



(REVISED) FINAL TECHNICAL REPORT

DEVELOPING GUIDELINES FOR SUCCESSFUL
CO-MANAGEMENT IN THE CARIBBEAN
(R8134)

Caribbean Conservation Association

in association with the

University of the West Indies

Centre for Resource Management and Environmental Studies

and

Marine Resources Assessment Group Ltd.



2004

NATURAL RESOURCES SYSTEMS PROGRAMME
(REVISED) FINAL TECHNICAL REPORT¹

DFID Project Number

R8134

Project Title

Developing guidelines for successful co-management in the Caribbean

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Organisation

Caribbean Conservation Association

NRSP Production System

Land Water Interface

Date

15 January 2004

¹ This document is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

Contents

Abbreviations and Acronyms.....	v
1 Executive summary.....	1
2 Background.....	2
3 Project purpose.....	2
4 Outputs.....	3
4.1 Study site selection.....	3
4.2 Research framework.....	4
4.3 Assessment of natural resources.....	5
4.4 Assessment of human systems.....	6
4.5 Comparative analysis.....	7
4.6 Guidelines and uptake.....	9
4.7 Communications.....	11
5 Research activities.....	11
5.1 Transfers of skills and concepts.....	11
5.2 Document and data analysis.....	11
5.3 Surveys, informants and interviews.....	11
5.4 Focus groups and workshops.....	11
6 Environmental assessment.....	12
6.1 Significant environmental impacts.....	12
6.2 Impacts of widespread dissemination and application.....	12
6.3 Evidence of impacts.....	12
6.4 Follow up action.....	12
7 Contribution of outputs.....	12
8 Publications and other communication materials.....	14
8.1 Books and book chapters.....	14
8.2 Journal articles.....	14
8.3 Institutional Report Series.....	14
8.4 Symposium, conference, workshop papers and posters.....	14
8.5 Newsletter articles.....	15
8.6 Academic theses.....	15
8.7 Extension leaflets, brochures, policy briefs and posters.....	15
8.8 Manuals and guidelines.....	15
8.9 Media presentations (videos, web sited papers, TV, radio, interviews etc).....	15

8.10	Project reports and data records	15
8.10.1	Citation for the project Final Technical Report (FTR)	15
8.10.2	Project technical reports (e.g. internal workshop papers and proceedings).....	15
8.10.3	Literature reviews	16
8.10.4	Scoping studies	16
8.10.5	Datasets, software applications	16
8.10.6	Project web site and/or other project related web addresses.....	16
9	References cited	17
10	Project logframe	17
11	Keywords	22
12	Annexes.....	23
	Annex A: Scientific report	23
	Introduction.....	23
	Methods.....	24
	Results, Discussion and Conclusions.....	27
	Annex B: Supporting material	27
	B I. Co-management literature review and project research framework	27
	B II. Barbados case study: Fisheries Advisory Committee	27
	B III. Barbados case study: Sea egg fishery.....	28
	B IV. Belize case study: Marine protected areas co-managed by Friends of Nature	28
	B V. Belize case study: Fisheries Advisory Board in the context of integrated coastal management.	28
	B VI. Grenada case study: the lobster fishery at Sauteurs	28
	B VII. Grenada case study: the legalisation of beach seine traditional rules at Gouyave	28
	B VIII. Comparative analysis of coastal resource co-management in the Caribbean.....	28
	B IX. Guidelines for coastal resource co-management in the Caribbean	28
	Annex C: Communications materials	28
	C I. Information Update 10 June 2003.....	28
	C II. Information Update 3 March 2003	29
	C III. Information Update 26 January 2003	29
	C IV. Information Update 6 January 2003.....	29
	C V. Information Update 26 November 2002.....	29
	C VI. Information Update 25 September 2002	29
	C VII. Information Update 15 July 2002	29
	C VIII. Sea urchin fishery management brochure	29
	C IX. Summary report of the project terminal workshops.....	29

Annex D: Inventory	29
Annex E: Guidelines slide presentation	29

Figures

Figure 4.1 Institutional Analysis and Design Research Framework.....	4
Figure 4.2 Co-management takes place on a continuous scale.....	4
Figure 4.3 Three main types of co-management are easily recognisable	5
Figure 4.4 Implementation of co-management has three distinct phases	5
Figure 4.5 Framework for resource assessment.....	6
Figure 4.6 Number of factors to be addressed increases with scale of institutional analysis	6
Figure 4.7 Some of the factors to be considered in institutional assessment.....	7
Figure 4.8 Document map showing the flow of the guidelines’ contents.....	10

Tables

Table 4.1 Characteristics of study sites.....	3
Table 4.2 Types of co-management in the six case studies	7
Table 4.3 Phases of co-management in the six case studies	8
Table 4.4 Stakeholders perceptions of critical conditions for successful co-management.....	8
Table 7.1 Comments on achievement of purpose level OVIs.....	13

Abbreviations and Acronyms

CBO	Community-based organisation
CCA	Caribbean Conservation Association
CERMES	Centre for Resource Management and Environmental Studies
DFID	Department for International Development
GCFI	Gulf and Caribbean Fisheries Institute
ICLARM	International Centre for Living Aquatic Resources Management
ICM	Integrated Coastal Management
IFM	Institute for Fisheries Management
Logframe	Logical Framework
LWI	Land-Water Interface production system
MPA	Marine Protected Area
MRAG	Marine Resources Assessment Group
NGO	Non-governmental organisation
NRM	Natural Resources Management
NRSP	Natural Resource Systems Programme
OECS	Organisation of Eastern Caribbean States
OVI	Objectively Verifiable Indicators
SIDS	Small Island Developing States
UWI	University of the West Indies

1 Executive summary

The purpose of this project is to ensure that people in the Caribbean, especially the poor, can effectively engage in successful partnerships with government that facilitate sustainable livelihoods in the context of well managed coastal resources. Through six case studies, the project identifies and documents the conditions in the Caribbean under which co-management could be a viable management strategy. It compares conditions across the wider Caribbean, draws upon information from other places, and develops a set of guidelines on how co-management may be implemented successfully in the Caribbean. By following these guidelines, adapted as necessary to suit specific local and national situations, target institutions should be capable of undertaking the transformation necessary to institutionalise pro-poor integrated coastal co-management in the Caribbean.

The main output is the production of guidelines for successful coastal resource co-management in the Caribbean that strongly supports, and is part of, integrated pro-poor coastal management. In order to develop these guidelines several activities were undertaken:

- ◆ Selection of co-management analysis research framework
- ◆ Ecological and environmental assessments of the natural resource systems and their utilisation
- ◆ Institutional, socio-economic, cultural, political and other human dimension assessments
- ◆ Comparison of how the natural resource and human factors assessed in 2 and 3 favour or constrain the establishment of successful, pro-poor and integrated co-management
- ◆ Development of regionally applicable guidelines on successful, pro-poor and integrated co-management in the wider Caribbean
- ◆ Capacity of target institutions and beneficiaries for co-management built through project participatory processes

The project investigated six examples of coastal co-management initiatives in the Caribbean using the approach of participatory action research. Similar methods were used in all cases:

- ◆ Document analysis
- ◆ Questionnaire surveys
- ◆ Semi-structured interviews
- ◆ Focus groups, informants
- ◆ Workshops and seminars
- ◆ Periodic e-mail, newsletters
- ◆ Transfer of skills and concepts

Co-management is generally in early stages in the Caribbean. During the project there was evidence of uptake based on adoption of some of the principles promoted by the project. However capacity to manage and co-manage is very limited in both the government and the other stakeholders in all places investigated. The guidelines, if further promoted and adopted, can make a significant positive impact on institutionalising co-management as a key component of integrated pro-poor coastal management in the Caribbean. However, in order for this to occur, more attention has to be paid to building the capacities of the management authorities and other stakeholders. This is not by way of massive investment and training, but more by way of small projects that can be easily successful and facilitate a learning-by-doing approach to institutional strengthening.

2 Background

The Caribbean is a region of diverse environments, economies, cultures, societies and institutions. Most human settlements and economic activities occur on coasts. Tourism, a preferred engine of economic growth in many places, makes heavy and sometimes destructive demands on the coastal environments that sustain it. Poverty is a major contributor to environmental degradation in Latin America and the Caribbean. Improving coastal management necessitates more attention to poverty and the livelihood options of poor people in the context of bio-physical and socio-economic issues.

Better natural resource management institutions are key to poverty reduction and sustainable coastal development in the Caribbean. Countries are systematically addressing institutional problems and creating new institutions better suited to reducing poverty and improving governance. The need to focus on governance institutions has been recognised in the context of coastal and marine resource co-management in the Caribbean (Chakalall et al. 1998). The Code of Conduct for Responsible Fisheries, SIDS Programme of Action, the Environmental Strategy of the Association of Caribbean States, the St. George's Declaration of Principles for Environmental Sustainability in the OECS and similar policy instruments demand more participatory natural resource governance in the region.

The letters of interest in support of this project demonstrated demand from government agencies, local area management authorities and NGOs representing resource users for research on coastal resource co-management at national and local levels. The long-term project goal is to help target institutions and other beneficiaries to design, implement and sustain institutions for pro-poor integrated coastal co-management in the Caribbean. Previous related research undertaken with NRSP assistance includes projects entitled:

- ◆ Institutional evaluation of Caribbean MPAs and opportunities for pro-poor management
- ◆ Ecological and social impacts of MPA's
- ◆ Evaluating trade-offs between stakeholders in MPA's
- ◆ Improving coastal livelihoods in the Caribbean: institutional and technical options
- ◆ Opportunities and constraints for coastal livelihoods in the Caribbean
- ◆ Review of currently available information on pollution of coastal waters by sediments and agro-chemicals: identification of sources and transport mechanisms, and influence of land use management in the watershed
- ◆ Impact and amelioration of sediment and agro-chemical pollution in Caribbean coastal waters
- ◆ Interdisciplinary Multivariate Analysis (IMA) for adaptive co-management

In many respects pro-poor integrated coastal co-management is a cross-cutting theme that builds upon this work by setting out an institutional framework for improvements. Having present and potential co-management stakeholders participate in an examination of what conditions favour successful co-management generates new knowledge and insight into this approach to governance.

3 Project purpose

The purpose of this project is to ensure that people in the Caribbean, especially the poor, can effectively engage in successful partnerships with government that facilitate sustainable livelihoods in the context of well managed coastal resources. Through six case studies, the project identifies and documents the conditions in the Caribbean under which co-management could be a viable management strategy. It compares conditions across the wider Caribbean, draws upon information from other places, and develops a set of guidelines on how co-management may be implemented successfully in the Caribbean. By following these guidelines, adapted as necessary to suit specific local and national situations, target institutions should be capable of undertaking the transformation necessary to institutionalise pro-poor integrated coastal co-management in the Caribbean.

4 Outputs

As reflected in the project logframe (Section 10), following site selection, the project had six major categories of outputs and activities. These are reported on below.

4.1 Study site selection

Study sites were selected on the basis of practical, logistic and conceptual criteria. A list of site selection criteria preceded the project at the RD1 proposal stage. Six sites in three countries were chosen to provide a manageable number of diverse examples of co-management in locations to which access was feasible. Some of their characteristics are summarised in Table 4.1 below.

Table 4.1 Characteristics of study sites

Country	Institutional arrangement	Location and scale	Type and status of resources
Barbados	Multi-stakeholder Fisheries Advisory Committee	National management potentially the EEZ	All resource types, but mainly offshore pelagic fishes
Barbados	Mixed community and government initiatives	National inshore, focus on Oistins and Conset Bay	Sea urchins harvested by divers often overfished
Belize	Multi-stakeholder Fisheries Advisory Board	National management potentially the EEZ	All resource types but mainly inshore lobster, conch and shrimp in reasonable health
Belize	Local multi-community NGO in formal co-management agreements with government	Communities, Laughing Bird Caye and Gladden Spit marine protected areas, national relevance	Inshore and reef resources, cays, whale sharks, snapper and grouper aggregations from healthy to threatened status
Grenada	Cooperative in formation and government fisheries authority	Community (Sauteurs), nearshore rocky areas, national relevance	Spiny lobsters caught by trammel net; habitat damage but no evidence of overfishing
Grenada	Individual fishers and government fisheries authority	Community (Gouyave), inshore sandy bays, national application	Carangids and other small schooling pelagics caught by seine net; large tunas caught by longline; reasonably healthy

Annex B contains the six case studies of these co-management initiatives, providing the details. The approach known as “participatory action research” characterised the investigations of these cases of co-management initiatives or potential. Consequently, the researchers encouraged target institutions and beneficiaries to actively consider co-management as the preferred mode of management. This entailed emphasis on ensuring that participants were aware of the conceptual underpinnings of the research in which they were participating, and the dimensions of co-management. Since some of the concepts of co-management were new to participants, a special effort was made to examine and clarify the concepts with them. Reviewing the research framework highlights these concepts.

4.2 Research framework

The institutional analysis research framework used in the project (Figure 4.1) was based on an extensive international literature review on coastal resources co-management (McConney 2002). The International Centre for Living Aquatic Resources Management (ICLARM) and Institute for Fisheries Management and Coastal Community Development (IFM) developed the model shown (ICLARM and IFM 1998). It has been used in studies of co-management worldwide (e.g. Pomeroy and Carlos 1997; Pollnac et al 2001; Pomeroy et al. 2001). Included are locations in, or similar to, the Caribbean (Normann et al. 1998; Sverdrup-Jensen and Nielsen 1999; McConney 1999).

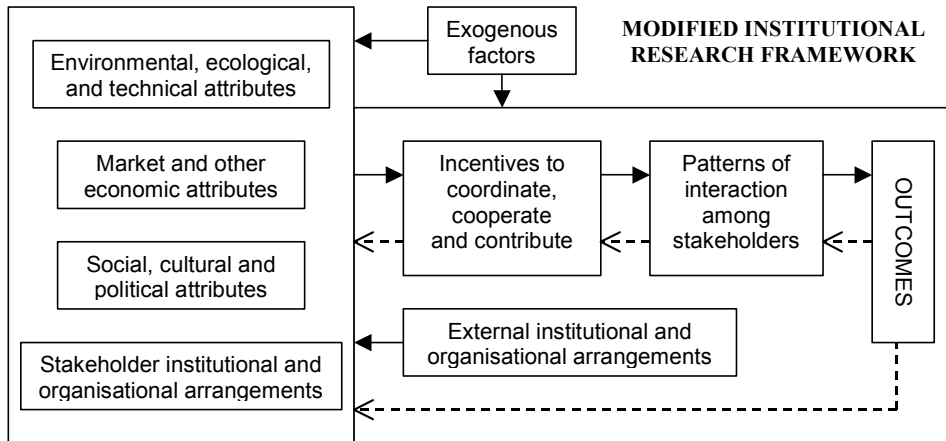


Figure 4.1 Institutional Analysis and Design Research Framework (based on ICLARM and IFM 1998)

The sliding scale of co-management that ranges from government to community control (Pomeroy and Williams 1994) was useful for determining which types of co-management were most appropriate to examine in detail (Figure 4.2).

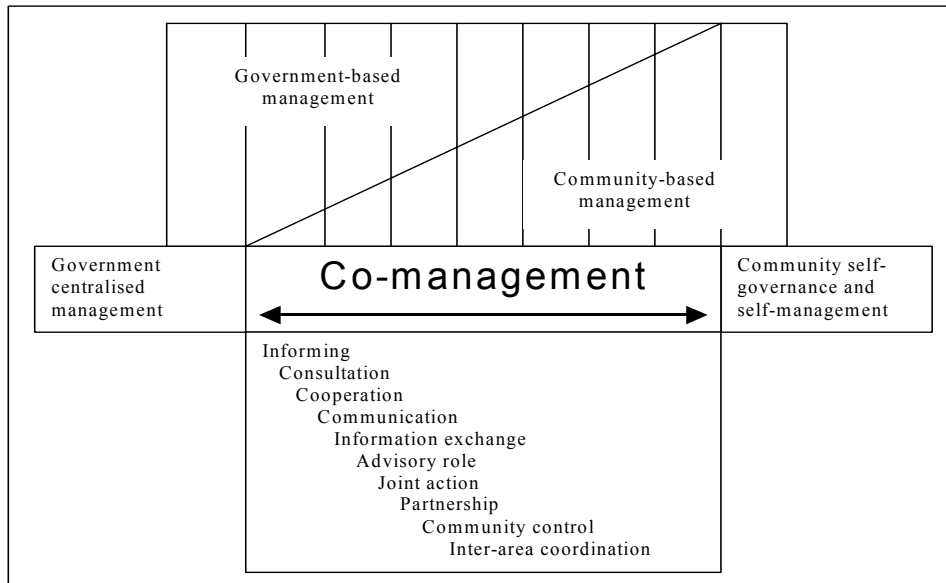


Figure 4.2 Co-management takes place on a continuous scale (based on Pomeroy and Williams 1994)

In keeping with other studies based on the ICLARM and IFM (1998) research framework, three types or categories of co-management were selected for the focus of analysis (Figure 4.3).

	Consultative co-management	Collaborative co-management	Delegated co-management	
<i>Government has the most control</i>	Government interacts often but makes all decisions	Government and the stakeholders work closely and share decisions	Government lets formally organised users/stakeholders make decisions	<i>People have most control</i>

Figure 4.3 Three main types of co-management are easily recognisable

The project, acknowledging that the establishment of co-management is not instantaneous, followed other research (e.g. Pomeroy 1998) in distinguishing among phases of implementation as another dimension of co-management. Three phases were chosen as appropriate for this work (Figure 4.4).

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

Figure 4.4 Implementation of co-management has three distinct phases

In addition to the model, types and phases of co-management, the project sought to discover from the international literature what conditions for successful co-management were found elsewhere (Pomeroy 1998). A list of variables, or key conditions, was constructed and used as the basis for comparing conditions across the selected study sites. In workshops with target institutions and beneficiaries the project confirmed that the conditions derived from the literature were consistent with the views of the participants on what was important. This process validated the variables that formed the basis of the regional comparison and the key points of the guidelines (see Annex B).

4.3 Assessment of natural resources

In its natural resource assessment component the project emphasised the importance of integrated coastal management as the framework for investigation. The principle of integrating fisheries into coastal management contained in the Code of Conduct for Responsible Fisheries was considered especially important in regard to several of the cases being fisheries-related.

In all cases the fisheries and coastal authorities, as well as resource users, were involved in the collation of information from secondary sources. The local knowledge of fishers and fisheries officers was incorporated through very informal community level interaction sessions.

In the case of Barbados the total fishery perspective of the Fisheries Advisory Committee was of a reasonably healthy industry due mainly to the status of regionally shared pelagics such as flyingfish and dolphinfish. However, inshore fisheries such as the sea urchin were generally badly depleted. In Grenada the lobster, coastal pelagic and tuna fisheries were all apparently in reasonable condition, but data for assessment were scarce. In Belize all of the resources of primary interest are under threat, but the fisheries authority and partners are attempting to take remedial action in all cases. The fisheries in these cases were small-scale and commercial, with well-developed domestic or international markets influenced by national and global policy and events (Figure 4.5).

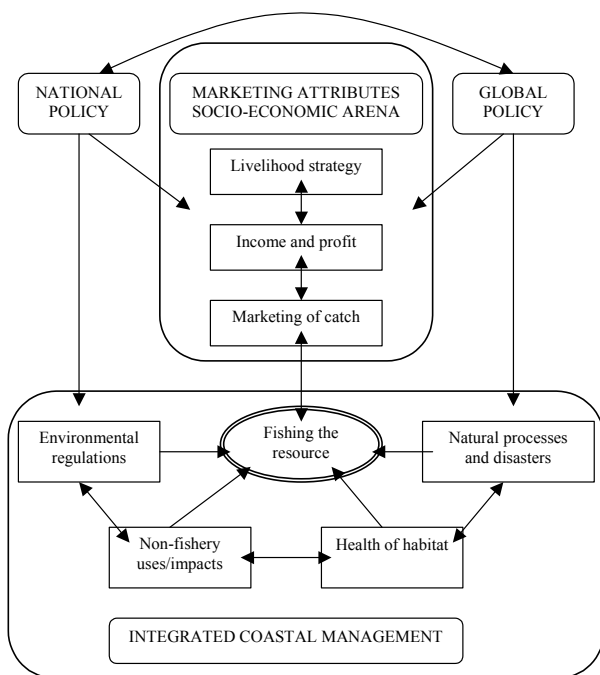


Figure 4.5 Framework for resource assessment

The participation in this component of the research was good, but the scarcity of accurate data and information on resource status or trends highlighted the deficiencies in the capacities of government authorities and other stakeholders to manage coastal and marine resources. This shortcoming is prevalent across the region and is addressed in the guidelines. In none of the cases were poverty or pollution issues prominent in the perspectives of the stakeholders.

4.4 Assessment of human systems

Assessment of human institutional systems paid much attention to scale, ensuring that case studies encompassed from community to national levels of co-management arrangements (Figure 4.6).

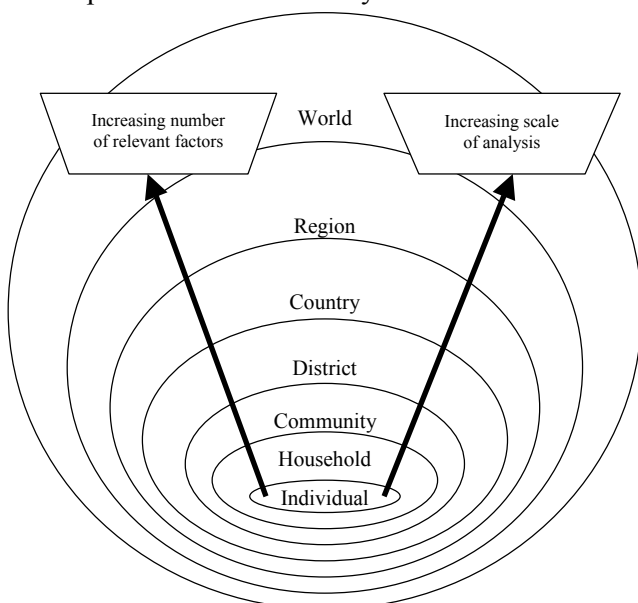


Figure 4.6 Number of factors to be addressed increases with scale of institutional analysis

The linkages between these scales were emphasised in workshops with participants. Participants were also exposed to the multidimensional nature of institutional assessments (Figure 4.7). The project sought to build the capacities of target institutions and beneficiaries to undertake co-management through a comprehensive understanding of the various circumstances faced by stakeholders. This was especially important for government management authorities that typically paid more attention to bio-physical, rather than socio-economic, aspects of resource use.

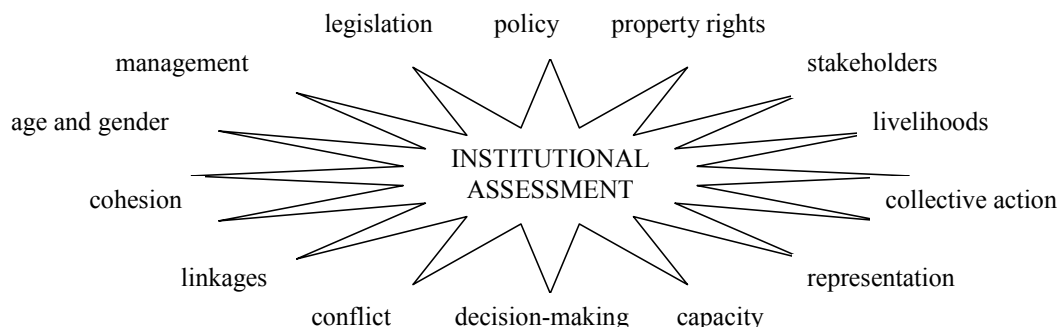


Figure 4.7 Some of the factors to be considered in institutional assessment

The case studies (Annex B) present information on the socio-economic and institutional aspects of the co-management initiatives, including characteristics of poverty. Human system characteristics were critical in compiling the guidelines for success, especially in terms of how to co-manage.

4.5 Comparative analysis

The comparative analysis drew attention to the similarities and differences among the six case studies, and incorporated information from other research on co-management in the Caribbean. Based on the research framework, the initiatives investigated were classified mainly as consultative, but with the intention or potential to become collaborative. There was only one example of delegated co-management (Table 4.2).

Table 4.2 Types of co-management in the six case studies

Case study	Type of Co-management	Notes
Barbados sea egg	Consultative	Elements of collaboration in some specific projects
Barbados Fisheries Advisory Committee	Consultative	Movement towards collaborative is to be sought
Belize Friends of Nature co-managed MPAs	Delegated	Established by a written agreement
Belize Fisheries Advisory Board	Consultative	Exhibits some characteristics of collaborative
Grenada lobster fishery at Sauteurs	Consultative	Plan for collaborative not attained
Grenada seine net fishery at Gouyave	Consultative	Little interest from fishers for collaborative

All three phases of implementation were evident, but half were at pre-implementation (Table 4.3).

Table 4.3 Phases of co-management in the six case studies

Case study	Phase of Co-management	Notes
Barbados sea egg fishery	Pre-implementation	Government and fishers still discussing how to proceed
Barbados Fisheries Advisory Committee	Implementation	Adjusting/adapting
Belize Friends of Nature co-managed MPAs	Implementation	Adjusting/adapting
Belize Fisheries Advisory Board	Post-implementation	Mature/strategies to address conflict in place
Grenada lobster fishery at Sauteurs	Pre-implementation	Will not advanced beyond current state in near future
Grenada seine net fishery at Gouyave	Pre-implementation	Will not advanced beyond current state in near future

The comparison across case studies of stakeholders' perceptions of conditions for successful co-management, in Table 4.4, provided information on what the main areas of weakness were, and what aspects of co-management the guidelines for success should focus upon.

Table 4.4 Stakeholders perceptions of critical conditions for successful co-management

Key: 0 = absent; 1 = present but weak; 2 = present to a fair extent; 3 = strong feature of the fishery

CO-MANAGEMENT CONDITION	Barbados	Belize FON	Belize FAB	Grenada
Clearly defined boundaries: of the resource; of the management area; of the "community"	2	3	1-2	1
Membership is clearly defined as to who really has a stake in the fishery (is a stakeholder)	3	2	2	3
There is shared recognition of a resource use problem that needs to be addressed	3	3	3	2
Clear objectives for management can be defined based on the problems and interests	3	3	3	3
Good fit between the scale of the resource and feasible management arrangements	2	2	2	1-2
Management approaches and measures are flexible to suit changing circumstances	1	2	2	2
Cooperation exists, and is adequate, at the resource user level and in government etc.	1	1	1	2
Leadership exists, and is adequate, at the resource user level and in government etc	1-2	1	2	2
Group cohesion where fishers, managers and others can act collectively within their groups	2	1	2	1
There are mechanisms for managing conflicts within and among stakeholder groups	1	2	2	1
Communication amongst the stakeholders is effective, and there is adequate networking	2	1	3	2

CO-MANAGEMENT CONDITION	Barbados	Belize FON	Belize FAB	Grenada
Coordination between government, local community and other stakeholders is effective	1	2	2	2
Trust and mutual respect characterise the relationships among the key stakeholders	0-1	1	1	2
Organisational capacity exists for all stakeholders to participate effectively in management	2	1	1	1
Adequate financial, and hence physical, resources are available for management tasks	2	1	1	1
External agents provide support for management but do not encourage dependency	3	3	3	2
Benefits of participation must exceed costs from the levels of individuals up to larger groups	2	2	2	1
Individuals, groups affected by management arrangements are included in decision-making	2	1	1-2	2
Management rules are enforceable by resource users and the management authority	3	2	2	2
Legislation gives users some meaningful level of ownership or control over resource use	0	1	1	0
Legislation gives users authority to make management decisions, perhaps shared	1	2	1	2
Decentralisation and delegation of authority is part of the policy of resource management	1	2	2	0
Co-management has a good social and cultural fit to the circumstances of the situation	1	2	2	1

The Barbados and Grenada cases provided a national perspective, whereas the Belize cases were sufficiently different to be considered separately. The results of the workshops on co-management conditions, along with the terminal workshops (Annex C) for all of the case studies, comparative analysis and guidelines concepts informed the content and style of the guidelines for successful co-management that form the major output of the project.

4.6 Guidelines and uptake

The researched case studies provide information and insight about Caribbean co-management that is incorporated into the guidelines for successful co-management. The wider literature review also makes a significant contribution. This broader perspective is essential given the limited experience with coastal resources co-management in the Caribbean from which lessons can be learned at this time. Many concepts are relevant globally, but need to be applied using local or regional contexts.

People who participated in this research emphasised that the guidelines should focus mainly on communicating key concepts and conditions for successful co-management. Many co-management initiatives in the Caribbean have only recently begun. 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.

The guidelines document (Annex B IX) contains information that most stakeholders should find useful. These stakeholders include fisheries and coastal managers and their staff; non-governmental organisations and community groups; fishers, tourism operators and other resource users; regional and international donor and development agencies; and national policy-makers. Recognising the regional diversity of coastal uses, the guidelines do not try 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. Invariably, the relative importance of these conditions will vary according to local conditions. The sections ask and answer questions that are arranged to present the key concepts and desirable conditions for achieving effective co-management arrangements (Figure 4.8).



Figure 4.8 Document map showing the flow of the guidelines' contents

The content and layout facilitate using the guidelines as a teaching aid or as notes for a multimedia presentation (one is produced as a companion to the guidelines). This meets the primary use for the guidelines according to the participants.

4.7 Communications

The project placed considerable emphasis on communications. Regular project updates were issued by means of a newsletter and presentations on each of the case studies at the terminal workshops (Annex C IX). A brochure promoting a responsible sea urchin fishery was produced (Annex C VIII). Email was used to exchange information with participants. This is important for building capacity because the use of email is still very limited in the Caribbean despite its efficiency and cost-effectiveness. Most important, however, were the face-to-face communications that occurred when conducting collaborative fieldwork and in workshops. In order to focus most attention on the main messages, emphasis will be on promoting the guidelines. Communication specialists for the follow-on uptake project (R8317) have reviewed the guidelines. They are written to be suitable for most audiences and are supported by a slide presentation.

5 Research activities

Six case studies and a comparative analysis are the main research outputs of the project and the guidelines are the main developmental tool produced. Four types of activities are highlighted.

5.1 Transfers of skills and concepts

Participatory action research places emphasis on building the capacities of local research partners. At each of the study sites there were government and NGO partners who helped to design and implement all aspects of the research. Transfers of skills and information on co-management resulted. This had impacts on the outlooks of individuals, and groups. The renewed interest of the Fisheries Advisory Committee of Barbados in achieving collaborative co-management is an example (Annex B II). This building of capacity also occurred through the methods below.

5.2 Document and data analysis

The project relied on sources of secondary data, and although research partners were aware of these sources they had not previously combined them to produce comprehensive analyses of both the resource and human systems. In all cases no previous attention had been paid to poverty issues, and this was a learning experience for the management authorities. The NGO partners were enlightened by working from the perspective of what management agencies require in order to effectively meet their mandates. In all cases, the local partners were better informed about the required capacities.

5.3 Surveys, informants and interviews

Most Caribbean locations have strong traditions of conversational communication. The project avoided extensive use of questionnaires especially since much of the research involved examining opinions on concepts and attitudes in ways that surveys could not readily capture. Surveys were done in Barbados and Grenada, and local research partners benefited from the practical experience.

5.4 Focus groups and workshops

Group research activities were the main methods used for exchanging information. Focus groups were held at all study sites to take advantage of the insight produced from interactive sessions. Workshops, included in the case study reports (Annex B), were held on topics such as leadership, conflict management and negotiation, strategic planning and crafting legislation. An important part

of this approach was to get potential co-management stakeholders together as much as feasible in order to observe and analyse the dynamics of these groups, and provide feedback to the members. Where there was infrequent interaction between the co-management stakeholders, the participants expressed interest in making such interaction possible on a regular basis in the future.

6 Environmental assessment

6.1 Significant environmental impacts

No significant negative or positive environmental impacts have resulted from the project to date. Positive impacts may include more responsible and sustainable resource use in the medium and longer terms due to improved coastal management enhancing social and economic conditions that typically facilitate further improvement in resource use and reduce environmental degradation.

6.2 Impacts of widespread dissemination and application

Widespread dissemination and application of research findings will have no negative environmental impacts. Positive impacts include a wider distribution of the benefits that are made more sustainable by constructive changes in pro-poor coastal resources governance through harmonisation of policy and practices of co-management on a regional scale.

6.3 Evidence of impacts

No tangible impacts have yet been detected or monitored. However, the methods of participatory action research resulted in some target institutions and beneficiaries (e.g. Barbados Fisheries Advisory Committee) becoming more receptive to collaborative co-management as shown by the outputs recorded during participatory strategic planning.

6.4 Follow up action

A NRSP follow-up uptake promotion project on “Pro-poor policies and institutional arrangements for coastal management in the Caribbean” is being implemented from September 2003 to February 2005. The Caribbean Conservation Association and the University of the West Indies will promote the guidelines for successful co-management in forums for coastal resource management, training and education. Other document outputs will be used as teaching material in the university system.

The Centre for Resource Management and Environmental Studies (CERMES) of the University of the West Indies (UWI) obtained a grant from the Oak Foundation for a new project on “Reforming Governance: Coastal Resources Co-management in Central America and the Caribbean”. This is being implemented from January 2003 to December 2005. The work of the Caribbean Coastal Co-management Guidelines Project was one component of the project justification. This has allowed CERMES to extend the research to Nicaragua and implement pilot projects for testing the outputs.

7 Contribution of outputs

The influence of the project ranged from individual to national levels, but spread throughout the Caribbean. Government agencies are key target institutions because centralised management has not effectively addressed coastal issues or involved resource users in decision-making. Agencies of government at the research sites were receptive to guidance from the project, as were resource users and other stakeholders at the community and national levels. At the latter level, the exceptions were top policy makers who, apart from Grenada, did not become involved in the research. Beneficiaries at management level, including government fisheries authorities and coastal zone units, fishers,

community leaders, local level organisations and NGOs became better prepared for their roles in co-management through participation in the project.

The purpose level OVI's require that at least two target institutions accept the guidelines, and are receptive to the views of the project on the bio-physical and socio-economic factors that favour or constrain successful co-management. An assessment of the situation is provided below (Table 7.1).

Table 7.1 Comments on achievement of purpose level OVI's

Case study	Comments on achievement of purpose level OVI's
Barbados sea egg fishery	Stakeholders are willing in principle to accept the guidelines, but there is resistance to property rights in any form, and the lack of enforcement of existing regulations creates conditions unfavourable to co-management beyond collaboration in data collection and use of local knowledge
Barbados Fisheries Advisory Committee	The FAC has already demonstrated acceptance of the guidelines by incorporating project advice into its strategic planning and deciding to aim for collaborative management; however there is no evidence that the government will engage with the FAC at policy level as is necessary
Belize Friends of Nature co-managed MPAs	The FON has already demonstrated acceptance of the guidelines by incorporating project advice into its strategic planning, and both of its government co-management partners are fully supportive of the views of the project as expressed at the terminal workshop. Lack of capacity may be the most serious constraint to the achievement of sustainability
Belize Fisheries Advisory Board	The current and past members of the FAB were highly supportive of the guidelines and its views on their institutional arrangements, but there is a high degree of uncertainty about the future given the prospect of the FAB being abolished or replaced due to the proposed transformation of the Fisheries Department into a statutory corporation in the near future
Grenada lobster fishery at Sauteurs	There is no serious commitment to establish co-management by either the government or resource users beyond a fairly basic level of regular consultation such as is presently the practice with all other fisheries. It is not that the principles of the guidelines and the views of the project are not accepted, but capacity to engage in co-management requires building
Grenada seine net fishery at Gouyave	There is acceptance of the guidelines and the views of the project by the resource users and fisheries authority, but it is uncertain whether policy-makers will be willing to make legislative changes necessary to create the civil arbitration panel recommended by the other stakeholders.

Attainment of the two purpose level OVI's is demonstrated most clearly by the Barbados FAC and the Belize MPAs. However, both of these targets are severely constrained in action by inadequate capacity, and the institutions of their co-management arrangements are dynamic.

A priority for support is to build capacity to ensure that even the poorest community members and groups (including women and youth) can make informed and empowered decisions concerning integrated coastal management. If the poor are enabled to make these meaningful contributions, their quality of life will improve. Capacity building and institutional strengthening were project components achieved in part through participation in the research, but much more has to be done.

Regarding follow-up, besides the initiatives mentioned in the previous section, participants at the terminal workshops stressed the need to not only distribute the guidelines, but to actively promote them through workshops at the community level. Ideally local agencies and stakeholders who took part in the project should do this, but assistance may be required in the form of training-of-trainer

initial workshops using the printed guidelines and companion visual presentation. Beneficiaries and target institutions also indicated their acceptance of the project recommendation of learning-by-doing in actually practising co-management through small joint activities. They suggested that funds for small grants be provided to support these activities. Given the early stages that most co-management initiatives are at, considerable support for successful co-management is required in the Caribbean.

8 Publications and other communication materials

8.1 Books and book chapters

Forthcoming in uptake the promotion project

8.2 Journal articles

Forthcoming in uptake the promotion project

8.3 Institutional Report Series

Not applicable, but see CCA newsletter article

8.4 Symposium, conference, workshop papers and posters

Baldeo, R., P. McConney, P. Phillip, P. Williams, S. Ferguson, J. St. Louis and M. Mitchell. 2002. *A co-management pilot project for the lobster fishery at Sauteurs, Grenada*. Paper presented at the 55th Gulf and Caribbean Fisheries Institute (GCFI) meeting, Xel Ha, Mexico, 11-16 November 2002. (In press)

McConney, P., R. Pomeroy and R. Mahon. 2002. *Caribbean coastal resources co-management - Part 1*. Paper presented at the 55th Gulf and Caribbean Fisheries Institute (GCFI) meeting, Xel Ha, Mexico, 11-16 November 2002. (In press)

McConney, P., R. Pomeroy and R. Mahon. 2002. *Caribbean Coastal Co-management Guidelines Project*. Conference of the Caribbean Conservation Association, Trinidad and Tobago, 28-28 November 2002. (In press)

Pomeroy, R. *Comparative analysis of co-management arrangements in the Caribbean*. Abstract submitted for presentation at the 56th annual meeting of the Gulf and Caribbean Fisheries Institute (GCFI), Tortola, British Virgin Islands, 10-14 November 2003. (Forthcoming)

Pomeroy, R. and T. Goetze. *Marine protected areas co-managed by Friends of Nature in Belize*. Abstract submitted for presentation at the 56th annual meeting of the Gulf and Caribbean Fisheries Institute (GCFI), Tortola, British Virgin Islands, 10-14 November 2003. (Forthcoming)

McConney, P., R. Pomeroy and R. Mahon. *Caribbean coastal resources co-management - Part 2: Guidelines for success*. Abstract submitted for presentation at the 56th annual meeting of the Gulf and Caribbean Fisheries Institute (GCFI), Tortola, British Virgin Islands, 10-14 November 2003. (Forthcoming)

McConney, P., R. Pomeroy and R. Mahon. *Contortions in the co-management of small-scale fisheries in the Caribbean*. Posterr presentation at the 4th World Fisheries Congress, Vancouver, British Columbia, Canada from 2 - 6May, 2004. (Forthcoming)

8.5 Newsletter articles

CCA. 2002. *Caribbean coastal co-management guidelines project*. Caribbean Conservation Association Newsletter: 6 pp.

R8134. 2002. *Caribbean coastal co-management guidelines project: Information updates*. Project newsletter. Bi-monthly issues distributed electronically and in hard copy (see Annex C)

8.6 Academic theses

James, C. 2003. *Comparative case study analysis of coastal resources co-management in the wider Caribbean region*. M.Sc. Thesis. Cave Hill, Barbados: University of the West Indies. (Submitted)

8.7 Extension leaflets, brochures, policy briefs and posters

Sea urchin fishery management. Barbados

8.8 Manuals and guidelines

McConney, P., R. Pomeroy and R. Mahon. 2003. *Guidelines for coastal resource co-management in the Caribbean: Communicating the concepts and conditions that favour success*. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 56pp.

8.9 Media presentations (videos, web sited papers, TV, radio, interviews etc)

Interview by St. Lucia TV regarding sea urchin co-management workshop

PowerPoint presentation of guidelines

PowerPoint presentations of case studies

8.10 Project reports and data records

8.10.1 Citation for the project Final Technical Report (FTR)

Caribbean Conservation Association. 2003. *Final Technical Report. Developing guidelines for successful co-management in the Caribbean*. St Michael, Barbados: Caribbean Conservation Association

8.10.2 Project technical reports (e.g. internal workshop papers and proceedings)

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

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. 69pp.

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.

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: the 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

CCA and CANARI. 2003. *Learning from sharing and comparing experiences in sea urchin management in Barbados and St. Lucia*. St Michael, Barbados: Caribbean Conservation Association.

CCA. 2002. *Description of the trammel net lobster fishery at Sauteurs, Grenada*. St Michael, Barbados: Caribbean Conservation Association.

CCA. 2002. *Final progress report on implementation of the co-management pilot project*. St Michael, Barbados: Caribbean Conservation Association.

CCA. 2002. *Interim progress report on implementation of the co-management pilot project*. St Michael, Barbados: Caribbean Conservation Association.

CCA. 2002. *Recommendations for the completion of the Grenada fishery management plan for lobster*. St Michael, Barbados: Caribbean Conservation Association.

CCA. 2002. *Report of the workshop on leadership for fishing industry organisations*. St Michael, Barbados: Caribbean Conservation Association.

CCA. 2002. *Report of the workshop on negotiation and conflict management for the Sauteurs lobster fishery*. St Michael, Barbados: Caribbean Conservation Association.

CCA. 2002. *Report of the workshop on responsible fisheries alternatives*. St Michael, Barbados: Caribbean Conservation Association.

8.10.3 Literature reviews

McConney, P. 2002. *Co-management literature review and project research framework*. St Michael, Barbados: Caribbean Conservation Association. 15 pp.

8.10.4 Scoping studies

McConney, P. 2002. *Supplementary report on preliminary research site selection criteria*. St Michael, Barbados: Caribbean Conservation Association. 5 pp.

8.10.5 Datasets, software applications

Study sites survey results restricted access data sets

Barbados, Belize and Grenada research bibliography

8.10.6 Project web site and/or other project related web addresses

Sites under construction are: <http://www.ccanet.net>; <http://www.cermes.cavehill.uwi.edu>

9 References cited

- Chakalall, B., R. Mahon, and P. McConney. 1998.** Current issues in fisheries governance in the Caribbean Community (CARICOM). *Marine Policy* 22: 29-44.
- 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 [unpublished]
- McConney, P. 2002.** *Co-management literature review and project research framework*. Caribbean Conservation Association, Barbados 15 pp. [unpublished]
- McConney, P.A. 1999.** Organising fisherfolk in Barbados without completing a clean round. *Proceedings of the Gulf and Caribbean Fisheries Institute* 52: 290-299
- 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.
- 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, Phillippines. *Ocean and Coastal Management* 44: 683-710.
- 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. 1998.** A process for community-based co-management. *Asian Fisheries Social Science Research Network News*. ICLARM Contribution #1448: 71-76.
- 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* 21: 445-464.
- 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
- 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.

10 Project logframe

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
Goal			
NRSP-LW Output 1: Improved resource-use strategies in coastal zone production systems developed and promoted	By 2003, new approaches to integrated natural resource management and prevention of pollution that explicitly benefit the poor validated in two targeted areas in the Caribbean By 2005, these new approaches incorporated into	Reviews by Programme Manager Reports of research team and collaborating/target institutions Appropriate dissemination products Local national and	Target beneficiaries adopt and use strategies Enabling environment exists Budgets and programmes of target institutions are sufficient and well managed

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
	strategies for the management of coastal resources and adopted by target institutions in one targeted region (the Caribbean)	international statistical data Data collected and collated by programme manager	
Purpose			
Mechanisms for implementation of integrated pro-poor natural resource (and pollution prevention) management in coastal zones developed and promoted through understanding the requirements for establishing successful co-management institutions for coastal resources under various conditions in the Caribbean	By 2003, at least 2 target institutions engage with guidelines (generated by the project process) for the requirements for establishing successful co-management institutions for pro-poor, integrated management of coastal resources under various conditions in the Caribbean By 2003, at least 2 target institutions show evidence of receptivity to the project's views on the biophysical and human factors that favour or constrain the establishment of successful co-management institutions for coastal resources relevant to the livelihood opportunities of poor people under various conditions in the Caribbean	DFID review and evaluation reports Final reports of the target institutions and beneficiaries evaluations Local and national policy statements and media reports on resource management	Commitment of target country authorities to devolution reflected at the local level. Ability of government to elicit flexibility in the attitudes of vested interests Absence of acts of God or terrorism that divert resources away from coastal resource governance
Outputs			
1. Understanding of the requirements for establishing successful co-management institutions for coastal resources developed in the form of a research framework	Literature reviewed and research framework developed by month 1 Research framework guides and justifies final selection of case study sites by month 2	Project inception report with research framework included Project reports, working papers	Information is available in sufficient relevant detail to develop the framework
2. Ecological and environmental characteristics of the natural resource systems and their utilisation at selected Caribbean sites comprehensively defined including a comparative assessment between sites	At least one characterisation report for each selected site and one overview report produced on the natural resource systems and their utilisation by month 7	Project reports, working papers, information notes	Natural resource systems are in a fairly normal state not impacted by catastrophe
3. Better understanding of the institutional, socio-economic, cultural, political and other human dimensions of natural resource utilisation at the selected Caribbean sites developed	At least one characterisation report for each selected site and one overview report produced on the human systems by month 7.	Project reports, workshops proceedings, working papers, information notes	Resource users and stakeholders willing and able to participate in the research

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
<p>4. Improved and in-depth understanding of how the natural resource and human factors assessed in 2 and 3 favour or constrain the establishment of successful, pro-poor and integrated co-management at selected sites with application to the wider Caribbean developed and refined with key stakeholders through participatory processes</p>	<p>Evaluation of site-specific success factors and their application to the wider Caribbean completed by month 9</p> <p>At least 3 key stakeholders agree on co-management norms that can enable sustainable pro-poor regimes</p> <p>Guidelines developed by month 12</p>	<p>Project reports, workshops proceedings, working papers, information notes</p>	<p>Regionally useful success factors can be identified on the basis of the sites selected</p>
<p>5. Regionally applicable guidelines on mechanisms to enhance favourable conditions and overcome constraints to establishing successful, pro-poor and integrated co-management distributed and promoted in selected sites and the wider Caribbean</p>	<p>Uptake promotion plan developed by month 12</p> <p>Uptake promotion plan progressively implemented during course of project with wide distribution of guidelines by month 15</p>	<p>Project reports, workshops proceedings, working papers, information notes</p> <p>Guidelines document</p>	<p>Diversity of conditions throughout the region permits a realistic regional synthesis</p>
<p>6. Both willingness and capacity of target institutions and beneficiaries to improve co-management developed through the project's participatory processes</p>	<p>Plan for participatory development of guidelines transacted and implemented with key stakeholders onwards from month 2</p> <p>Necessary training provided to at least 3 key stakeholders by month 9</p> <p>Positive statements on uptake from target institutions and beneficiaries made by month 15</p>	<p>Interim and terminal workshops' proceedings, project reports</p> <p>Workshops evaluation reports</p>	<p>Target institutions and beneficiaries accept guidelines and participate in the active uptake of project outputs</p>
Activities	Budget and milestones		
<p>1.1. Development of research framework</p> <p>1.1.1. Review proposal (RD1) preliminary site selection criteria and additional literature on co-management, ICZM (including pollution) and pro-poor strategies for coastal communities in the Caribbean (consult with R7976 and R7668)</p> <p>1.1.2. Review proposal (RD1) preliminary site selection criteria plus additional literature on conditions that favour or constrain successful coastal comanagement internationally, and research frameworks used for investigation (consult with other co-management</p>	<p>See sub-activities</p> <p>Working paper on findings from the Caribbean literature produced in month 1</p> <p>Working paper on findings from the international literature and the research framework to be used produced in month 1</p>		<p>Access to research frameworks used in other projects</p> <p>Literature is available and accessible</p> <p>Literature is available and accessible</p>

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
projects worldwide e.g. DFID, ICLARM, MRAG including R7834).			
<p>1.2. Select case study sites based on 1.1.1 and 1.1.2 in areas where: (i) livelihoods of poor people depend on diverse natural coastal resources, (ii) the need for ICZM and pollution management is apparent, and (iii) there is strong interest in coastal co-management and pro-poor strategies which are not yet fully implemented. Sites will be selected that are representative of the regional diversity.</p> <p>1.3. Site selection confirmed with target institutions and project collaborators, and partnership agreements concluded</p> <p>1.4. Inception workshops with target institutions and beneficiaries at selected sites to introduce project and plan activities</p>	<p>Site selection criteria and short list of up to 3 sites available by end of month 1</p> <p>Target institutions and project collaborators informed of sites selected and agreement to participate concluded by month 2</p> <p>Project introduced and detailed activities planned with target institutions and beneficiaries by month 2</p>		<p>Selection criteria applicable to the Caribbean can be developed on the basis of available literature</p> <p>Sites meeting the selection criteria are feasible for this research</p> <p>Target institutions and beneficiaries are willing and able to participate</p>
<p>2.1. Assessment of the natural resources and their utilisation at sites</p> <p>2.1.1. Site-specific literature review and scoping</p> <p>2.1.2. Environmental and ecological system assessment conducted with attention to local ecological knowledge</p> <p>2.1.3. Fishery and other resource use assessment conducted with attention to local customary practices</p> <p>2.1.4. Evaluation completed of local and national marketing and other economic linkages impacting on benefits from resource use and management, noting role of gender</p>	<p>See sub-activities</p> <p>Site-specific review and scoping completed by month 2</p> <p>Ecosystem assessment completed by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Resource use assessment completed by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Marketing and economic linkages documented by month 7 Findings incorporated into comparative analysis by month 8</p>		<p>Literature and locations are easily accessible</p> <p>Local knowledge is available and shared with this project</p> <p>Customary practices exist and are shared with this project</p> <p>Statistics and other means of measurement are made available</p>
<p>3.1. Assessment of human institutional, socio-economic, cultural and political characteristics at selected sites, partly through participatory processes such as workshops</p> <p>3.1.1. Site-specific</p>	<p>See sub-activities</p>		

(Revised) FTR: Caribbean coastal co-management guidelines project — Caribbean Conservation Association

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
<p>literature review and scoping</p> <p>3.1.2. Identify existing property right systems and trends in changes</p> <p>3.1.3. Conduct stakeholder analyses and profile personal and household livelihood strategies and options of resource users, especially the poor, young people, and women</p> <p>3.1.4. Evaluate aspects of collective action, including assessment of stakeholder groups cohesion and conflict management</p> <p>3.1.5. Determine nature of representation and decision-making in stakeholder groups including analysis of power in relationships</p> <p>3.1.6. Review policy, legislation, accepted practices impacting management decision-making structures and processes at both local and national levels</p> <p>3.1.7. Assess present institutionalised local and national resource management, any existing arrangements for co-management, and the nature of co-management desired by various stakeholders</p> <p>3.1.8. Identify the institutional capacities and linkages within the society and economy that impact upon the livelihoods of the poor and coastal resource management including pollution control at sites</p>	<p>Site-specific review and scoping completed by month 2</p> <p>Identification of property rights completed by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Surveys on stakeholder analyses finished by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Collective action evaluation completed by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Analyses of representation, decision-making and power done by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Multilevel reviews of policy, legal instruments and custom completed by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Institutional arrangements for management assessed through stakeholder participatory processes by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Institutional capacities and linkages that impact on the poor and resource management identified by month 7 Findings incorporated into comparative analysis by month 8</p>	<p>Site-specific review and scoping completed by month 2</p> <p>Identification of property rights completed by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Surveys on stakeholder analyses finished by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Collective action evaluation completed by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Analyses of representation, decision-making and power done by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Multilevel reviews of policy, legal instruments and custom completed by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Institutional arrangements for management assessed through stakeholder participatory processes by month 7 Findings incorporated into comparative analysis by month 8</p> <p>Institutional capacities and linkages that impact on the poor and resource management identified by month 7 Findings incorporated into comparative analysis by month 8</p>	<p>Literature and locations are easily accessible</p> <p>Property rights are identifiable</p> <p>Stakeholders are willing to participate in this research</p> <p>Evidence of collective action can be found</p> <p>Decision-making can be observed or useful records are available</p> <p>Authorities share this information</p> <p>Stakeholders are willing and able to participate</p> <p>Adequate data available</p>
<p>4.1. Comparative analysis of human and natural resource assessments at the selected sites based on 2.1 and 3.1</p> <p>4.2. Develop definitions and criteria for successful co-management based on research at selected sites</p> <p>4.3. Participatory analysis to determine the critical conditions and processes, and</p>	<p>Findings from 2.1 and 3.1 sub-activities analysed within and among selected sites and reported upon by month 8</p> <p>Definitions and criteria for successful co-management completed by month 8</p> <p>Workshops to determine the critical conditions and processes, and indicators of those conditions and processes, that favour or</p>	<p>Findings from 2.1 and 3.1 sub-activities analysed within and among selected sites and reported upon by month 8</p> <p>Definitions and criteria for successful co-management completed by month 8</p> <p>Workshops to determine the critical conditions and processes, and indicators of those conditions and processes, that favour or</p>	<p>Similarities and differences are sufficient to make comparison meaningful</p> <p>Commonalities are sufficient for consensus to be reached</p> <p>Consensus can be reached through group processes</p>

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
indicators of those conditions and processes, that favour or constrain establishing successful co-management at the selected sites based on 4.1 and 4.2	constrain establishing successful co-management completed by month 9		
<p>5.1. Assess the capacity required by stakeholders to effectively develop and promote mechanisms for establishing successful co-management in the wider Caribbean based in part on 1.1.1 and 4.3</p> <p>5.2. Develop draft action-oriented guidelines for the successful development and implementation of co-management in the wider Caribbean</p> <p>5.3. Identify and agree on appropriate project output uptake pathways with project partners, target institutions and other beneficiaries</p> <p>5.4. Terminal workshops at selected sites to share project outputs and promote use of the uptake mechanisms identified</p> <p>5.5. Final guidelines document and uptake plan produced on basis of terminal workshops, and distributed</p> <p>5.6. Produce a series of electronic and printed information notes on the project throughout implementation to foster interest and participation</p>	<p>Wider Caribbean extrapolation of required co-management capacity completed by month 10</p> <p>Incorporating 5.1, draft guidelines available for discussion by month 12</p> <p>Incorporating 5.3, uptake pathways identified and agreed upon among participants by month 12</p> <p>All previous outputs fed into terminal workshops held by month 13</p> <p>Final guidelines and uptake document completed and distributed by month 15</p> <p>Printed and electronic project information made available regularly from months 1 to 15</p>		<p>Information is sufficient to extrapolate from sites to the wider Caribbean</p> <p>Previous outputs provide sufficient information to develop guidelines</p> <p>Participants are interested in the uptake of outputs</p> <p>Target institutions and beneficiaries are willing and able to participate</p> <p>Workshops assist in refining uptake and guidelines</p> <p>Interested parties able to access communications</p>
6.1. Involve target institutions, beneficiaries and other potential uptake agents in as many of the above project activities as feasible in order to build practical capacity and to facilitate follow-up action	Target institutions, beneficiaries and other potential uptake agents participate regularly in activities from months 1 to 15		Target institutions and beneficiaries are willing and able to participate
		Pre-condition	Coastal resource co-management remains a priority for the Caribbean

11 Keywords

Caribbean, coastal, co-management, communicating, fisheries, guidelines, marine protected area

(Revised) FTR: Caribbean coastal co-management guidelines project — Caribbean Conservation Association

12 Annexes

Annex A: Scientific report

Introduction

The purpose of the Caribbean Coastal Co-management Guidelines Project is to ensure that mechanisms for implementation of integrated pro-poor natural resource management in coastal zones are developed and promoted. This is assisted by understanding the requirements for establishing successful co-management institutions for coastal resources under various conditions in the Caribbean. These ideals reflect the policy and objectives of the United Kingdom (UK) Department for International Development (DFID) on eliminating world poverty. The project is part of the Natural Resources Systems Programme (NRSP) Caribbean programme for Land Water Interface (LWI) production systems. This component of the NRSP has the purpose: “Benefits for poor people in targeted countries generated by application of new knowledge to natural resources management in the land water interface”. It entails:

- An understanding of livelihood strategies;
- An understanding of natural resource management opportunities;
- Identification of the means to implement management opportunities relevant to the poor.

The project is a response to a September 2001 call for proposals from the NRSP to implement parts of the LWI logical framework (or logframe) (Box 1).

Box 1 Structure of call for proposals

Output 1: Improved resource-use strategies in coastal zone production systems developed and promoted

Activity 1.3: Mechanisms for implementation of integrated pro-poor natural resource (and pollution prevention) management in coastal zones developed and promoted

Sub-activity 1.3.1: Mechanisms for the improvement of sustainable livelihood outcomes for poor people living in coastal zones through integrated participatory resource management and prevention of pollution developed and promoted

Sub-activity 1.3.1, milestone (b): Understanding the requirements for developing successful co-management initiatives and mechanisms for promoting them

Target region: Caribbean

Source: DFID-Natural Resource Systems Programme

Project implementation is lead by the Caribbean Conservation Association (CCA) under its Coastal and Marine Management Programme (CaMMP). Project partners are the Marine Resources Assessment Group Ltd. (MRAG) of the UK and the University of the West Indies (UWI) Cave Hill Campus in Barbados where the CCA has its office. The original execution period was 1 April 2002 to 30 June 2003 (15 months) with a budget of £87,112 (or approximately \$125,000 US dollars).

The Caribbean Coastal Co-management Guidelines Project seeks to ensure that people in the Caribbean, especially the poor, can effectively engage in successful partnerships with government for sustainable livelihoods in the context of well-managed coastal resources. The study addresses both the natural resource and human institutional aspects of co-management. Through a series of participatory investigations in case studies of conditions that favour, or do not favour, the co-

management of coastal and marine resources at selected sites, the project derives guidelines for developing successful co-management in the Caribbean. Uptake is promoted by interaction with target institutions and potential beneficiaries, and wide dissemination of outputs. The project’s main activities are listed below.

1. Selection of co-management analysis research framework
2. Ecological and environmental assessments of the natural resource systems and their utilisation
3. Institutional, socio-economic, cultural, political and other human dimension assessments
4. Comparison of how the natural resource and human factors assessed in 2 and 3 favour or constrain the establishment of successful, pro-poor and integrated co-management
5. Development of regionally applicable guidelines on successful, pro-poor and integrated co-management in the wider Caribbean
6. Capacity of target institutions and beneficiaries for co-management built through project participatory processes

Methods

This section sets out concepts that guide the research based on previous work in coastal co-management around the world. It sets the stage for presenting the case study results.

Definitions and concepts

Definitions of co-management focus on sharing management responsibility and authority between government and stakeholders (e.g. Pinkerton 1989; McConney 1998; Brown and Pomeroy 1999; Pomeroy 2001; Berkes et al. 2001). The fundamentals of what co-management should be, and is in practice, have been extensively researched (Jentoft 1989; Kuperan and Abdullah 1994; Pomeroy and Berkes 1997). Co-management encompasses several possible arrangements that are often depicted as a scale constructed from the relative sharing of responsibility and authority between government and stakeholders (Pomeroy and Berkes 1997; Berkes et al. 2001) (Figure 1).

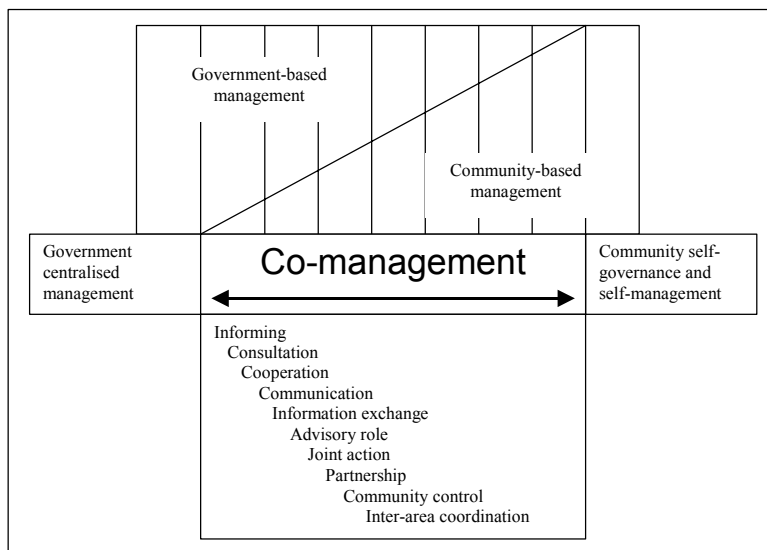


Figure 1 Sliding scale showing various degrees of co-management

As for participation (Arnstein 1969), there are various positions on the scale, and authors use different terms for co-management and its degrees. For example, the Caribbean Natural Resources Institute (CANARI) uses “participatory management” (see extensive document list at

www.canari.org). The terms participatory management or co-management are gaining popularity in Caribbean government and NGO circles, and among some resource users (Almerigi et al. 1999; CANARI 1999d; CANARI 2000b; CANARI 2001; CCA 2001). These concepts, however, are not always fully understood by their users (also see Terminal Workshops Report). Conceptual and practical research issues therefore include the degrees of co-management and which terms to use.

Based on international and Caribbean literature it was determined that three degrees and labels would be appropriate (Figure 2). The first is “consultative co-management” which represents what is most common in several locations (Brown and Pomeroy 1999). People commonly use and understand the term consultation.

	Consultative co-management	Collaborative co-management	Delegated co-management	
<i>Government has the most control</i>	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	<i>People have most control</i>

Figure 2 Degrees and labels of co-management

Adapted from: ICLARM and IFM 1998

Next is joint action and decision-making. This is where several countries seem to be headed. The term “collaborative co-management” was preferred to “cooperative co-management” because it connotes stronger partnerships, and the use of “cooperative” may be confused with the formal organisation types of the same name (Kurien 1988; McConney et al. 1998).

Third is “delegated co-management” that includes, but is not limited to, community-based management since national co-management structures are especially common in fisheries management (Jacobs 1998; McConney and Mahon 1998). Few cases in the Caribbean appear to be at this level, but it is not uncommon in other areas of the world (Baird 2000).

Establishing successful co-management is seldom immediate. Like most participatory processes it takes time and careful tending. Pomeroy (1998) recognises three phases of co-management and describes the sequence of steps within these in some detail. A simplified version is in Figure 3.

Pre- implementation →	Implementation →	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	Accept as standard practice

Figure 3 Phases of co-management

Like cases in Africa (Normann 1998; Sverdrup-Jensen and Nielsen 1999), the Caribbean is generally at the pre-implementation or early implementation phase (McConney and Mahon 1998; McConney 1998). A few situations such as the Soufriere Marine Management Area (Renard 2000) may be mature enough to be labelled post-implementation. A very significant consequence is that neatly comparing “before” and “after” conditions arising from a co-management intervention such

as a discrete project will be less feasible in the Caribbean than in Asia where much of the literature on methodology originates (e.g. Pomeroy and Carlos. 1997; Pomeroy et al. 2001).

Research framework

The International Centre for Living Aquatic Resources Management (ICLARM) and Institute for Fisheries Management and Coastal Community Development (IFM) (ICLARM and IFM 1998) developed the methodology referred to above for the African and Asian cases (Figure 4).

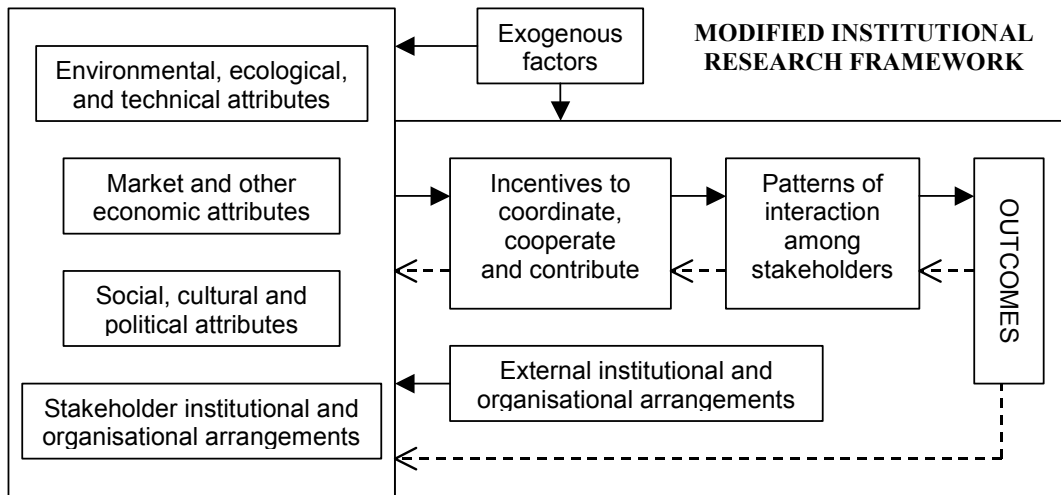


Figure 4 Modified ICLARM/IFM Institutional Analysis and Design Research Framework

The main analyses conducted within the framework are in Box 2. They are reflected in the logical framework for this project in terms of the assessments to be performed. Institutional analyses are of critical importance in researching co-management (Renard 1991a ;Noble 2000).

Box 2 Main analyses included in the framework

1. Institutional Arrangements Analysis: This component links contextual variables characterizing key attributes of the resource (biological, physical) and the resource users (technology, market, social, cultural, economic, political) with the management institutional arrangements (rights and rules). The contextual variables are each composed of a number of attributes. A causal relationship exists among and between the contextual variables, the institutional arrangements (the focus of the analysis) and the resulting transactional (action) situations. The institutional arrangements and the contextual variables affect the actions of the resource users and authorities responsible for fisheries management by shaping the incentives and disincentives they have to coordinate and cooperate in resource governance, management and use; the incentives, in turn, shape the patterns of interaction and behaviour between the co-management partners, i.e. the types of co-management arrangement established and the way it functions.
2. Co-management Performance Analysis: The co-management arrangement results in outcomes. These outcomes will, in turn, affect contextual variables as well as behaviour of resource users, other stakeholders and public authorities. Time is a critical element. All the contextual variables can change through time. This may cause change in institutional arrangements which, in turn, affect incentives, patterns of interaction and outcomes. The outcomes of co-management institutional

arrangements can be evaluated in terms of e.g. management efficiency, equity, and sustainability of resource utilisation.

3. Characteristics of Successful Co-management Institutional Arrangements: The most important aspect of this analysis is the specification of what conditions and processes bring about successful long-enduring, fisheries co-management arrangements. From the analysis we can identify a list of principles and propositions about conditions and processes.

Source: ICLARM and IFM 1998

This project pays particular attention to integrated and pro-poor coastal management.

Fieldwork

The general action research methods used in the case studies include.

- ◆ Document analysis
- ◆ Questionnaire surveys
- ◆ Semi-structured interviews
- ◆ Focus groups, informants
- ◆ Workshops and seminars
- ◆ Periodic e-mail, newsletters
- ◆ Transfer of skills and concepts

The examples of co-management examined in this project are mainly at pre-implementation or early implementation phases. Emphasis is therefore placed on understanding the conditions and factors for successful co-management as perceived by the stakeholders at the research sites, but also supported by empirical evidence from initiatives at more advanced phases of development in other regions of the world. Effort was also directed towards promoting the uptake of concepts and practices that may lead to co-management success. This is participatory action research.

Results, Discussion and Conclusions

In order to avoid duplication please refer to the documents in Annex B. Each case study contains more comprehensive introduction and methods sections. The six case study reports provide detailed results, discussions and conclusions by site. The comparative analysis draws lessons from these combined with other studies of co-management from around the Caribbean region. Finally, the guidelines for successful co-management set out recommendations that should assist in establishing, strengthening and sustaining coastal resource co-management institutions. A PowerPoint™ presentation was developed to assist in communicating the guidelines.

Annex B: Supporting material

Each of the below is a separate document. Print and electronic versions are supplied with this FTR.

B I. Co-management literature review and project research framework

McConney, P. 2002. *Co-management literature review and project research framework*. Caribbean Conservation Association, Barbados 15 pp.

B II. Barbados case study: Fisheries Advisory Committee

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.

B III. Barbados case study: Sea egg fishery

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.

B IV. Belize case study: Marine protected areas co-managed by Friends of Nature

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. 69pp.

B V. Belize case study: Fisheries Advisory Board in the context of integrated coastal management.

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.

B VI. Grenada case study: the lobster fishery at Sauteurs

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

B VII. Grenada case study: the legalisation of beach seine traditional rules at Gouyave

McConney, P. 2003. *Grenada case study: the legalisation of beach seine traditional rules at Gouyave*. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 70pp.

B VIII. Comparative analysis of coastal resource co-management in the Caribbean

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

B IX. Guidelines for coastal resource co-management in the Caribbean

McConney, P., R. Pomeroy and R. Mahon. 2003. *Guidelines for coastal resource co-management in the Caribbean: Communicating the concepts and conditions that favour success*. Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 56pp.

Annex C: Communications materials

Electronic copies of these items are supplied as supplements to this report.

C I. Information Update 10 June 2003

C II. Information Update 3 March 2003

C III. Information Update 26 January 2003

C IV. Information Update 6 January 2003

C V. Information Update 26 November 2002

C VI. Information Update 25 September 2002

C VII. Information Update 15 July 2002

C VIII. Sea urchin fishery management brochure

C IX. Summary report of the project terminal workshops

CCA/UWI/MRAG. 2003. *Summary report of the project terminal workshops held in Barbados, Grenada and Belize on 19, 22 and 28 May 2003.* Caribbean Coastal Co-management Guidelines Project. Caribbean Conservation Association, Barbados. 47pp

Annex D: Inventory

Items of over £500 in value

Item	Make and Model	Serial No*	Date received	Purchase price	Location	Person Responsible for Safe Keeping
Video camera	Sony DCR- TRV18	S0103329339	29 Sep 2002	\$899.00 USD or £586.72	Barbados Fisheries Division	Chief Fisheries Officer
Multi-media projector	In Focus LP70	ACAN25100459	15 Feb 2003	US\$2,649.00 or £1,676.58	CERMES	Patrick McConney

Note: All items presently in care of Patrick McConney at CERMES are in use on behalf of CCA

Completed by Patrick McConney

Signature

Date 31 July 2003

Annex E: Guidelines slide presentation

The guidelines document serves a source of presentation notes. An electronic copy of the slide presentation is supplied as a supplement to this FTR.