. A fishery manager's guidebook: Management measures and their application. FAO Fisheries Technical Paper No. 424. FAO, Rome. 231pp

CZMAI. 2002. National integrated coastal zone management strategy for Belize.

DFID-NRSP. 2001. Locating a poverty focus in natural resources systems research. DFID. 12pp.

Dixon, J.A., L.F. Scura, and T. van't Hof. 1993. Meeting ecological and economic goals: marine parks in the Caribbean. *Ambio* 22 (2/3):117-125

Dorward, A., S. Anderson, S. Clark, B. Keane and J. Moguel. 2001. Asset Functions and Livelihood Strategies: A Framework for Pro-Poor Analysis, Policy and Practice 1. Contributed Paper to EAAE Seminar on Livelihoods and Rural Poverty, September 2001. [Web doc.]

Dyer, C. and J.R. McGoodwin, eds. 1994. Folk management in the world's fisheries: lessons for modern fisheries management. University Press of Colorado, Colorado.

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

- Fisheries Division and BARNUFO. 2001. Work-plans for sea egg fishery projects (draft).
- Fisheries Division. 1997. Barbados Fisheries Management Plan, Schemes for the management and development of fisheries in the waters of Barbados. Ministry of Agriculture and Rural Development, Barbados, 62 pp.
- Geoghegan, T. and A. Smith. 1998. Conservation and sustainable livelihoods: collaborative management of the Mankòtè Mangrove, St. Lucia. 16 pp.
- Geoghegan, T. and Y. Renard. 2002. Beyond community involvement in protected area planning and management: lessons from the insular Caribbean. *PARKS* 12(2): 16-27.
- Geoghegan, T., A. Smith, and K. Thacker. 2001. Characterization of Caribbean marine protected areas: an analysis of ecological, organizational, and socio-economic factors. CANARI Technical Report No. 287.
- George, S. and W. Joseph. 1999. A new participatory approach toward sea urchin management in St. Lucia, West Indies. *Proc. Gulf Caribbean Fisheries Institute* 46: 197-206.
- GESAMP 1996. The Contributions of Science to Integrated Coastal Management. Rome: Food and Agriculture Organization of the United Nations. (66 pages)
- Gibson, J., M. Toure and A. H. Smith. 1997. Integrated coastal management (ICAM) for the Caribbean with special reference to fisheries and aquaculture. Pages 111 - 120 in Anon, ACP-EU Fisheries Research Initiative. Proceedings of the Third Dialogue Meeting, Caribbean and Pacific and European Union. Belize City, Belize, 5-10 December, 1996. ACP-EU Fish. Res. Pap. 3.
- Government of Barbados. 1993. Development plan 1993-2000. Government Printing Dept., Bridgetown, Barbados
- Grimble, R. 1998. Stakeholder methodologies in natural resource management. Socioeconomic Methodologies. Best Practice Guidelines. Chatham, UK: Natural Resources Institute. 12pp
- Halls, A. S., R. Lewins and C. Jones. 2000. Information Systems for the Co-Management of Artisanal Fisheries. Final Technical Report. Volume I. London, MRAG Ltd: 230 pp.
- Halls, A.S. & Lewins, R. In prep. The fisheries of the Turks and Caicos Islands and prospects for co-management. To be submitted to Fisheries Research.
- Halls, A.S., R.W. Burn and S. Abeyasekera. 2002. Interdisciplinary Multivariate Analysis for Adaptive Co-Management (R7834). Draft Final Technical Report. MRAG Ltd.
- Hara, M. 1996. Problems of Introducing Community Participation in Fisheries Management: Lessons from the Lake Malombe and Upper Shire River (Malawi) Participatory Fisheries Management Programme. Southern African Perspectives No.59. Centre for Southern African Studies, School of Government, University of the Western Cape. 28pp.
- Heyman, W. and T. Hyatt. 1996. An analysis of commercial and sport fishing in the proposed Port Honduras Marine Reserve. Belize Center for Environmental Studies. 51pp
- Heyman, W and R. Graham (eds). 2000. The voice of the fishermen of southern Belize. TIDE Punta Gorda, 44 pp
- Hoggarth, D. D., V. Cowan, A. S. Halls, M. Aeron-Thomas, J. A. McGregor, C. J. Garaway, I. Payne and R. Welcome. 1999. Management guidelines for Asian floodplain river fisheries, Part 1: A spatial, hierarchical, integrated strategy for adaptive co-management. Rome, FAO Fisheries Technical Paper: 384 1&2.
- ICLARM and IFM. 1998. Analysis of Co-Management Arrangements in Fisheries and Related Coastal Resources: A Research Framework. Report Prepared by the Coastal Resources Co-Management

Research Project Core Staff at the International Centre for Living Aquatic Resources Management (ICLARM) and Institute for Fisheries Management and Coastal Community Development (IFM): 21pp.

IDB. 1997. Evaluation: A management tool for improving project performance. Inter-American Development Bank.

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

Jacobs, N. 1999. Assessment of marine and fisheries resources in the southern region of Belize. Environmental and Social Technical Assistance Project. (ESTAP-IDB Project No 999/OC-BL) 50pp

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

Jentoft, S. 1985. Models of fishery development: the cooperative approach. *Marine Policy* 9:322-331.

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

Jentoft, S. 2000. Legitimacy and disappointment in fisheries management. *Marine Policy* 24: 141-148.

Johnson, M. 2002. Consultancy to strengthen the Coastal Advisory and Marine Protected Areas Advisory Committees. Final Report to CZMAI

Jolly, K. and E. McRae. 1998. The environment of Belize: our life support system. Cubola Books, Belize, 152 pp.

Kairi Consultants. 1999a. Poverty assessment report: Grenada. Volume 1 of 2. Report to the Caribbean Development Bank. 212pp.

Kairi Consultants. 1999b. Poverty assessment report Belize. Report to the Caribbean Development Bank.

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

Kramer P. A. and P.R. Kramer (M. McField ed.) 2002. Ecoregional Conservation Planning for the Mesoamerican Caribbean Reef. World Wildlife Fund, Washington D.C.

Krishnarayan, V., T. Geoghegan and Y. Renard. 2000. Assessing organisational capacity for participatory natural resource management: guidelines for the Caribbean. CANARI Guidelines Series 3. ISBN 1-890792-05-5. *In press*.

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

Kurien, J. 1988. The role of fishermen's organizations in fisheries management of developing countries (with particular reference to the Indo-Pacific region). *FAO Fish. Tech. Pap. No. 300*.

Lamelas, R. 1997. Hacia el co-manejo de los recursos naturales en la región de Samaná, República Dominicana. Community and the Environment: Lessons from the Caribbean 4. CANARI, Panos Institute - Washington, D.C., CEBSE - Dominican Republic. 12 pp. In Spanish

Mahon, R. and H.A. Oxenford. 1999. Precautionary assessment and management of dolphinfish in the Caribbean. *Scientia Marina*. 63 (3-4): 429-438.

Mahon, R., S. Almerigi, P. McConney, C. Parker and L. Brewster. 2003. Participatory methodology used for sea urchin co-management in Barbados. *Ocean and Coastal Management*. 46: 1-25.

- Manson F. J. and D. J. Die. 2001. Incorporating commercial fishery information into the design of marine protected areas. *Ocean and Coastal Management* 44:517-530.
- Margoulis, R. and N. Salafsky. 1998. Measures of success: designing, managing and monitoring conservation and development projects. Island Press, Washington, D.C. 362pp
- McConney, P.A. 1998. Using "common science" in co-management. *Proc. Gulf Carib. Fish. Inst.*50: 1115-1121.
- McConney, P.A. 1999. Organising fisherfolk in Barbados without completing a clean round. *Proc. Gulf Carib. Fish. Inst.* 52: 290-299.
- McConney, P.A. and R. Mahon 1998. Introducing fishery management planning to Barbados. *Ocean and Coastal Management* 39: 189-195.
- McConney, P.A., A. Atapattu and D. Leslie. 1998. Organizing fisherfolk in Barbados. *Proc. Gulf Carib. Fish. Inst.* 51: 299-308.
- McField, M. 2000. Evaluation of management effectiveness Belize Marine Protected Areas System. Report to the Coastal Zone Management Authority and Institute.
- Mikalsen, K.H. and S. Jentoft. 2001. From user-groups to stakeholders? The public interest in fisheries management. *Marine Policy* 25: 281-292
- Myvette, G and Quintana, R. 2002. The status of aquaculture in Belize 2001. Belize Fisheries Department, Belize City, Belize
- Navia, O and J. Landivar. 1997. Inter-American Development Bank (IDB) Resource Book on Participation. Section VII: Methodologies, Approaches and Techniques for Participation, IDB, Washington, DC.
- Neilson, J. N., K. A. Aiken, and R. Mahon. 1999. Potential yield estimates for reef and slope fisheries: a review of approaches and their limitations with special reference to the Caribbean. *Proc. Gulf. Carib. Fish. Instit.* 46:360-376.
- Nielsen, J. R. and C. Mathiesen. 2003. Important factors influencing rule compliance in fisheries lessons from Denmark. *Marine Policy* 27(5): 409-416.
- Noble, B. F. 2000. Institutional criteria for co-management. *Marine Policy* 24: 69-77.
- Normann, A. K., J. Raakjær Nielsen and S. Sverdrup-Jensen (eds.) 1998. Fisheries Co-management in Africa. Proceedings from a regional workshop on fisheries co-management research held 18-20 March 1997 at Boadzulu Lakeshore Resort, Mangochi, Malawi. Fisheries Co-management Research Project, Research Report No. 12.
- Palacio, J. 2002. COMPACT Community assessment final draft report. Submitted to Programme for Belize 49 pp.
- Pech, E. The Northern Fishermen Cooperative: Changing life. Pp. 61-65 In: Anon. [ed]. Cooperatives in the Caribbean: A collection of articles
- PFB, BEST, ANDA. 2001. Belize COMPACT Programme Strategy 2001-2003. Involving communities and users in the conservation of the BBRWHS.
- Pido, M.D., R.S. Pomeroy, L.R. Garces and M.B. Carlos. 1997. A Rapid Appraisal Approach to Evaluation of Community-Level Fisheries Management Systems: Framework and Field Application at Selected Coastal Fishing Villages in the Philippines and Indonesia. *Coastal Management* Vol. 25 (2): 183-204.
- Pinkerton, E., ed. 1989. Co-operative management of local fisheries: new directions for improving management and community development. University of British Columbia Press, Vancouver.

- Pollnac, R.B., B.R. Crawford and M.L.G. Gorospe. 2001. Discovering factors that influence the success of community-based marine protected areas in the Visayas, Philippines. *Ocean and Coastal Management* 44:683-710.
- Pomeroy, R.S. 1994 [ed.]. *Community management and common property of coastal fisheries in Asia and the Pacific: concepts, methods and experiences*. ICLARM, Manila, Philippines: 188 pp.
- Pomeroy, R.S. 1998. A process for community-based co-management. *AFSSRN News*. ICLARM Contribution #1448.
- Pomeroy, R.S. 2001. Devolution and Fisheries Co-management. In R. Meinzen-Dick, A. Knox and M. Di Gregorio (eds.) *Collective Action, Property Rights and Devolution of Natural Resource Management – Exchange of Knowledge and Implications for Policy*. Zentralstelle für Ernährung und Landwirtschaft, Feldafing, Germany.
- Pomeroy, R. S. In press. Capacity building and community involvement in marine protected area implementation. *Proceedings of the Gulf and Caribbean Fisheries Institute* 54.
- Pomeroy, R.S. and F. Berkes. 1997. Two to tango: the role of government in fisheries co-management. *Marine Policy*, 21 (5): pp. 465-480.
- Pomeroy, R.S. and M.B. Carlos. 1997. Community-Based Coastal Resource Management in the Philippines: A Review and Evaluation of Programs and Projects, 1984-1994. *Marine Policy*. Vol. 21, No. 5: 445-464.
- Pomeroy, R.S. and A.C. Trinidad. 1996. Socioeconomic Aspects of Artisanal Fisheries in Asia. In S.S. De Silva (ed.) *Perspectives in Asian Fisheries, 10th Anniversary Commemorative Volume*. Asian Fisheries Society, Manila, Philippines.
- Pomeroy, R. S. and M. J. Williams. 1994. *Fisheries Co-management and Small-scale Fisheries: A policy brief*. International Centre for Living Aquatic Resource Management, Manilla, 15pp.
- Pomeroy, R.S., B.M. Katon and I. Harkes. 2001. Conditions affecting the success of fisheries co-management: lessons from Asia. *Marine Policy*. 25: 197-208
- Pomeroy, R.S., R.B. Pollnac, B.M. Katon and C.D. Predo. 1997. Evaluating factors contributing to the success of community-based coastal resource management: the Central Visayas Regional Project-1, Philippines. *Ocean and Coastal Management* 36:97-120.
- Renard, Y. 1991a. Institutional challenges for community-based management in the Caribbean. *Nature and Resources* 27(4): 4-9.
- Renard, Y. 1991b. Strategies for increasing community involvement in ecotourism. *CANARI Communication No. 21*:6 pp
- Renard, Y. 2000. Case of the Soufriere Marine Management Area (SMMA), St. Lucia. Prepared for the Seminar Integrating Stakeholders in Participatory Natural Resource Management, Kingston, Jamaica, April 2000. *CANARI Technical Report No. 285*: 8pp
- Renard, Y. and V. Krishnarayan. 2000. Participatory approaches to natural resource management and sustainable development: some implications for research and policy. *CANARI Communication No. 275*: 8 pp
- Renard, Y., A.H. Smith and V. Krishnarayan. 2000. Do reefs matter? Coral reef conservation, sustainable livelihoods and poverty reduction in Laborie, St. Lucia. *CANARI Communication No. 274*: 6 pp
- Roberts, C.M., J. A. Bohnsack, F. Gell, J. P. Hawkins and R. Goodridge. 2001. Effects of marine reserves on adjacent fisheries. *Science*. 294:1920-1923.

- Salm, R.V., J. Clark and E. Sirila. 2000. Marine and coastal protected areas: a guide for planners and managers. IUCN, Washington D.C. 371pp.
- Samuel, N. and A. Smith. 2000. Popular knowledge and science: using the information that counts in managing use of a mangrove in St. Lucia, West Indies. Paper presented at Quebec 2000 Millennium Wetland Event, Quebec 6-12 August 2000. CANARI Communication No. 278: 5 pp
- Smith, A. H. 1992. Farming edible seaweeds in the Caribbean. *Applied Phycology Forum* 9(1):1-2.
- Smith, A. H. 1993. Monitoring and management of Caribbean coral reefs in association with the sport diving community. Pages 93-98 in V.A. Brereton (ed). *Proceedings of the Third Caribbean Conference on Ecotourism*. Caribbean Tourism Organisation, Bridgetown, Barbados.
- Smith, A. H. 1994. A collaborative approach to monitoring Caribbean reefs. *Community and the Environment: Lessons from the Caribbean 3*. CANARI/Panos Institute, Washington, D.C. 8 pp
- Smith, A. H. 1997. Finding better crops for seaweed farmers in the West Indies. *Out of the Shell* 6(1):12-13
- Smith, A. H. and F. Berkes. 1991. Solutions to the "Tragedy of the Commons": sea-urchin management in St. Lucia, West Indies. *Environmental Conservation* 18(2):131-136.
- Smith, A. H. and F. Berkes. 1993. Community-based use of mangrove resources in St. Lucia. *International Journal of Environmental Studies* 43(2/3):123-132.
- Smith, A. H. and R. Walters. 1991. Co-management of the white sea urchin resource in St. Lucia. CANARI Communication No. 38:12 pp.
- Smith, A. H. and T. van't Hof. 1991. Coral reef monitoring for management of marine parks: cases from the insular Caribbean. CANARI Communication No. 36:14 pp.
- Smith, A.H., C.S. Rogers, and C. Bouchon. 1997. Status of western Atlantic coral reefs in the Lesser Antilles. *Proceedings of the 8th International Coral Reef Symposium* 1:351-356.
- Smith, A.H., M. Archibald, T. Bailey, C. Bouchon, A. Braithwaite, R. Comancho, S. George. H. Guiste, M. Hastings, P. James, C. Jeffery-Appleton, K. De Meyer, A. Miller, L. Nurse, C. Petrovic and P. Phillip. 2000. Status of coral reefs in the Eastern Caribbean: the OECS, Trinidad and Tobago, Barbados, The Netherlands Antilles, and the French Caribbean. Pages 315-330 in C. Wilkinson (ed). *Status of Coral reefs of the world:2000*. Global Coral Reef Monitoring Network.
- Spencer, L.J. 1989. *Winning through participation*. Kendall/Hunt, Iowa, 185 pp.
- Sverdrup-Jensen, S. & J. Nielsen 1999. *Co-Management in small-scale fisheries - a synthesis of Sothern and West African experiences*. Institute for Fisheries Management and Coastal Community Development (IFM). 23pp.
- Ticheler, H. J. et al. 1998. Participation of local fishermen in scientific fisheries data collection: a case study from the Bengweulu Swamps, Zambia. *Fisheries Management and Ecology* 5: 81-92.
- van't Hof, T. 1998. Social and economic impacts of marine protected areas: a study and analysis of selected cases in the Caribbean. CANARI Technical Report No. 252.
- Williams, E., P. McConney and A. Kinch. In press. Participatory processes for involving fisherfolk in Barbados fisheries management planning. *Proc. Gulf Carib. Fish. Inst.* 53
- World Bank. 2000. *Voices from the Village: A Comparative Study of Coastal Management in the Pacific Islands*. Final Report. Washington World Bank. 87 pp.

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.

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
<u>IDS Participation Group</u>	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
<u>Participation Group in the Social Development Department of the World Bank</u>	www.worldbank.org
Participation Toolkit website	www.toolkitparticipation.com
UNEP -- Caribbean Environment Programme	www.cep.unep.org

Experiment 2: testing co-management tools and messages for training natural resource users and managers

The Caribbean Conservation Association (CCA), Caribbean Natural Resources Institute (CANARI) and the Marine Resources Assessment Group (MRAG) are implementing a research project entitled “***Institutional Arrangements for Coastal Management in the Caribbean***”. This project is funded by the UK Department for International Development (DFID) Natural Resources Systems Programme (NRSP).

The purpose of the project is to develop and promote institutional arrangements and policies for the implementing integrated and equitable natural resource management in the coastal zones of the Caribbean. The focus is on identifying, testing and disseminating strategies and pathways to ensure that lessons, methods and tools for improving co-management, marine protected area (MPA) management and coastal livelihoods are communicated effectively. The Cave Hill Campus of the University of the West Indies has been selected as an institution in which to implement this project.

The University of the West Indies needs specific tools and messages to educate and train marine resource users and managers. The Caribbean Conservation Association is seeking to identify ways in which tools and messages with a co-management focus can best be made available to personnel of education and training institutions, as well as the ways in which these institutions can be convinced of the benefits from including such tools and messages in their curricula and programmes.