

CERMES Technical Report N° 5 Suppl.

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

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

A project funded by the Oak Foundation

Supplementary Volume of Appendices

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1. INTRODUCTION

This volume of appendices supplements the Final Report of the Coastal Resources Co-management Project (CORECOMP). It contains outputs from the project that are not sufficiently large or substantial to be provided as stand-alone documents. They are bundled together here for convenience by country. The reference section in the final report and its Appendix 2 sets out the proper citations and the activities that produced them. In many cases the original documents were produced by project partners. Editing was kept to the minimum needed for these documents to be integrated into this volume, but retaining original formatting and content where possible. Several additional stand-alone output documents are on the project CD. Not all graduate research was available for inclusion. Papers presented at the meetings of the Gulf and Caribbean Fisheries Institute (GCFI) will be published in their Proceedings.

2. BARBADOS

2.1 Brochure on ICCAT

This brochure was created jointly by the Fisheries Division and Barbados National Union of Fisherfolk Organisations (BARNUFO) to inform fisherfolk about the management of large pelagic fishes in support of the 2004-2006 Fisheries Management Plan (FMP). Ms Kimberly Baldwin of CERMES assisted design.



ADDITIONAL INFORMATION

You can find out more about ICCAT regulations directly at:

www.ICCAT.es

OR

For more information on ICCAT you can contact:

Fisheries Division
Ministry of Agriculture and Rural Development,
Princess Alice Highway,
Bridgetown,
Barbados.
Tel. 426-3745, 426-5973 or 427-8480
Fax 436-9068
E-mail to fishbarbados@caribsurf.com

This brochure is produced for your information by the Barbados Fisheries Division in collaboration with the Barbados National Union of Fisherfolk Organisations (BARNUFO) and is sponsored by the OAK Foundation through the Centre for Resource Management and Environmental Studies (CERMES), University of the West Indies.

Paintings courtesy of Ricky Cada (www.fishbase.org)

Copies of the Fisheries (Management) Regulations, 1998, may be obtained from:

The Government Printing Department,
Bay Street,
St. Michael.

ICCAT
International
Commission for the
Conservation of
Atlantic
Tunas



**How Does It
Affect Barbadian
Fishermen?**

DISCLAIMER

This brochure is purely for general information and has no legal force or effect. For legal purposes reference must be made to the relevant regulations.

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WHAT IS ICCAT?

ICCAT is an inter-governmental organisation responsible for:

- Coordinating stock assessments
- Conducting research
- Collecting fishery statistics
- Developing scientific-based management advice
- Producing relevant publications

from all countries that harvest the 30 Atlantic tuna and tuna-like species under its control.



ICCAT species harvested by Barbadian fishermen are:

Yellow-fin Tuna
Albacore
Big-eye Tuna
Swordfish
Billfishes (Blue & White Marlin and Sailfish)
Frigate Tuna & Bonito

These species are mainly targeted by the local longline vessels.

HOW DOES ICCAT MANAGE THESE FISHERIES?

ICCAT manages these species by:

- Setting limits on the numbers of vessels involved in the fishery
- Closing some areas from fishing
- Banning fishing during certain times of the year or breeding seasons
- Setting limits on the types of gear that can be used in the fisheries
- Setting minimum size limits (weight or length) of fish that can be landed
- Setting limits on the total weight of the fish that can be landed by each country (catch quotas)

ICCAT can recommend trade sanctions against countries whose fishers do not comply with the management measures.



Trade sanctions can result in the closure of the export markets for ICCAT species.

HOW CAN LOCAL FISHERS WORK WITH ICCAT TO CONSERVE THESE VALUABLE FISH STOCKS & AVOID TRADE SANCTIONS?

- Keep abreast of all ICCAT regulations
- Comply with ICCAT's management regulations
- Supply the Fisheries Division with the required accurate information on their catches to pass on to ICCAT when necessary
- Obey the current local regulations in keeping with those of ICCAT

LOCAL REGULATIONS

The Fisheries (Management) Regulations, 1998, make it **illegal** to:

- Land Yellow-fin or Big-eye Tuna weighing less than 3.2 kgs total weight.

The penalty for breaking this law is a fine of up to **\$50,000** or two years imprisonment, or both.

A Certificate of Eligibility (COE) obtainable from the Fisheries Division is required for export of swordfish to the United States.

- Only whole swordfish or pieces weighing more than 33 kgs are eligible for export.

3. BELIZE

3.1 TASTE Marine Protected Area (MPA) Management Workshop, June 2003

Report of the Workshop on Marine Protected Area (MPA) Management

Punta Gorda, 17-18 June 2003
hosted by the
Toledo Association for Sustainable Tourism and Empowerment (TASTE)



*Centre for Resource Management and Environmental Studies
The University of the West Indies, Cave Hill Campus, Barbados*

*Coastal Resources Co-management Project (CORECOMP)
Funded by the Oak Foundation*

2003

Introduction

The Toledo Association for Sustainable Tourism and Empowerment (TASTE) is a co-manager of the Sapodilla Cayes Marine Reserve (SCMR) along with the Fisheries Department of the Government of Belize under a written agreement. Building the capacity of these two primary stakeholders and others is an objective of the Coastal Resources Co-management Project (CORECOMP) implemented by the Centre for Resource Management and Environmental Studies (CERMES) primarily with funding from the Oak Foundation. This is an edited version of a summary report produced by the hosts of the workshop.

Edited summary of workshop report by TASTE

A successful workshop on Marine Protected Area Management was held at the Parish Hall in Punta Gorda on the 17th and 18th of June, 2003. The workshop was well attended by participants from the Toledo Association for Sustainable Tourism and Empowerment (TASTE), Sapodilla Cayes Marine Reserve (SCMR), Rio Grande Fishermen Cooperative (RGFC), University of Belize -Toledo, South Water Caye Marine Reserve, University of Connecticut, McMaster University, Port of Honduras Marine Reserve (POH) and one individual from the Community Rehabilitation Department.

The workshop was facilitated by Dr. Robert Pomeroy of the University of Connecticut who is one of the principal researchers with the Coastal Resources Co-management Project (CORECOMP). The workshop led to a great deal of knowledge being absorbed by those attending, as well as participation in the development of new goals and objectives in a management plan for the SCMR.

There was also participation in the development of a mission statement for the SCMR. The developed mission statement is:

“To preserve, protect and restore biodiversity and habitat in the SCMR and to maintain livelihoods and food security for those present and future generations of people who depend upon the resources”.

There were five goals that were developed likewise:

1. To develop sustainable fisheries in the SCMR through establishment ownership by local southern Belizean fishers and user groups of the fisheries resources.
2. To manage tourism within the carrying capacity of the SCMR.
3. To conserve and protect biodiversity and habitat in the SCMR for sustainable use of present and future generations of Belize.
4. To address uses and activities outside of the SCMR, which threaten conservation and protection of biodiversity within the SCMR.
5. To ensure proper administration and implementation of the SCMR Management Plan.

By the conclusion of the workshop everyone was aware of:

- The planning process that must be undertaken to produce a Marine Protected Areas Management Plan
- How to produce goals and objectives that are measurable according to issues in the sanctuary area
- How they can successfully monitor and evaluate the MPA Management Plan, of how to deal with conflict/s of MPA, and how to more effectively operate as a co manager.

Furthermore, there were some new functions formulated for the Fisheries Department and TASTE to include in the new memorandum of understanding (MOU) that were supported by the workshop participants. There were also some other requirements to be included such as mutual reporting; timeframe; integration of the staff of TASTE and the SCMR; user fees division, collection, and percentage share. The stated functions are as follows:

Fisheries Department:

- Oversight
- Evaluation
- Enforcement
- Training
- Research
- Operational plans

TASTE:

- Reporting to Fisheries Department
- Education
- Outreach
- Training
- Funding search and sustainability
- Financial management

The workshop was quite effective and informative for the participants. There was excellent participation from the various staff members present and it was clear to see how each was going to be affected by future decisions made on or in the SCMR as well as how they are affected currently.

Conclusion

Although Belize is a leader in the development of MPAs in the region, there are many aspects of MPA management and co-management that need to be worked through collectively by the stakeholders in that country. The non-governmental organisations (NGOs) that are partners in this process of learning by doing, such as TASTE, can benefit from guidance and capacity building in order to improve the quality and effectiveness of the learning experience.

3.2 TASTE Proposal Writing and Socioeconomic Monitoring Workshops, October 2003

*Report of the Workshops on Proposal
Writing and Socioeconomic Monitoring*

Punta Gorda, 27-28 October 2003

hosted by the

Toledo Association for Sustainable Tourism and Empowerment (TASTE)



*Centre for Resource Management and Environmental Studies
The University of the West Indies, Cave Hill Campus, Barbados*

*COASTAL RESOURCES CO-MANAGEMENT PROJECT (CORECOMP)
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2003

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The Toledo Association for Sustainable Tourism and Empowerment (TASTE) is a co-manager of the Sapodilla Cayes Marine Reserve (SCMR) along with the Fisheries Department of the Government of Belize under a written agreement. Building the capacity of these two primary stakeholders and others is an objective of the Coastal Resources Co-management Project (CORECOMP) implemented by the Centre for Resource Management and Environmental Studies (CERMES) primarily with funding from the Oak Foundation. This is an edited version of a summary report produced by the hosts of the workshop.

Edited summary of workshop report by TASTE

On Monday 27th and Tuesday 28th of October the Toledo Association for Sustainable Tourism and Empowerment (TASTE) hosted workshops sponsored by the Centre for Resource Management and Environmental Studies (CERMES) and held at the Nazareth Novitiate in Forest Home, Toledo District. These two workshops were facilitated by Dr. Robert Pomeroy from the University of Connecticut, one of the principal researchers of CORECOMP.

The workshops covered project proposal writing and socio-economic monitoring for coastal management. Participants representing a wide range of organizations were present including: Aguacaliente Management Team, Rio Blanco National Park, Toledo Institute for Development and the Environment (TIDE), Belize Audubon Society (BAS), Toledo Civil Society and TASTE. All participants were invited in hope of developing greater capacity within their organizations.

The first workshop day, 27th October, was spent learning about the basics of proposal writing. Participants walked through the steps of proposal writing from the development of goals and objectives, identifying funding sources, developing a concept paper and the basic parts of a good proposal. Participants also learned the basics of Logistical Framework Analysis and spent time working in groups to develop goals and objectives for a grant proposal. These exercises proved helpful for those who were working on developing grant proposals for the future.

On the second workshop day, 28th October, those in attendance were taught the basics of using *SocMon Caribbean* a new approach developed by WCPA, NOAA, CERMES and GCRMN for socio-economic monitoring for coastal management. This workshop focused on the different methods for collecting socio-economic data including secondary sources, key informant interviews and household surveys. Participants were also given the opportunity to practice writing survey questions. Finally, the analysis and dissemination of any socio-economic findings were discussed. Participants in the workshop felt that this information was valuable and hoped to use the new skills they had acquired.

The workshops were considered successful and participants look forward to follow up activities. Participants also suggested that future workshops include more organizations and stakeholders.

3.3 TASTE and BFCA NGO Board Effectiveness Workshops, February 2004

*Report of the
Workshops on enhancing
NGO Board effectiveness*

**Punta Gorda, 2 February 2004
Hosted by the
Toledo Association for Sustainable
Tourism and Empowerment (TASTE)**

**Belize City, 3 February 2004
Hosted by the
Belize Fishermen Cooperative Association (BFCA)**



*Centre for Resource Management and Environmental Studies
The University of the West Indies, Cave Hill Campus, Barbados*

*COASTAL RESOURCES CO-MANAGEMENT PROJECT (CORECOMP)
FUNDED BY THE OAK FOUNDATION*

2004

Introduction

Regardless of the type of phase of coastal resource co-management being undertaken, NGO partners need to have the strength and capacity to make meaningful contributions on behalf of their members and constituent stakeholders. Success comes in large part from effective structure, governance and operations of NGOs instituted by their Boards of Directors. Even very effective boards need refresher courses to maintain their capabilities and enthusiasm for ensuring effectiveness (and efficiency).

These one-day *Workshops on enhancing NGO Board effectiveness* were capacity building components of the Coastal Resources Co-management Project (CORECOMP) implemented by the Centre for Resource Management and Environmental Studies (CERMES) at the Cave Hill Campus of the University of the West Indies, and funded mainly by the Oak Foundation. As part of its outreach thrust, CERMES offers a variety of short courses aimed at building the capacities of governmental and non-governmental stakeholders in the critical skills required for natural resource management.

The outline, programme and content of the handout workbook provide an overview of what took place in the workshops (Appendices 1, 2 and 3). The workshops were offered to CORECOMP partners in Belize due, initially, to a request from Friends of Nature (FON). Unfortunately FON was unable to participate, but several other organisations took advantage of the opportunity (Appendix 4). The sections below summarise the experiences in Punta Gorda and Belize, ending with some general observations and conclusions. The latter are solely the opinions of the workshops organiser and leader, Dr. Patrick McConney, who compiled this report.

Punta Gorda Workshop

Due to a delay in international flights the workshop hosted by the Toledo Association for Sustainable Tourism and Empowerment (TASTE) on 2 February in Punta Gorda got underway in the late afternoon. It was condensed into about 4 hours with emphasis on presenting selected material in the handouts workbook, and engaging in lively discussion. Due to the delay the number of participants had dwindled to a handful, but those present found the event useful.

The Board of Directors' Self-evaluation (Handout #6) was undertaken as an individual exercise and then discussed as a group. The results in Table 1 were used to debate where the strengths and weaknesses lay in the boards that participants sat on.

	Considerations	5 Very Good	4 Good	3 Okay	2 Fair	1 Poor
1	Board has full and shared understanding of the roles and responsibilities of a NGO board of directors		1	3	1	
2	Board members understand the organization's mission, goal, objectives and its products / programs		3	1		1
3	Board has clear, relevant and realistic strategic plan for action with which to work		2	1	1	1

	Considerations	5 Very Good	4 Good	3 Okay	2 Fair	1 Poor
4	Structure of the organisation (board, officers, committees, executive and staff) is clear to directors	2		3		
5	Board attends to policy-related decisions which effectively guide the operational activities of staff		1	2	2	
6	Board receives regular reports on finances/budgets, products/program performance and other important matters		3		2	
7	Board helps to set fundraising goals and is actively involved in fundraising initiatives, including financial oversight		1	2		2
8	Board members effectively represent the organization to the community and others in the network of alliances	1	1	2	1	
9	Board meetings facilitate a productive focus of attention and progress on important organizational matters	1	3		1	
10	Board regularly monitors and evaluates progress toward strategic goals and product/ program performance			2	1	2
11	Board regularly evaluates and develops the chief executive on the basis of clearly written expectations and plans				2	3
12	Board has approved comprehensive personnel policies which include human resource development and building capacity		2		2	1
13	Each member of the board feels involved and interested in the board's work including active participation in committees		1	3	1	
14	All of the skills, stakeholders and diversity necessary for the organisation's mission are represented on the board		2	3		
15	Board members received orientation on recruitment/election and regular training and updates on their responsibilities		1	2	1	1
16	The board has an operations manual that is regularly consulted, reviewed and revised as standard procedure					5
17	The board has a conflict of interest policy and a disclosure form that members are required to fill out and comply with		1		1	3
18	The board regularly pays attention to the legal provisions governing it, including the articles of association and bylaws		1	1	1	2
19	Meetings have written agendas, are conducted effectively with the quorum being regularly met, and minutes are kept	1	3	1		
20	The board has a process for handling urgent matters between meetings with the appropriate level of approval		1	4		

Little attention to the development of the CEO, inadequate monitoring and evaluation, absence of conflict of interest guidelines and not using an operations manual stood out as areas requiring improvement. In the same exercise participants were asked to list the three to five points on which they believed their boards should focus attention in the next year. Responses received, in descending order of frequency of mention, are listed below.

- Board members' roles and responsibilities

- Fund source evaluation methods (e.g. of GOB, IFAD, CDB, IDB)
- Monitoring and evaluation
- Board members' manual
- How to read a budget report [understanding financial reports]
- How donor and technical agencies work (e.g. GOB, IFAD, CDB, IDB)
- Writing a strategic plan
- Board constitution
- Board committees
- Is a board necessary?
- Guidelines for recruiting board members
- Implementing regular reporting
- Reducing the irregularity of meetings
- Role of the executive in charge

Upon conclusion of the condensed workshop the participants stated that it needed to be repeated with a wider audience. Patrick McConney reaffirmed the willingness of CERMES to provide further assistance, but suggested that it be done jointly with TASTE in order to more effectively build and demonstrate local capacity. He also thanked Jack Nightingale for his assistance in organising the workshop, including catering.

Belize City workshop

Patrick McConney flew to Balize City on the morning of 3 February to lead the workshop hosted by the Belize Fishermen Cooperative Association (BFCA) at their headquarters. This workshop kept roughly to schedule but finished earlier than planned after lunch since it was clear that the participants were unable to stay for the day. The actual number of participants was about half of that expected based on expressions of interest. Especially disappointing was the absence of people from Friends of Nature. It should be possible to repeat the workshop for FON later.

Unlike the Punta Gorda meeting, not all of the participants had experience of being directors on NGO boards. However, the Fisheries Department participants used their knowledge of the Fisheries Advisory Board and fishing cooperatives as substitutes. Several participants were very experienced board members and chairpersons or CEOs. One of the participants was an organisational management consultant and underscored the need for such capacity building.

As with the previous workshop, the Board of Directors' Self-evaluation (Handout #6) was undertaken as an individual exercise and then discussed as a group. Results in Table 2 were used to debate where the strengths and weaknesses lay in the boards that participants sat on.

	Considerations	5 Very Good	4 Good	3 Okay	2 Fair	1 Poor
1	Board has full and shared understanding of the roles and responsibilities of a NGO board of directors		6	1	1	

	Considerations	5 Very Good	4 Good	3 Okay	2 Fair	1 Poor
2	Board members understand the organization's mission, goal, objectives and its products / programs	1	6	1		
3	Board has clear, relevant and realistic strategic plan for action with which to work	1	1	5		1
4	Structure of the organisation (board, officers, committees, executive and staff) is clear to directors	2	5	1		
5	Board attends to policy-related decisions which effectively guide the operational activities of staff	2	2	3		
6	Board receives regular reports on finances/budgets, products/program performance and other important matters	3	2	3		
7	Board helps to set fundraising goals and is actively involved in fundraising initiatives, including financial oversight		3	3	1	1
8	Board members effectively represent the organization to the community and others in the network of alliances		2	5	1	
9	Board meetings facilitate a productive focus of attention and progress on important organizational matters			8		
10	Board regularly monitors and evaluates progress toward strategic goals and product/ program performance		1	5	1	1
11	Board regularly evaluates and develops the chief executive on the basis of clearly written expectations and plans		1	5		2
12	Board has approved comprehensive personnel policies which include human resource development and building capacity		2	3	2	1
13	Each member of the board feels involved and interested in the board's work including active participation in committees	1	1	4	1	1
14	All of the skills, stakeholders and diversity necessary for the organisation's mission are represented on the board	1	3	4		
15	Board members received orientation on recruitment/election and regular training and updates on their responsibilities		1	5	2	
16	The board has an operations manual that is regularly consulted, reviewed and revised as standard procedure	1		1	2	4
17	The board has a conflict of interest policy and a disclosure form that members are required to fill out and comply with		1	1	3	3
18	The board regularly pays attention to the legal provisions governing it, including the articles of association and bylaws		3	4		1
19	Meetings have written agendas, are conducted effectively with the quorum being regularly met, and minutes are kept	3	5			
20	The board has a process for handling urgent matters between meetings with the appropriate level of approval	4	2	2		

Not using an operations manual and the absence of conflict of interest guidelines stood out as particularly weak areas in the self-evaluation. In the same exercise participants were asked to list

the three to five points on which they believed their boards should focus attention in the next year. Responses received, in descending order of frequency of mention, are listed below.

- Legal provisions governing the organisation
- Strategic planning and annual action planning
- Human resource and operational policies
- Regular and active attendance at board meetings
- Board conflict and internal policy
- Achieving financial sustainability
- Internal financial management
- Improving on all types of reporting
- Improving understanding of current issues and means of involvement
- Monitoring and evaluation of the Board
- Monitor and evaluate programme performance
- Updates on Board responsibilities
- Diversification of the productive base of cooperatives
- Increase public awareness on matters of concern to the stakeholders
- Better means of communicating directly with members for more support

Participants recommended that the workshop could be replicated in the future with other organisations. Some had been through programmes of institutional strengthening that dealt with board operations. There could be much to be gained from information exchanges among local organisations. There were also locally available courses offered by the Belize Institute of Management (BIM) that could assist NGOs once funding was available.

Conclusions

The workshops were well received, and there are likely to be opportunities for follow-up. The BIM could serve as a local partner in such events. Their training facilities in Belize City and their flexibility to run a diversity of courses in almost any location are valuable assets.

More challenging will be the task of programming workshops so that they can compete against the several other events that attract the attention of co-management stakeholders in Belize. It is likely that the workshops would be better placed as part of directed efforts for organisational reform.

Appendix 1: Course outline

Aim: To build, enhance and refresh some skills and techniques for maintaining effective NGO boards.

Participants: Board members, committee members, executive directors, partner organisation leaders

Objectives – at the end of the day participants will be able to:

- Exchange information on the circumstances of NGOs and their boards in Belize
- Evaluate the effectiveness of an NGO with which they are familiar or affiliated

- Define a set of perspectives for facilitating the effectiveness of NGO boards
- Recognise or devise ways in which to improve NGO board effectiveness
- Identify critical areas to improve some NGO boards for greater effectiveness

Content:

- Legal and institutional framework for NGOs in co-management arrangements in Belize
- Evaluation of NGO board effectiveness (group assessment exercise and interpretation)
- Enhancement of NGO board effectiveness by attention to matters such as:
 - Responsibilities of the board and executive officer
 - Structure of the board of directors and committees
 - Recruiting, maintaining and removing board members
 - NGO operations manual and board procedures
 - Fundraising and financial management of NGO
 - Conflict of interest and management of conflict
 - Strategic and action planning, and management
 - Performance monitoring and evaluation by board
 - Networking and communications with constituents
- Determination of follow-up activities to enhance NGO board effectiveness

Method of instruction: Interactive discussion, individual and group exercises, presentations

Method of evaluation: Oral and (optionally) written evaluation; primarily through participation

Teaching aids: PowerPoint (if feasible), work book/handouts, flip chart

Workshop leader: Patrick McConney, CERMES, UWI Cave Hill Campus, Barbados

Appendix 2: Workshop programme

08:30 am	Welcome by host and introductions <i>- Registration, origin of workshop, participant introductions</i>
08:45 am	Workshop arrangements and expected outputs <i>- Logistics, objectives, outputs and evaluation</i>
09:00 am	Legal and institutional framework for Belize NGOs <i>- Open discussion among participants, review of legislation</i>
09:30 am	Evaluation of NGO board effectiveness <i>- Exercise of evaluation in the form of a NGO board quiz</i>
10:00 am	Break
10:15 am	Evaluation of NGO board effectiveness (continued) <i>- Evaluation group analysis and interpretation of results</i>
11:00 am	Roles and responsibilities of the Board, and Executive Director

	<i>- Individual and group roles, planning, legal, financial and other</i>
12:00 pm	Lunch
1:00 pm	Methods for enhancing NGO board effectiveness <i>- NGO governance, structural and operational improvements</i>
3:00 pm	Break
3:15 pm	Evaluation of workshop and follow-up activities <i>- Comparison of stated and achieved objectives, ideas for action</i>
3:45 pm	Closing remarks by host and participants
4:00 pm	Close

Appendix 3: Contents of handouts workbook

1. Non-governmental organisations Act
2. The role of NGO boards of directors in Central America
3. One classification of society and organisations
4. An NGO's functional systems
5. Constituting an NGO board; creating a strong baseline for an NGO's activities
6. Board of directors' self-evaluation
7. A checklist for building community-based boards
8. Guidelines for board of directors' evaluation of the chief executive
9. Guidelines for recruiting new board members
10. What should I know before joining the board?
11. Effective boards: ten basic responsibilities of non-profit boards
12. Sample job descriptions for members of boards of directors
13. Responsibilities of a board member; What makes a successful board member?
14. What are the responsibilities of individual board members?; Board level leadership
15. Board and staff responsibilities
16. Sample contents of board member's manual
17. Basic overview of role of chief executive
18. Suggestions to enhance working relationship between board chair and chief executive
19. Sample "Supervisory skills development plan" for an executive director
20. Should boards have committees, and if so, which ones?
21. Ideas to generate participation in committees
22. Effective meeting facilitation

23. 10 commandments of meetings
24. The seven sins of deadly meetings
25. Robert's rules of order revised
26. Board attendance policy (sample)
27. Sample board of directors meeting minutes
28. Meeting master checklist
29. Meeting cost clock
30. What is conflict of interest?
31. Removing a board member
32. Board Café; firing the executive director
33. Should staff contact with the board be restricted?
34. Basic guide to non-profit financial management
35. Non-profit fund raising and grantwriting
36. Project management productivity checklist
37. How do we keep board members informed?

Appendix 4: List of participants

Punta Gorda Workshop	Belize City Workshop
Yvonne L. Villoria Toledo Association for Sustainable Tourism and Empowerment demdatsdoin@btl.net Tel 722-2470	Charles Heusner National Fishermen Cooperative natfish@btl.net Tel 227-3165 Fax 227-1300
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Punta Gorda Workshop	Belize City Workshop
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*Summary Report of the
Workshop on Coastal Resource
Co-management for the
Glover's Reef Advisory
Committee*

17 March 2005, Belize City, Belize

**Hosted by the
Wildlife Conservation Society (WCS)**



*Centre for Resource Management and Environmental Studies
University of the West Indies
Cave Hill Campus, Barbados*

*Coastal Resources Co-management Project (CORECOMP)
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2005

Introduction

Regardless of the nature of coastal resource co-management being undertaken, the partners need to have information for making meaningful contributions on behalf of their stakeholders. Even effective co-management groups need refreshers to maintain capacity. This workshop was offered as a capacity building initiative of the Centre for Resource Management and Environmental Studies (CERMES) at the Cave Hill Campus of the University of the West Indies. It was put on through CERMES' Coastal Resources Co-management Project (CORECOMP) funded by the Oak Foundation. It was implemented for the benefit of members of the Glovers Reef Advisory Committee (GRAC) at the request of Janet Gibson of the Wildlife Conservation Society (WCS) in Belize.

As part of its outreach thrust, CERMES offers a variety of short courses aimed at building the capacities of governmental and non-governmental stakeholders in the critical skills required for natural resource management. Visit the CERMES web site and the CORECOMP web page for further information (www.cavehill.uwi.edu/cermes).

This report summarises the half-day workshop held in Belize City, Belize, on 17 March 2005 ending with some general observations that are solely the opinions of the workshop organiser and leader, Dr. Patrick McConney, who compiled this report.

Workshop proceedings

The workshop took place in the training room of the Coastal Zone Management Institute. It was opened by Ms Janet Gibson of the WCS who explained its background to the ten participants (Appendix 1) who introduced themselves. In the future, a national NGO may enter in to a co-management agreement with the Fisheries Department of the Government of Belize for the management of the Glover's Reef Marine Reserve. In the interim, the GRAC could be considered as a co-management partner. In the meantime it was vitally important that members of the Glovers Reef Advisory Committee appreciated what is required to facilitate the success of co-management (see the role of the GRAC in Appendix 2).

Patrick McConney reviewed the workshop outline (Appendix 3) with the group, explaining the handouts of the presentation slides, an evaluation exercise and the *Guidelines for coastal resource co-management in the Caribbean: Communicating the concepts and conditions that favour success*. Participants were encouraged to co-manage the workshop through interaction.

Next he presented an extract from a Belize case study (McConney et al 2003) that listed issues related to the advisory committees as previously identified by a local consultant (Johnson 2002).

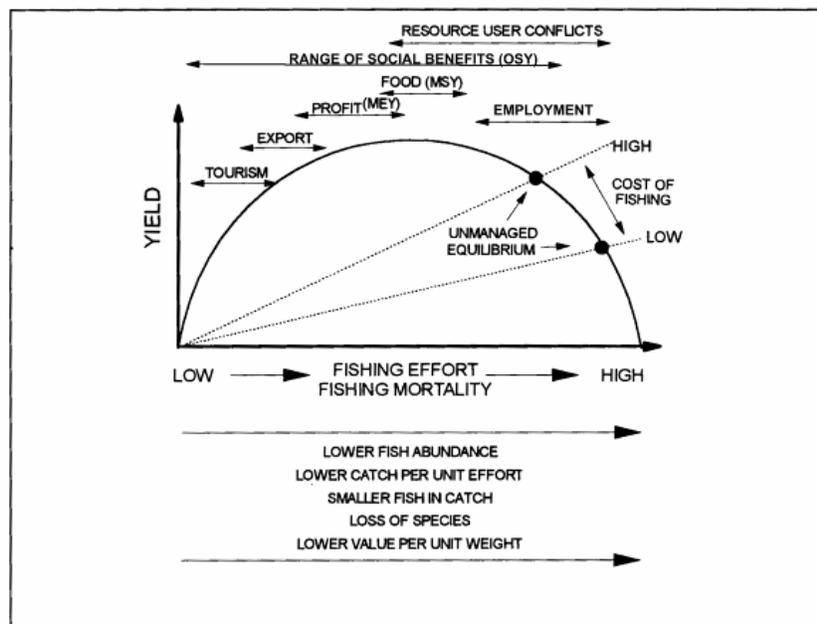
Report (Johnson 2002) on advisory committees points to co-management issues

- ◆ Lack of participation by key stakeholder organisations for logistic and other reasons
- ◆ Inadequate representation and poor information exchange with organisation members
- ◆ Poor integration with the system of village councils and their decision-making processes
- ◆ Uncertainty over the authority of the committees in relation to other coastal bodies
- ◆ Lack of information to participate meaningfully in technical and scientific decision-making
- ◆ Inefficient organisation and conduct of meetings due to lack of capacity and basic skills
- ◆ Tendency not to form sub-committees to get work done in more effective small groups
- ◆ Occasional conflicts among stakeholders with advantage taken of power inequities

What should Advisory Committee members know about co-management?

Participants noted that the logistic aspects of the GRAC had improved over time, and there had been training in topics such as conflict management. Enforcement had improved, but there were still complaints from some fishers that their representation on the committee was inadequate. The latter was one of the findings of a recent socio-economic survey (Gibson et al in press). Many of the other issues, although not critical, were acknowledged to still be of concern. In concluding this discussion attention was turned to the question of what members needed to know about co-management.

One of the main points is that any type of, or arrangement for, co-management involves many negotiations and trade-offs among stakeholders and objectives respectively. This was illustrated by the diagram below concerning the situation in fisheries management, which can include marine protected areas (MPAs). Participants noted that the GRAC had experienced this before in terms of the arrangements for no-take zonation within the MPA.



The workshop then proceeded on to the main presentation of 56 slides based on the guidelines. Many points on the slides provoked lively exchanges. Only a few are highlighted here. Of these perhaps the most important is the observation of the group that the committee is consultative according to its terms of reference, but it is operating under collaborative co-management much of the time due to the authority of its advice and the good relations with management agencies.

The presenter drew on the Caribbean co-management case studies and many Belize examples to illustrate the points on the slides. Observations were made on sedentary resources (the ‘whelk’ or West Indian top shell) being threatened due to new fishing practices, and who were the stakeholders involved. The group questioned whether it needed to have its own strategic plan. The importance of individual and group incentives to participate was underscored. Trust and

respect were emphasized as very important dimensions of co-management relationships. Members expressed a sense of fulfillment through their participation on the Committee. Note was also made of the desire to see the reserve succeed, as members felt it had all the necessary ingredients for success. There was discussion at several points on decentralization, delegation and devolution of the authority vested in the government. In Belize, external agents play critical roles in increasing the capacity for co-management. There were questions of knowing when consultation with stakeholders has been sufficient and how to ensure that there is individual and institutional learning from co-management experiences.

Due to time constraints, the exercise on evaluating the critical conditions for co-management at Glovers Reef was not completed. However, members agreed that the exercise should be completed when the full committee was assembled for a regular meeting and after those present had the chance to digest the contents of the workshop.

In a brief oral evaluation of the workshop process the participants expressed satisfaction with the content and delivery of the materials. They appreciated having the guidelines and slide handouts to refer to later since the time available for the workshop was very limited.

Concluding observations

Although many members of the GRAC attended, in Belize there are always many competing activities, and a few members who play critical leadership roles (specifically the landowner stakeholders) missed the workshop. It will be especially important to ensure that these individuals are guided through the training materials, and that a gap does not form between them and the workshop participants. This can be done, for example, by reviewing as a group the training materials in preparation for the committee's exercise on the evaluation criteria for conditions favouring success.

The persons who participated in the workshop were familiar with many of the co-management terms and concepts, and this made the training process swift and lively. However there is the danger that concepts will become confusing and be used in inconsistent ways due to the many external agents in Belize that bring their trademark terminology to projects and programmes. It may be advisable to regularly monitor the use and communication of co-management concepts.

If the GRAC is typical of the other advisory committees, then it seems desirable to use these or other training material to explain about co-management arrangements in Belize before there is much further development of the framework for coastal resource co-management. This would ensure more meaningful participation. The training material used for this workshop is freely and easily available, needing just a thorough understanding of the topic, but no specialised skills, for presenting it to stakeholders. CERMES can assist the local delivery of co-management training.

References

Gibson, J., D. Lizama and R. Pomeroy. Establishing a socioeconomic monitoring program for Glover's Reef atoll, Belize. Proceedings of the Gulf and Caribbean Fisheries Institute 57. In press.

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

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

Appendix 1: List of participants

Name	Affiliation
Janet Gibson	Wildlife Conservation Society
Sergio Hoare	Wildlife Conservation Society
Rennick Jackson	Fisheries Department and GRAC Chairman <i>pro tem</i>
Emil Cherrington	Coastal Zone Management Institute
Amador Pott	Manager of Glovers Reef Marine Reserve
Roberto Pott	Belize Audubon Society
Carlton 'Jack' Young	Placencia Fishermen Cooperative
Roberto Sho	Cooperative Department
George Ramirez	Chairman, Hopkins Village Council
David Daniels	Dangriga Town Council
Norlan Lamb	Stann Creek Boat Owners Association
Patrick McConney	Lecturer, CERMES, UWI Cave Hill Campus

Appendix 2: Role of the Glovers Reef Advisory Committee

- Ensure regular revision and review of the management plan
- Comment on and recommend legislation and regulations
- Maintain an overview of and, where necessary, provide advice on applications for permits relating to the site, and subdivisions and development on private land adjacent to the site
- Report on matters impacting the site and liaise with government enforcement agencies
- Assist with enforcement activities
- Assist in the development of sustainable financing mechanisms for the site
- Advise on and, where appropriate, assist with administrative matters, publicity, education and interpretive programmes, and decisions relating to research to be carried out in the site

Appendix 3: Workshop outline

Aim: To understand the conceptual framework behind coastal resource co-management, along with the conditions that favour its successful introduction and establishment in the Caribbean.

Participants: Members of the Glovers Reef Advisory Committee, other invited parties

Workshop leader: Dr. Patrick McConney, CERMES, UWI Cave Hill Campus, Barbados

Objectives – at the end of the workshop participants will be able to answer:

- What is co-management?
- Why co-manage in the Caribbean?
- When do we start to co-manage?
- Where do we co-manage?
- Who do we co-manage with?
- How do we co-manage?

Content:

- Concepts that distinguish approaches to co-management
- Driving forces behind co-management; livelihoods; socio-cultural fit
- Co-management as a crisis response; resources and incentives
- Boundaries, location and scale; establishing property rights
- Teamwork; knowing the stakeholders; roles for groups to work on
- Skills needed to improve the chances of co-management success
- Getting started; learning by doing; being innovative about it

Method of instruction: Discussion, presentation

Teaching aids: PowerPoint, flip chart, guidelines book:

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.

Method of evaluating the workshop: Oral feedback from participants

3.5 TASTE Sapodilla Cayes Marine Reserve Youth Workshop, November 2005



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Report on SCMR Workshop

Over four days from November 22nd to 25th 14 youth participated in a Sapodilla Cayes Marine Reserve workshop. The goal of this workshop was to orient and prepare the youth to work as tour and dive guides in the SCMR. There were three main parts to this training: an orientation to the reserve, co-management and the management plan, an overview of the biology of the reserve, and an opportunity to work with some tour guides who currently work in the area.

The orientation to the reserve, co-management and the management plan was conducted by TASTE-SCMR staff including Reserve Manager Mr. Kenneth Gale, TASTE-SCMR Environmental Educator Christina Garcia and TASTE-SCMR PCV Jocelyn Finch. The youth were all given a number of documents that outlined the management plan, rules of the reserve, co-management and other important issues about the reserve. During these sessions it was stressed what role these youth as stakeholders could and should play in the management of the reserve.

The overview of the biology of the reserve was conducted by the acting reserve biologist Mr. Lyndon Rodney. He outlined what types of research is conducted at the reserve and the plans for future research. After this session the youth were taken to a snorkel spot to work on their fish and coral identification. He also highlighted the opportunity for the youth to assist in some of the research currently conducted out at the reserve.

The last two days were taken up by a program put together by Mr. Dennis Garbutt, Mr. Eworth Garbutt and Mr. Oliver Garbutt. The Garbutt family currently holds the lease on Lime Caye. They have been involved with leading tours out at the reserve for some time and are developing Lime Caye for student groups and other tourists. The Garbutt family also deals with some of the large cruise ships which visit the Sapodilla Cayes. During their training the Garbutt's took the youth on each of the packages that they offer to tourists visiting the cayes. These packages include; snorkeling, caye hopping and fishing. During each of these trips the youth had the opportunity to learn first hand how professional tour guides currently operate in the reserve and what the potential is for future operations. The Garbutt's did an excellent job giving all involved an accurate description of what it might be to work out at the SCMR.

During the workshop the youth were hosted by the Garbutt family at Lime Caye. Mrs. Sandra Williams did an excellent job providing food and camping facilities for the youth. This part of the workshop was very well taken care of and offered the youth a chance to see what accommodations are available for tourists currently in the SCMR. It also gave them an idea about what their living situation might be like if they were to start working in the SCMR. A number of different boats were used for transportation and instruction during the workshop including the TASTE-SCMR boat, the reserve boat and the private boats of the Garbutt family. All logistics went fairly smoothly making this workshop a complete success. All of the youth had a wonderful time and got to learn a lot both about the reserve and the potential for work as tour guides in the SCMR.



Youth PATH Phase II Final Report and summary

Name of Site: Sapodilla Cays Marine Reserve

Country: Belize

Period Covered: June 2004 – February 2006

1. Brief Description of site

The Sapodilla Cayes Marine Reserve encompasses the southern most section of the Belize Barrier Reef and has been enlisted as a world Heritage Site. The reserve has an approximate area of 125km² and includes the following Cayes: Hunting, Nicholas, Lime, Franks, Northeast, Ragged, Seals, and Tom Owens. This area has been traditionally used for fishing and recreation and is especially a favorite destination for neighboring Guatemalan and Honduran visitors. The Marine Reserve is home to many species of fish, corals and vertebrates such as nurse, hammer, black tip, and bull sharks, great barracudas, king mackerel, tuna, groupers, snappers, rays, hawksbill turtles, spiny lobsters, queen conch, birds and many more. The reserve contains important spawning sites for snappers and groupers.

There are 3 islands with tourism developments, a fishing lodge and 2 resorts. These are operated privately and one of them has dive shop presence from time to time. Three tour operators and two dive operators bring a steady stream of tourists from Guatemala to Hunting Caye and Lime Caye. There is never enough activity for these campers. There is also a steady cruise (sailing or motor) boat presence in the Cayes with tourists who dive or would like to dive (but need a guide).

The laws of Belize require that all divers, snorkelers or adventure travelers use a Belizean licensed guide (Belize Tourist Board). The SCMR regulations require that all divers register their boat (a fee) before diving. All dive procedures must be adhered to. All scuba divers must pay a

fee of \$50 each per week. To enforce and empower these laws, it becomes absolutely necessary to have licensed dive guides available in the SCMR. There is a strong need for dive guides/tour guides. The potential exists for many tourism based businesses in the SCMR.

Fishing as a living is a diminishing opportunity, as a result of declining abundance of commercially viable species to over harvesting as well as climatic changes (increases in the frequency of hurricanes which have hit the country). Tourism is emerging as an alternate livelihood opportunity for the poor in the southern part of the country. – Other NGO's are already contributing to the process of empowering fishers by training fly fishermen for the tourism market and the SCMR as a sport fishing destination. It would not make sense to replicate a capacity filled market. Diving, snorkeling, kayaking, and sailing are open possibilities.

There is also the immediate and direct need in the SCMR for divers to participate in monitoring programs such as spawning aggregation. These positions are paid and professional. Hiring and management become much easier when selecting from an already prepared and trained stakeholder body.

2. Brief description of activities in Phase II

1. Co-ordinate and prepare 10 chosen young stakeholders of the SCMR ages 15-25 for dive guide training:

A meeting was held with all the chosen participants. At this meeting a general overview of the goals of Youth Path and UNESCO was given. A general introduction was given to the specific goals of the TASTE-SCMR project including the trainings that would be offered and the hoped outcome at the end of the project period. It was made clear that this project was an opportunity for the involved youth to gain new skills and hopefully find gainful employment in the Sapodilla Cays Marine Reserve.

3. Provide training and support for these youth to open water certification and Rescue diving.

On August 8th, nine youths went to Placencia to receive dive training in open water and Advance diving from Mr. Glen Eiley and Mr. Arthur Westby. The training consisted of four days of Open water training and two days of Advance diving training, which included one day of classroom time, spent watching videos and discussing basics of SCUBA diving. After two days and four dives the youths then took the open water test, which quizzed them on their knowledge of physics, pressure, decompression sickness and safe diving practices. The Rescue diving took place on Saturday June 11th and Sunday June 12th 2005. The course was a bit tedious but nonetheless they did an excellent job in the examination and the practical of the training. Since the project is still ongoing, some members of youth path should be getting their dive master as soon as funding is available.

4. Provide training in tour guiding.

Sixteen youths have engaged in a tour guide training through the Belize Tourism Board Training Unit. The course consisted of 6 chapters each with a different focus. The chapters include: 1. Belize Today 2. The Tour Guide 3. Natural History of Belize 4. History and Culture

of Belize 5. World of the Maya 6. Field Experience. Each chapter was taught by a trained and qualified instructor and was concluded by a chapter exam. In order to pass the course all participants had to achieve an average of 70% on the exams.

5. Team Building and Life skills workshop

Ms. Dorla Bowman facilitated life skills trainings. All of the youth participated in these trainings, which followed the life skills booklets provided by UNESCO. Some of the topics discussed were HIV/AIDS Awareness, Drug and Alcohol abuse, what it can mean as well as discussion about healthy decision making. Discussions were held on domestic abuse as well as ways to avoid encounters. The workshop also addressed anxiety as well as other mental health issues. The workshop was an opportunity for the youth to explore more about the ways that they can help others and receive help in the Punta Gorda Community.

6. Opportunity Workshop (SCMR)

The selected Youths were taken to the Sapodilla Cayes Marine Reserve for a one-day Opportunity Workshop. The goal of the workshop was to give all the youth involved in the program the opportunity to see first hand what the program was about, and also the chance to see the potential business opportunities for diving and tourism in the SCMR. The day was mostly spent touring the reserve, snorkeling, talking and getting to know one another and exploring the potential of the SCMR for a tour/dive business.

7. One Week on site SCMR Workshop.

14 youth Path members participated on a one-week workshop at the Sapodilla Cays Marine Reserve. The goal of the workshop was to orient and prepare the youth to work as tour and dive guides in the SCMR. There were three main parts to the training namely: an orientation to the reserve, co-management and the management plan, an overview of the biology of the reserve, and an opportunity to work with some of the tour guides who currently work in the area. The professional tour guide that they offer to tourists visiting the cayes took each youth on a completer tour package. These packages include snorkeling, caye hopping and fishing.

8. Business Training Workshop

Youths were engaged in a Business course entitled ‘Introduction to Business Concepts and Planning,’ which was conducted by Mr. Darius Avila from Business Information Services and Systems. The goal of the project was to orient the youth on how to write a business plan, provide an introduction to strategic and structured business thinking and approach. The course was intended to provide an appreciation and understanding of business concepts and tools that can be used in planning a business venture and pursuing business success.

9. Kayak Training

The Kayak training was conducted by Roberto Chavarria and consisted of 5 days of instruction on kayak safety, navigation, ethics and kayak guiding. The course was offered to all interested

youths, although only six participated, all involved felt that the course was worthwhile and that they learned a lot. It is hoped these youth will start to get involved by offering kayaking tours to tourists in the Sapodilla Cays Marine Reserve.

10. Actual results

1. 15 Young men and women trained in Tour Guiding Course.
2. 10 Youths trained in Diving Course (Open water, Advance and Rescue)
3. 5 Youths trained in Business Management.
4. 15 Youths trained in team building/Life skills.
5. 7 Youth Path members trained in kayaking.
6. 15 Youths trained in CPR/First Aid.

11. Achievements

Youths have been trained and capacitated in the different trainings. Young participants have changed their life conditions. Let us document these changes:

Name of Participant	Original status	New status
Denise Olga Garcia	Unemployed/unsure	Employed/ trained/ mobile
Benedict Pascasio	Unemployed/unsure/street	Employed/trained/mobile
Clayton Gabourel	Unemployed/unsure/street	Employed/trained/mobile
Clodia Chan	Unemployed/unsure/	Employed/trained/mobile
Richard Valerio	Unemployed/unsure/street	Employed/trained/mobile
Edward Bochub	Unemployed/unsure/	Employed/trained/mobile
Jack Alford	Unemployed/unsure/	Employed/trained/mobile
Gloria Martinez	Employed/unsure/	Employed/unsure/trained
David Cal	Unemployed/unsure/street	Employed/trained/mobile
Anthony Villafranco	Employed/unsure/	Employed/unsure/trained
Luis Caal	Unemployed/unsure/	Employed/trained/mobile
Marcus Sanchez	Unemployed/unsure/street	Unemployed/lost
Jayron Ramirez	Unemployed/unsure/street	Unemployed/trained/
Skipworth Coleman	Unemployed/unsure/	Unknown/trained 40%
Dan Castellanos	Employed/mobile/trained50%	Employed/trained/mobile

Overall I think that the project has been highly successful. Many of the youths involved have taken jobs in the tourism industry or are continuing their training. In addition a number of the youth have been involved in tourism at the Sapodilla Cayes supporting TASTE's new arrangement with a cruise line that visits the reserve. My involvement with the Youth PATH project has been very positive and I think that all who were involved have benefited in some way.

12. Lessons learnt

The scope of the project was a bit ambitious for the first phase, and more training is needed before the youth will be ready to really enter into a tourism business. There was limited room for the youth members to guide the process by which decisions were made about trainings and the design of the project. This has not been detrimental given the early stages of the project but should be improved in subsequent phases of the project by giving the youth more control over the direction of the project.

13. Recommendations

There is still a desperate need to get the youth participants more hands on tourism experience, if that is what they are interested in doing. A number of the youth would benefit from a chance to work with a professional tour operator/dive shop. I feel that alliances outside the PG area would offer the youth valuable insight into the realities of working in the tourism industry. Many of the youth need more practice and time to improve on the suite of skills necessary for successful employment and the development of an independent business.

TASTE has done an excellent job at assisting the youth and should be commended on their role in providing these youth with opportunities to enhance their skills. However, there has been a lack of initiative on the part of the youth members to really take over ownership of the project, although there have been a number of opportunities. A second phase of the project should focus developing a more autonomous youth group that is empowered to make decisions about the future of the project. TASTE has served as a guiding force for the youth group, which may have allowed the youth participants to rely on TASTE to plan and make decisions. For many of these youth true empowerment will mean learning how to take control of their own future. If the project is to continue forward it will be important to ensure that the youth members have the tools to plan and make decisions about their futures.

14. Financial statement

UNESCO Ledger Attached.

15. Names of participants

UNESCO YOUTH PATH MEMBERS:

1. Jayron Ramirez
2. Clodia Acacia Chan
3. Olga Denise Garcia
4. Richard Valerio
5. Benedict Pascasio Jr.
6. Clayton Gabriel

7. Gloria Martinez
8. Dan Castellanos
9. David Cal
10. Luis Caal
11. Edward Bochub
12. Jack Alford
13. Edwardo Coc
14. Marcus Sanchez
15. Anthony Villafranco

3.6 Abstract from T. Goetze PhD thesis: Muddy waters

DOCTOR OF PHILOSOPHY (2005)

McMaster University

(Anthropology)

Hamilton, Ontario

TITLE: Muddy Waters: Conservation Discourse and the Politics of Power in Marine Park Co-Management in Belize

AUTHOR: Tara C. Goetze, B.A. (McGill University), M.A. (McMaster University)

SUPERVISOR: Professor Harvey A. Feit

NUMBER OF PAGES: ix, 254

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Abstract

This research examines the complex local – national – global power dynamics that are a part marine protected area (MPA) co-management in Belize, using Friends of Nature (FON) a local NGO that manages two MPAs along the southern coast, as an example. The first part of the thesis consists of a description and evaluation of marine conservation in Belize and the Friends of Nature experience thus far. The chapters document the system of MPA co-management in Belize, highlighting the distribution of power and authority between local, national and global stakeholders involved in the process. In reviewing FON's management activities and its interactions with the communities it represents, I suggest a new way of understanding the notion of 'local empowerment' as a component of co-management, lessons usefully shared, as well as areas for improvement. Part Two takes a more theoretically critical perspective on this experience, offering a different evaluation of the politics of marine conservation by exploring the issues surrounding co-management as a form of conservationist intervention. The chapters extend Part One's evaluation, but I shift the focus toward the discursive context in which co-management operates in one village, Placencia. The analysis presents the process as a contested conceptual project in which local fishers' and global conservation organizations' notions of conservation come into conflict. The matrix of connections between global and local actors indicates that though a powerful conceptual apparatus, conservation discourse is not necessarily dominant. In many ways, fishers actively contest it. In doing so, they engage these discursive constructions of ecological problems and solutions by participating in FON in a highly strategic manner. This ultimately results in a continuously shifting assortment of gains and deficits for all co-management participants, and highlights the limitation of positioning co-management as either 'empowering' or co-opting of local stakeholders.

3.7 Report of Meeting of the Fishermen of Southern Belize, March 2006

On Tuesday March 6th, thirty one fishermen from the communities of Hopkins, Riversdale, Independence, Placencia, Monkey River, Punta Negra and Punta Gorda met in Monkey River. This was the first time that fishermen from these communities had ever met in such a forum. The principal reason for the meeting was to create a small committee to work towards the formation of the Southern Fishermen Association.

Over the past years fishermen in southern Belize have felt increasingly marginalized. They feel that they have lost ground in terms of representation of important national boards and that increasingly even in the management of protected areas their voices does not get the representation it once received. They feel that with the growth of the tourism industry and the place of tourism as the number one industry in the country that the emphasis in marine protected areas has shifted. They feel that no serious efforts are being made to include and involve them in the management of the area particularly in the area of enforcement. They feel that they must begin to organize and to have their voices heard.

The meeting in Monkey River Village had the following agenda:

1. Welcome by Daniel Castellanos leader of the fishermen in Monkey River
2. Introduction – all the participants introduced themselves and gave a short discourse on their expectations from the meeting and some of the problems that they were facing in their respective community.
3. Overview – a brief summary of the existing situation, what has been done to address the situation, and what are possible ways forward.
4. Monkey River Report – Several of the fishermen from Monkey River delivered a report on actions they were taking to address the situation. They had formed the Monkey River Fishermen Association. They were receiving some funding from the GEF COMPACT Project. They have so far began working on a “Shade” project in an effort to address fishing from a “changing methods” aspect, looking for methods that were more sustainable.
5. Discussion – A lively discussion followed with all the participants giving their opinion both on the existing problems and their ideas as to possible solutions.
6. Next Steps – There were specific ideas given as next steps in moving forward.
 - Each community will form their local fishermen association
 - A follow-up meeting will be held in Hopkins Village before the end of April at which time all the communities would have formed their associations.
 - That the ultimate goal was to have each local association become a part of the Southern Fishermen Association
 - That after the legal formation of each of these local associations, they would have access to funding from GEF COMPACT Project.
 - That Friends of Nature would assist in the preparation of proposals for different small projects for the different local associations.
 - That representation on the relevant regional and national bodies would come from the umbrella organization; the Southern Fishermen Association.

It was a very good, well organized meeting with the representative of the GEF Small Grant Program present along with representative from Friends of Nature and TIDE. The fishermen have shown a level of maturity that is worthy of mention. They are willing to work together with the ranger in enforcement, to begin to look at rotating sites as a mean of allowing certain sites to replenish themselves and to take part in exchanges both nationally and with other countries in the region. They recognize the value of conserving their resources and that any success in conservation begins with them as the primary users.

The willingness of the fishermen provides a great opportunity for the local NGO's. There is now the possibility of forming a partnership with the local resource users that can make Southern Belize an example of good sound management. We can show the rest of the region and the world how effective protected areas management can be when it puts people at the forefront.

Friends of Nature and the fishermen of Southern Belize would like to thank Core-Comp for its support in making this forum possible.

4. NICARAGUA

4.1 Environmental Education Program, March 2004

Report regarding Coastal Resources Co-management Project (CORECOMP) and Diana Payne, Connecticut Sea Grant, for consultation on an environmental education program in the Pearl Lagoon municipality, Nicaragua, from 4-6 March 2004

Overview

Connecticut Sea Grant Education Specialist Diana Payne traveled to the Pearl Lagoon municipality to assist CAMPLab educators in strengthening the current environmental education program in local schools and the community. The consultation occurred March 4-6, 2004, and was facilitated by Dr. Robert Pomeroy of CPRECOMP.

Activities

Prior to departure, Ms. Bertha Simmons of CAMPLab and Ms. Payne exchanged emails to facilitate communication and exchange of resource materials.

Upon arrival in Bluefields, Ms. Simmons escorted Ms. Payne to offices at the Central American University Center for Research and Documentation of the Atlantic Coast (CIDCA-UCA). Ms. Payne met briefly with staff, and was with provided several issues of *AWAKE: Newsletter of the Caribbean Coast* to become familiar with CAMPLab activities. Ms. Simmons and Ms. Payne then discussed the existing environmental education program. Ms. Payne provided numerous educational resources for CAMPLab education staff, including examples of curricula (in English and Spanish), booklets, websites, and fact sheets developed and utilized by Sea Grant staff. Additional needs and resources necessary to enhance the program were discussed. Initial suggestions for the existing program included evaluation and assessment, seeking additional funding, and involving the parents of the children in the program.

After meeting staff and briefly discussing the environmental education program, Ms. Payne and Ms. Simmons traveled to Haulover in the Pearl Lagoon municipality to work with additional CAMPLab education staff, Mr. Oswaldo Morales and Mr. Eduardo Tinkham, and several Pearl Lagoon municipality teachers. A teacher workshop was held to discuss the existing environmental education curriculum and make any changes or additions.

The teacher workshop was 1.5 days in duration. A thorough examination of the existing curriculum was conducted, including each content area and the related activities and objectives. Additional content areas were discussed and added. Seven Pearl Lagoon municipality teachers, CAMPLab education staff and Ms. Payne participated and actively contributed to the revision of the curriculum as is commensurate with the participatory methodology upon which CAMPLab was founded.

Upon returning to Bluefields, Ms. Simmons and Ms. Payne met with Ms. Karen Joseph of the University of Autonomous Regions of the Caribbean Coast of Nicaragua (URACCAN).

Outcomes

The Pearl Lagoon municipality teachers were extremely eager to receive revised copies of the curriculum. This was delayed in part due to the lack of a laptop computer to make

changes to the document as the workshop progressed (changes and additions were made by hand on a printed copy of the curriculum).

Discussions with Mr. Morales, Ms. Simmons and Mr. Tinkham revealed that CAMPLab staff are in the schools EACH week of the entire school year, and sign an agreement with local education entities on an annual basis. This is virtually non-existent for environmental education in the United States. The future vision is for the program to serve as a model for school throughout the Pearl Lagoon basin and beyond. Implementation would be in the form of CAMPLab staff training the teachers, followed by independent implementation of the program in the teacher's school. CAMPLab staff would be available as guest speakers and for consultation to teachers and schools. Although environmental education is not specifically taught in most Nicaraguan schools, this program is an example of an outstanding partnership that works well.

Recommendations

Programmatic

- Revive the rainforest component of the program
- Expand CAMPLab library resources for education in general and environmental education specifically
- Continue to publish and publicize the poems and stories written by students in *AWAKE* and on the radio programs; add additional examples of student work
- Continue to and expand on working with teachers to bring more awareness throughout the school to this program (e.g., Environmental Day, Tree Day)
- Continue to work toward a coherent curriculum that can be used in schools throughout the Pearl Lagoon Basin and beyond
- Continue to provide outdoor, personal experiences for students and teachers
- Continue use of and build upon educational theory (e.g., constructivist) when enhancing the curriculum and developing additional activities
- Continue to emphasize interdisciplinary, cultural and community connections
- Involve parents of schoolchildren in the program components and assessment
- Involve the students in educating parents and other community members via radio program, newsletters (e.g., *AWAKE*), festivals, expositions, interviewing elders in the community for their perspective and vision for the future
- Implement evaluation and assessment: formative, summative and longitudinal
 - Establish and meet with a teacher focus group on a regular basis
 - Develop surveys for parents regarding the program to assess impact at home and possibly on other family and community members
 - Develop and administer student surveys for interest in environmental issues, knowledge and self efficacy
 - Develop formal evaluation for workshops and the program
 - Keep records of longitudinal impact on students
 - Record activities and experiences (audio and visual) for assessment, evaluation and as examples for potential funders
 - Assessment should be qualitative and quantitative
- Add additional water related activities
- Add more hands-on and inquiry based activities to the curriculum

Professional

- Training for staff in evaluation and assessment procedures

- This is an exemplary program that should be shared with others in Nicaragua, Central America, and the international education community. CAMPLab staff should join professional organizations, including the National Marine Educators Association (NMEA), and attend and make presentations at conferences. Involvement in professional groups may also facilitate opportunities for funding.

Financial

- Additional funding is essential for additional staff, resources, training and equipment

Equipment

- Laptop computer with extra battery backup, CD/DVD, CD burner
- Digital camera
- Video camera
- Tape recorder
- Funding for expendable supplies used in educational programming
- Seine nets
- Boat (panga or dory size)
- Outboard motor
- PFDs (life preservers)
- Snorkeling equipment
- Maintenance, supplies and budget for boat and resources
- Motor vehicle to transport staff to other locations to implement the program; maintenance, supplies and budget

Conclusions

Mr. Morales, Ms. Simmons, and Mr. Tinkham provide the schools and community of the Pearl Lagoon municipality with an outstanding educational resource. Support for the environmental education program is evident from the dedication to and interest of the teachers in the program. It appears that components of the program have been eliminated due to budget constraints. It is imperative for the continued success and expansion of the program to additional areas to provide the necessary resources for additional staff and resources. The CAMPLab staff has a presence in the school system that is enviable in comparison to most environmental education programs in the United States.

Follow-up

Ms. Payne has initiated contact with NMEA's International Coordinator, Ms. Vicki Osis. Additionally, Ms. Payne has begun to solicit additional relevant resources from other Sea Grant programs. Future plans include a list of internet resources and examples of hands-on activities for Ms. Simmons, Mr. Morales and Mr. Tinkham.

The National Oceanic and Atmospheric Administration (NOAA, within which the Sea Grant program is housed) in the United States has shown a great interest in this partnership. Discussions have occurred between Connecticut Sea Grant (Communications Director Margaret Van Patten and Fisheries Specialist Dr. Robert Pomeroy) with the Program Manager for Sea Grant International, Matt Wilburn.

4.2 Fisheries Co-Management Workshop, March 2005

**UNIVERSIDAD DE LAS REGIONES AUTONOMAS DE LA COSTA
CARIBE NICARAGUENSE**

URACCAN



REPORT OF WORKSHOP:

**Fisheries Co-management
From 13 to 19 March 2005
Pearl Lagoon, RAAS**

By:

MSc. Karen Marie Joseph Sequeira

**Bluefields
April 2005**

INTRODUCTION

This report contains the different events and results of the workshop on Fisheries Co-Management that took place in the Pearl Lagoon basin, South Autonomous Atlantic Region, from 13 to 19 March 2005. It is a document where participants and lecturers can make references and revelations about the necessity and the urge to implement Fisheries Management and Co-management, the use of the Code of Conduct for Responsible Fisheries published by the FAO and also to implement the Nicaraguan Fishery and Aquaculture Law that was approved in February of this current year by the National Assembly. Any comment about the report is welcomed.

THE WORKSHOP

Arrangements

The workshop was arranged to be done in the community of Pearl Lagoon with the participation of 25 members of the different communities, organizations related to fisheries (especially members of the Mayor's office) and individual fishermen. The objective was to have the participation of the 12 different communities from the basin, but we had the participation of 9 communities: Orinoco, Tasbapouny, Marshall Point, Kakabila, Awas, Raitipura, La Fe, Haulover and Pearl Lagoon.

Each community had at least 2 participants. Some even had 4 participants because of the distance between community and community. In total we had 28 participants. The workshop was organized and directed by MSc. Karen Joseph, with the help of Br. Carton Moses. The document was prepared by MSc. Joseph with the collaboration of Dr. Patrick McConney from the University of West Indies in Barbados. The funds for the workshop were from the Centre for Resource Management and Environmental Studies (CERMES) at the University of West Indies Cave Hill campus in Barbados. The workshop was part of the Coastal Resources Co-management Project (CORECOMP) funded by the Oak Foundation and implemented by CERMES.

Preparation for the workshop

From 3 to 6 March Karen Joseph visited the different communities with the objective to arrange the workshop (number of participants, location, catering, etc). For this we had a meeting with the fishery commission of the alcaidia (mayor) of Pearl Lagoon and proposed for them to take decisions on the participants. Previous to this activity we had done the inscription of the workshop and the matriculation of each of the participants.

The lectures were obtained from literature used by Dr. McConney and MSc. Joseph. Dr. McConney arrived at Bluefields on 11 March. He immediately went to the University to make the final financial arrangements for the workshop and last revision of handouts for participants. Each participant had a package which included the lecture handouts (Basic concepts of fisheries management and co-management, the Code of Conduct for Responsible Fisheries); technical and popular versions of notes, in Spanish and English; the Nicaragua Fishery and Aquaculture Law; ministerial agreements for the close season of lobster and shrimp; Guidelines for Coastal Resources Co-management in the Caribbean; pencil and pen.

On 12 March we finished packing the handouts. We had a meeting (Dr. McConney and I) with the Rector of the University, MSc. Alta Hooker, the Vice-rector MSc. Zarifeth Bolaños and the coordinator of Natural Resources area, Ing. Arlette Campbell. The objective of this meeting was to exchange expectations of collaboration between the two partners URACCAN and CERMES, specifically to develop the URACCAN Fishery Programme Strategic Plan (Dr. Robert Pomeroy and Ms Joseph had worked on this). On 13 March we departed from Bluefields and headed to Pearl Lagoon (Patrick, Karen and Carlton).

Procedure of the workshop

The workshop proceeded according to the programme, beginning on 14 March at 09:00 with an opening ceremony directed by MSc. Zarifeth Bolaños, Vice-rector of URACCAN, with welcoming by Karen Joseph and Patrick McConney, and presentation of the participants and local leaders.

At 10:30 was the beginning of the workshop. We started with a game, named the game of the authorities. This game consists of giving responsibility to each of the participants to obtain a goal proposed before by the teacher. The objective was to get participants active and communicative, to create a degree of confidence among participants, and with participants and teacher.

We evaluated the following: level of participation, level of participant decision-making, level of confidence to obtain what they want and the level of capacity for solving conflict. The result of this was: each participant knew their goal and the role that each one was representing in their team. They had enthusiasm in what they were doing but they were not prepared to make decisions they were easily influenced by others. Most of them were artisanal fishers but they made decisions that will affect them completely in their activity. Some of them acted selfishly, thinking of individual benefits.

With the game of authorities they concluded that the role of decision making is difficult because each had their own goals and you can meet different people with different objectives, and to reach to a consensus takes time and patience. In the afternoon we made a reflection of what happened in the morning session. Then we began with our first theme: Fundamental concepts of management – managing a small-scale fishery – steps to obtain a responsible fishery. We also had a case study of fishery management planning from Barbados by Dr. Patrick McConney.

On Tuesday 15 March the subject for the day was: Co-management introduction. After giving the lectures for the day I proposed to form 4 teams. Each team had the responsibility to do co-management by using the tools and theory obtained before. The objective of this was to verify that the participants really understood the concept of co-management. Then each team had to make a presentation of what was learned. The result of this was much better than the day before, they began to understand the reason to do co-management and the role that each and everyone plays in this process. They also analyzed each other and understood the point of the game of authorities done the day before. We also made an analysis of the different types of co-management. Then we asked each team which type of co-management they would like to be in and why. Also we see the faces of co-management and why to do co-management.

As a result, by the end of the lecture participants started to relate co-management with other relevant subjects and started to use the word co-management in their principle vocabulary. They concluded that co-management is necessary to guarantee the future of their children and the perpetuity of their fishery resources, not only in the Pearl Lagoon basin, but also in the whole

world. Co-management is the central key because resources are managed not only by the state but also by resource users.

On the third day (Wednesday 16 March) we did something different; each student had a work assignment to do: short field work. I elaborated 3 questions, and each participant had to interview at least 2 persons from the community. The object of this was to have the participant make an analysis of how much about co-management is known by the people living in Pearl Lagoon. Questions were:

1. Have you ever heard about fisheries co-management? Yes _____ No _____
2. What do you understand by co-management?
3. Do you feel that co-management is important? Why?

After obtaining the information each participant had to express their experience and answers obtained from the interview. The result was interesting; most of the people interviewed they gave answers that did not have anything to do with co-management. Who really answered had a slight idea about co-management. That is when participants began to put more interest in the theme. They concluded even though the NGO's and GO's have been working around these themes, people do not really understand the meaning of it, management and co-management are still unknown themes for many of them, and still they are saying that they managing the resources using co-management as the principal tool. Co-management needs to be divulged and conducted in a correct manner.

The following day we initiated with a reflection: WHO WE ARE AND WHAT WE WANT. This was done with the objective to create an open mind towards the subject of the day. As final result participants were working closer with more trust and confidence.

On Friday 16 March we began with the review of the Nicaraguan Fishery and Aquaculture Law. Law 489 was approved by the national assembly in December 2004 and published in the Nicaraguan official diary (*Gasetta*) in February 2005. We had three more members assisting to do this lecture. We split up into 5 teams; each team had to choose a chapter, make an analysis, then give an exposition around the corresponding theme.

They concluded that the law was stuck in the national assembly more than 40 years ago and yet the law does not take into account the artisanal fishermen. Many of the different points mentioned by participants expressed how they did not agree to what was established in the law. They said that they were not consulted in the first place. For example, they did not agree to obtain fishing permission (for artisanal fishing) that will give them the right to fish. Fishing licences and artisanal fishermen ID they say will imply more expense, and many of them was not getting what prices they were asking for, and the fishing activity was low.

The same day we introduced the Code of Conduct for Responsible Fisheries and agreed to keep on with the theme the following morning before the closing ceremony. And so this was done. I concluded that most of the participants did not know about what this, it was the first time they heard something about the Code. Around the world we suppose that the Code of Conduct is the principal instrument for fishermen. In other words it is disappointing that the fishermen participants did not know anything about the existence of this tool. This means that FAO is not doing what they should be doing, or that FAO is weak in Nicaragua.

In Nicaragua the principal problem that keeps back development is the lack of information. Government itself does not worry to change this situation. For example, the Code of Conduct for

Responsible Fisheries is something known and distributed internationally and free, and we as fishing communities we do not have access to this information. It is urgent that a FAO office be established on the Atlantic Coast of Nicaragua.

The closing ceremony began at 11:00 and each participant had the opportunity to express their feelings about the workshop. Then we gave three prizes to the best participants and we proceeded to give a certificate of participation to each one of them. The list of participants follows.

**Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense
URACCAN**

Lista de Participantes: Diplomado, Manejo y Co-manejo de los Recursos Pesqueros
13 al 19 de Marzo 2005.

No	Nombre y apellido	Comunidad	Sexo	Etnia
1	Mejeta Humphreys	Pearl lagoon	F	Criole
2	Herman Humphreys	Pearl Lagoon	M	Criole
3	Florita Cayasso	Pearl Lagoon	F	Criole
4	Ensworth Fox	Pearl lagoon	M	Criole
5	George Hansack	Pearl lagoon	M	Criole
6	Telia Schwartz	Kahkabila	F	Miskitu
7	Clarinda Humphreys	Kahkabila	F	Criole
8	Fleyton Vega	Kahkabila	M	Miskitu
9	Erinaldo Brown	Kakabila	M	Miskitu
10	Roger Archivold	Raitipura	M	Criole
11	Jestto Brown	Raitipura	M	Miskitu
12	Erinaldo Forbes	Raitipura	M	Miskitu
13	Abraham Archivold	Awas	M	Miskitu
14	Lidia Forbes	Awas	F	Miskitu
15	Orlando Forbes	Awas	M	Miskitu
16	Alberto Peachy	Awas	M	Criole
17	Veronica Urbina	Awas	F	Miskitu
18	Henry Burton	Haulover	M	Criole
19	Larry Fox	Haulover	M	Mestizo
20	Edden Allum	Haulover	M	Criole
21	Glen Gonzalez	Orinoco	M	Garifona
22	Jose aguilar	Orinoco	M	Garifona
23	Eddy Beneth	Mashal Point	M	Garifona
24	Lorna Martín	Marshal point	F	Garifona
25	Hilario Tucker	Tasbapouny	M	Criole
26	Ester Nash	La fe	F	Criole
27	Martina Hodgson	La fe	F	Criole
28	Everardo Martín	Orinoco	M	Garifona

4.3 Fisheries Co-Management Workshop, August 2005

**UNIVERSIDAD DE LAS REGIONES AUTONOMAS DE LA COSTA
CARIBE NICARAGUENSE**

URACCAN



REPORT OF WORKSHOP:

**Fisheries Co-management
From 23 to 25 of August 2005
In Corn Island, RAAS**

By:

MSc. Karen Marie Joseph Sequeira

Bluefields April 2005

Introduction

This report contains the different events and results of the work shop of Fisheries Co-Management that took place in Corn Island, South Autonomous Atlantic Region, from 23 until 25 August 2005. This document is a duplication of the document used in the workshop in Pearl Lagoon in the Month of March of current year. It is a document where participants and lecturers can make references and revelations about the necessity and the urge to implement Fisheries Management and Co-management, the use of the Code of Conduct for Responsible Fisheries published by the FAO, and also to implement the Nicaraguan Fishery and Aquaculture Law that was approved in February of this current year, by the National Assembly. Any comment about the report is welcome.

Workshop arrangements

The workshop was arranged to be held in Corn Island, with the participation of 20 members of the different organizations (the municipal government, fishermen, NGO's, and owners of processing company's communities also other organization related with fisheries. The workshop was organized by MSc. Karen Joseph, in coordination with the responsible of the fishery commission in Corn Island, Felix Archibold. The initial document was prepared by MSc. Joseph with the collaboration of Dr. Patrick McConney from the University of the West Indies, Barbados. The funds for the workshop were given from CERMES (Centre for Resource Management and Environmental Studies) – University of the West Indies in Barbados through a grant from Oak Foundation.

Preparation for the workshop

From 15 to 17 of August – Karen made a visit to Corn Island, with the objective to arrange the workshop and coordinate the workshop (number of participants, local, feeding etc) with the person responsible for fisheries at the Corn Island municipality. For this we had a meeting with the Fishery Commission of the alcaldia and with the Major of Corn Island and proposed the workshop, for them to make decisions on the participants. Prior to this activity we had done the inscription of the workshop and the matriculation of each of the participants.

As mentioned before, this workshop was a repeat of a previous workshop done in Pearl Lagoon so again the lectures were obtained from literature used by Dr. McConney and MSc. Joseph. Each participant had a package which include the lecture handouts (Basic concept of fisheries Management and Co-management, the Code of Conduct for Responsible Fisheries in technical and popular versions in Spanish and English, Nicaragua Fishery and Aquaculture Law, Ministerial agreements for the close season of lobster and shrimp, Guidelines for Costal Resources Co-management in the Caribbean, pencil and pen.

On 18 August we finished packing the handouts. On 19 August I sent the documents to Corn Island by plane and they were picked up by Mister Archibold. On 22 August, departure from Bluefields headed to Corn Island. It took a 20 minute flight to Corn Island.

Procedure of the workshop

The workshop proceeded according to the programme. Beginning 23 August at 9:00am we inaugurated the workshop with an opening ceremony directed by the Major of Corn Island, welcome by Karen and Felix, and presentation of the participants and the rest of leaders.

At 9:45am we began the workshop. We started with a game, named the game of the authorities. This game consists of giving responsibility to each of the participants to obtain a goal proposed before by the teacher. The objective was to get participants active and communicative, to create a degree of confidence between participants with participants and teacher. We evaluate the following: level of participation, level of participants in relation to decision making, level of confidence to obtain what they want and the level of capacity for solving conflict.

The result of this was: participants were more open to things and more understandable. They are conscious what making decisions means in a fishery. It seems like they had been struggling with those activities trying to understand why to manage the resource (mostly lobster) is important as islanders. With this game they also concluded that the role of decision making is difficult because each head has their goals but that goal also has a meaning. One affects all of them in life even if each one thinks for themselves and has different objectives. To reach consensus takes time and patience.

In the afternoon we argue about: Co-management introduction. After giving the lecture for the day I propose to form 4 teams. Each team had the responsibility to do co-management by using the tools and theory obtained before. The objective of this was to verify if the participants understood the real concept of co-management. Then each team had to make a presentation of what was learned. This result they had to present by the following morning (24 August).

The result of this was what I was expected. The word co-management was present in their knowledge but not as a concrete understandable concept and clear reason to do co-management. Also what is the role that each and everyone plays in this process. To finalize with that theme we also make an analysis about the different types of co-management existing. Then I asked each team in which type of co-management they will like to be in, and why. In the afternoon I assigned a paragraph to them to reflect about it: WHO WE ARE AND WHAT WE WANT. This was done with the objective to create an open mind towards the subject of the day. As a final result participants had better communication and they were seeing the people from the mayor's office as more like them; no distinction was made.

On the following day (25 August) we began with the revision of the Nicaraguan Fishery and Aquaculture Law. Law 489 was approved by the national assembly in December 2004 and published in the Nicaraguan official diary (Gaseta) in February 2005. We had three more members assisting this lecture. We split up into 5 teams. Each team had to choose a chapter, make an analysis, then give an exposition around the corresponding theme. They concluded that they are lacking information about the law, and they are interested in obtaining the benefits that were mentioned in it. Fishers especially as the article talk about exonerations of fuel and equipments. In the afternoon I introduced the Code of Conduct for Responsible Fisheries, and again I conclude that most of participants do not know what the Code of Conduct is about. It was the first time they heard about it. Meaning that the FAO is not doing what they should be doing, or FAO is weak in Nicaragua.

Once more I confirm In Nicaragua the principal problem that keeps back development is the lack of information, and in which Nicaraguan people is one example. Government itself does not worry to change this situation. For example, the Code of Conduct for Responsible Fisheries is something known and distributed internationally and free, and we as fishing communities do not have access to this information. It is urgent that a FAO office be established on the Atlantic Coast of Nicaragua.

The closing ceremony began at 6:30pm. Each of the participants had the opportunity to express their feelings about the workshop.

List of Participants

1. Felix Archbold
2. Endicott Archbold
3. Leonard Motten
4. Dwean Archbold
5. Clauding Charles
6. Reymond Gayo
7. Antonio Downs
8. Casildo Arana
9. John Gomez
10. Lenzerd Downs
11. Roberto Capman
12. Sandy Sambola
13. Ray Martinez
14. Hastele Garcia
15. Norman Downs
16. Leosteen Dixon
17. Mark Downs
18. Sydney Campbell
19. Ray White
20. Owen Roe

4.4 Coral Reef Research and Monitoring Workshops, Nov 2005 and Apr 2006

Marine Resource Management Coral Reef Research and Monitoring Workshop April 2006 Progress Report by Pamela Fletcher

The Marine Resource Management Coral Reef Research and Monitoring workshop is a two part course providing the fundamentals of reef research through a series of classroom sessions and field exercises. Participants will aid in developing a regional reef monitoring plan through the practical application of theoretical models and receive training in research methodologies. The course is designed to engage peer interaction through informal, yet guided discussions. Community stewardship project design is included in the workshop for the purpose of encouraging participant networking and to promote university programming within the region.

Part I

The first portion of the two-part workshop was held at the Universidad de las regiones autonomas de la costa caribe Nicaragua (URACCAN) November 21-23rd. Fourteen attendees participated in workshop which encompassed morning presentations and interactive sessions in the afternoon.

The first day consisted of a course introduction, an overview review of reef monitoring, answering the question “why monitor reefs”, a general review of how reefs are monitored throughout the world. A group session helped identify threats to Nicaragua’s Caribbean reefs which resulted in a discussion of what to monitor for these types of reef threats. In addition, participants signed up to contribute to smaller teams in order to carry-out planning for the field exercise and community stewardship activities.

The second day provided a detailed overview of the eight universally accepted reef monitoring protocols. The Reef Check, REEF, and AGRRA methods were reviewed more closely to present specifics of collecting marine resource data collection. The afternoon resulted in revisiting day-one notes in order to determine the types of methods that would aid in identifying the key threats to Nicaragua’s reefs - a combination of the methods would be used to both practice the research protocols and to begin collecting specific reef data. A combination of the above mentioned methods was selected for the field exercise program. The final part of the afternoon entailed another group break-out with those signing up for *research material design* and *funding* splitting up for a more detailed discussion of their roles in preparing for the field exercise. The purpose of this exercise was to provide the knowledge to continue both the logistical considerations for preparing future reef research as well as providing the process to secure funds for long-term monitoring. The research material design group developed a list of materials that would be needed to build the surveying materials. The funding group reviewed the existing sources of funds to carry out the field exercise and will team up with the administrators to follow the process of securing and dedicating the funds to particular areas of the project as needed.

The third day of the workshop consisted of a preliminary site visit to a study area, Crawl Cays. Attendees familiar with the area provided information about the type of reef and suggestions for logistical considerations for remaining in the area for an extended period of time. Both the patch

reefs and fringing reef should provide suitable substrate for practicing the variety of research protocols. The shallow sites are accessible from the beach of the island and the deeper sites can be accessed by boat approximately 30 meters from the shore of Crawl Cay.

Part II

The second portion of the workshop began on April 3rd and continued for the remainder of the week. There were a total of 18 participants representing two local universities (URACCAN and BICU) and the environmental office of the regional government (SERENA). The program consisted of two days and one evening of classroom sessions followed by a two day overnight field trip spent on Crawl Cay.

Preparation for the field exercise was carried out through communication between the project leaders and students. All materials needed for this portion of the program were purchased and/or built through the period between Part I and Part II of the workshop. CARICOMP and AGRRA protocols were followed as outlined in each of the manuals.

The classroom sessions included a detailed review of the CARICOMP and AGRRA survey methodologies. General reef ecology information was provided and benthic identification was presented to allow students to begin to characterize the reef organisms. Video aids were used to provide information on reefs, and reefs in Nicaragua allowing some participants to see the underwater world that they would survey for the first time. Students then practiced how to collect data using the research materials with transects laid out in the conference room with pictures of corals, algae, etc. placed under the lines. In order to become familiar with both survey equipment and data sheets, students worked in teams of two. One student would work through the transect line with a ruler, meter stick, etc. and one student would record the data. Partners changed roles and worked through the transect line again. General discussions were held throughout this process.

A representative from the Reef Environmental Education Foundation (REEF) presented the fish survey protocols during an evening training session. Reef fish identification and survey materials were reviewed. Each participant received a REEF survey kit including materials that would aid in fish identification and recording materials (underwater slates).

The field exercise resulted in the completion of 5 REEF fish surveys and 4 benthic transects. The surveys were conducted on the east side of Crawl Cay where there is a shallow reef. This location provided optimal conditions allowing all level of swimmers to participate in the surveys. Equipment failures led to groups of five, one collecting fish data and another collecting benthic data.

The fish surveys were conducted along the entire eastern portion of the island from North to South. Fish teams worked in groups led by REEF. The majority of fish were found along the easternmost portion of the reef where there is a drop off. Surveys were conducted from shore, on the reef and along the reef slope.

Benthic surveys were conducted in the Northeastern portion of the island where optimal conditions existed for the purpose of learning how to conduct benthic field surveys. Four

transect lines were set, two in waist high and two in chest high water. The transects were surveyed by buddy teams using CARICOMP and AGRRA protocols. The area contained small stony corals, algae and *diadema* which allowed participants to learn how to conduct surveys in other locations in the future.

Workshop Evaluation and Recommendations

An evaluation of the workshop was completed by the participants. Workshop content, format, content and learning and comments were requested. Twelve surveys were completed.

The overall response was that more time was needed to cover topics and expand on the basic information that was provided during the workshop. Specific comments and recommendations are:

- Aprendí a como monitoreo conforme los ejemplos y las practicas obtenidas
- Obtuve conocimientos relevantes a cerca de cómo ver el decaimiento de los arrecifes coralinos
- The management of the equipment
- Fabrication of the equipment
- Conocimiento de la importancia de los arrecifes
- Importancia de saber que recursos tenemos
- Importancia de consérvalos
- Las consecuencias de no cuidar nuestros recursos
- Manejo de los equipos
- Involve more local people and community people in this kina of workshop in order to know how human activities impact coral reefs
- Extend the length of the workshop so it can be more detailed
- Knowledge of how human activities affect coral reefs ecosystems and our economy and ecology
- [I learned about] A wider view of the function of coral reefs in our marine environment
- [I learned] New skills to do research
- [I learned] Field methodologies
- [I learned] The methodology of monitoring coral
- [I learned] the methods

Suggestions:

- Show the damage that the reefs have
- More workshop
- Visit the keys to see damage
- I'd suggest a minim research from the students to prove how much they have captured or learned from the workshop
- At the end of the workshop evaluate the students to see the grade of knowledge they have learned.

Comments:

The people of the community know the importance that the reefs have

**Marine Resource Management
Coral Reef Research and Monitoring Workshop
Session I and II participants**

1. Elizabeth Pena
2. Jorge Luis Mendoza
3. Juan Mendoza
4. Bismark Granado B.
5. Leard Thomas
6. Carton Moses C.
7. Sait Obando
8. Noel Cash
9. Melvin Archibol
10. Gary Gomez
11. Saul Reyes
12. Nora Figueroa
13. Karen Joseph
14. Elmina Y. Cuthbert R.
15. Emy Cash Loaisiga (Part II)
16. Miguel Abad Wilson Cayasso (Part II)
17. Sheyne Howard (Part II)
18. Marquina Altamirano (Part II)
19. Yenina Cooper Diaz (Part II)
20. Xenia Gordon Martinez (Part II)
21. Shaira Thomas
22. Melvin Downs

Participant goals are to learn about:
marine resource management
aquaculture
diving and practical application of theories from coursework
monitoring reef health
the location of reefs
reef monitoring
fisheries life-cycles
how to make our *work* mean something to the community

**Marine Resource Management
Coral Reef Research and Monitoring Workshop
FIELD EXERCISE COMMITTEE ASSIGNMENT**

A. Funding

Melvin Archbold
George Mendoza
Saul Reyes
Karen Joseph (Lead)
Elmira Cuthbert

B. Schedule

Will be determined collectively by the group at a later date.

C. Research material design

Sait Obando Maradiaga
Carton Moses Cayasso
Leard Thomas Enriquez
Bismark Granada B.
Gary Gomez H.
Noel Cash
Nora Figueroa
Elizabeth Pena
Juan Mendoza (Lead)

**COMMUNITY STEWARDSHIP PROJECTS
COMMITTEE ASSIGNMENT**

A. Coastal Cleanup

Jorge Mendoza

B. Mangrove Planting

Bismark Granado
Carton Moses Cayasso
Sait Obango Maradiaga
Leard Thomas Eniriguez
Noel Cash
Alternate Gary Gomez H.

C. Community Workshop

Melvin Archgold
Nora Fagueroa
Elizabeth Pena
Juan Mendoza
Alternate Gary Gomez H.

D. Radio Broadcasting of URACCAN Curriculum

Karen Joseph
Saul Reyes

**Marine Resource Management
Coral Reef Research and Monitoring Workshop
Session I Notes, November 21-23rd, 2005 ** Bluefields, Nicaragua**

Group session: Identifying key threats to Nicaragua's coral reefs

1. Over-exploitation of marine resources

reducción de la biomasa (fish, coral, marine mammals)

Sobre pesca

Emigración de la biomasa

Result: baseline monitoring with detailed monitoring in the future

2. Land-based impacts

Contaminación hidrica

Deforestacion

Desechos solidos y liquidos

Result: monitoring of water quality

3. Tourism and recreation

Buceo

Pesca deportiva

?Que tipo de turismo tenemos?

¿Qué tipo de infraestructura tenemos y el desarrollo del turismo?

Result: Identify las area y realizar marinas

4. Large scale disturbances

Cambio del medio ambiente

Migración de las especies y inmigracion de las mismas

Results to be 'monitored':

-Tipos de fenómenos que afectan cada año el medio ambiente

-condiciones en que se encuentran los arrecifes cada año

-Identificación de especies tipo, número de especies encontradas en el área.

5. Shipping based impacts

Destrucción de arrecifes

Disminución de especies

Contaminación del agua

Results to be 'monitored':

-De embarcaciones entrantes y salientes?

-Tipos de embarcaciones

-Tipos de contaminantes que caen al medio ambiente

6. Other threats

Extracción de recursos marinos

Extracción de piedras y arena de las playas

Results to be 'monitored':

¿Qué tipos de recursos marinos extraen?

¿Quiénes realizan esta actividad y donede?
¿Existe regulaciones?

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Group session: Monitoring the coral and fish in Caribbean Nicaragua

Coral Reef group

1. What information do we need to know?

Which is the actual situation of the coral reef

Location/maps

Distribution

Water quality

Hydro biological studies

Scale disturbances

History of the coral reef

Activities (Pesca/T. (P/L)

2. What do you need to monitor?

Diversidad (arrecifes)

Abundancia

Riqueza

Estado físico (level of damages)

Biodiversidad ictica

3. Que resources do we have available?

Maps (people)

GPS

Botella oceanográficas

Disco secchi

Tubos PVC

Hojas de identificación especies

Recursos humanos

4. What scale of monitoring do we need?

Medium scale

Timed swim

Line transects

Chain transects

5. What types of reefs do we have in the area?

Barrier

Patch

6. What methods should we use?

Timed swim
Line transects
Chain transects

7. How often should you monitor?

Trimestral (July and August)
After a natural disaster
After a vessel accident

Coral monitoring: Reef Check, AGRRA, Mesoamerican Barrier Reef System, RECON, CARICOMP, GCRMN (combination of those reviewed in class with one being selected as the preferred methodology during the field exercise)

Reef fish group

1. What information do we need to know?

Tipos de especies
Habitat
Su comportamiento durante su periodo vida
Cantidad y tamaño

2. What do you need to monitor?

Peces
Calidad de agua

3. Que resources do we have available?

Recurso humano

4. What scale of monitoring do we need?

Escala pequeña
a de monitoreo

5. What types of reefs do we have in the area?

Patch reef

6. What methods should we use?

Roving diver
Stationary point count

7. How often should you monitor?

Cada 3 meses y despues de cada fenómeno natural

8. Control de calidad y entrenamiento?

Comparación de datos cada vez que se hace el monitoreo
Tiempo de reproducción y sitios

9. Manejo de datos y comunicación de resultados?

Reporte de datos
Y envió REEF hacer diseños y publicación de información

10. Necesitamos involucrar a la comunidad?

Talleres
Seminarios
Circulares

Reef fish monitoring: REEF (AGRRA, etc.) and Bohnsack/Bannerot

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Research material design committee materials list.

Coral and Fish

Timed swim (watches)
Data sheets
Line transects
 Line XX meters
 marking of meter
Measuring bars
 1 meter PVC

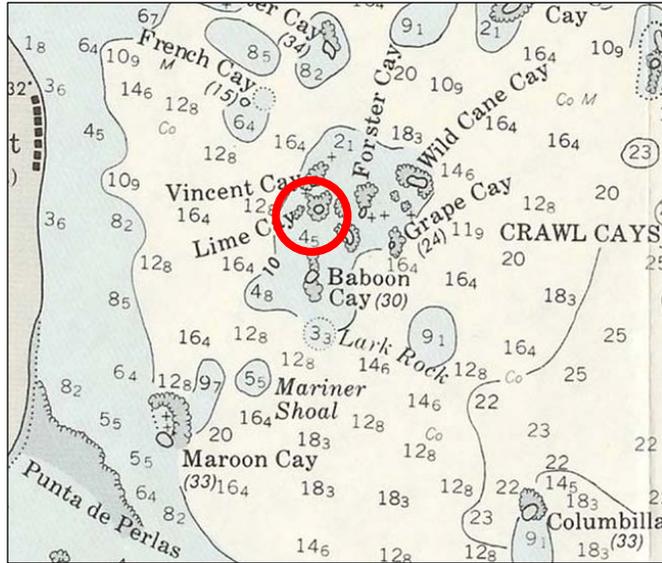
Water quality

Secchi disk
Water bottles

2 gps
2 pangas
2 cartas nauticas #26,000
2 identificadores de especies (peces y corales)
Linternas (flashlights)
Equipo snorkel

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Reconnaissance Trip: Crawl Cays, Nicaragua, Central America
(Latitude 12 degrees, 26 minutes Longitude 83 degrees, 26 minutes)



**Marine Resource Management
Coral Reef Research and Monitoring Workshop
April 2006 Budget Report**

Fund Type	Description
Salaries	<p>List individual positions and the percentage of each individual's annual salary to be covered or the hourly rate to be paid. List Benefits separately by position. NFWF funds cannot be used for salaries of permanent Federal employees.</p> <p>Phase I (4 Months August - November 2005) \$10,500: Visiting professor, 100% of salary at \$16.40 per hour for four months \$8000: URACCAN professor, 50% of salary at \$25/hour for two months \$400: URACCAN professor, <10% of salary at \$25/hour \$400: URACCAN professor, <10% of salary at \$25/hour Phase I Total \$19,300</p> <p>Phase II (4 months December 2005 - March 2006) \$10,500: Visiting professor, 100% of salary at \$16.40 per hour for four months \$8000: URACCAN professor, 50% of salary at \$25/hour for two months \$1000: URACCAN professor, <10% of salary at \$25/hour \$1000: URACCAN professor, <10% of salary at \$25/hour Phase II Total \$20,500</p>
Equipment	<p>Phase III (1 month April 2006) \$2,624: Visiting professor, 100% of salary at \$16.40 per hour for one month \$2000: URACCAN professor, 50% of salary at \$25/hour for one month \$1000: URACCAN professor, salary at \$25/hour for one week Phase III Total \$5,624</p> <p>List individual items and the per-unit costs. For the Foundation, equipment means tangible nonexpendable property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit cost.</p> <p>Phase I - No costs Phase II - No costs Phase III - No costs</p>
Other	See the table below for specific information.

Other	
Contractual Services	<p>List each service being contracted and its cost.</p> <p>Phase I In-kind service: Coastal Cleanup held on October 21, 2005 from 8am until 3pm. Two professors led thirty students in a cleanup of a portion of beach in Bluefields. The participants collected 1,949 pounds of debris during a six hour period. \$1,080: 30 Students (\$6/hour for 6 hours) Phase I Total \$1080</p> <p>Phase II Field Exercise: Workshop, Travel, Materials and Supplies \$4,627: 22 people participating in a 6 day workshop composed of classroom and field trip. Round trip travel in a launcha to the Pearl Cays. Cost includes all aspects of the field exercise as noted in the URACCAN- Centre for Resource Management and Environmental Studies (University of the West Indies, Cave Hill Campus, Barbados) contract. Specifics of the contractual services as they relate to CERMES: \$989 fuel field trip pearls Cay \$180 boat drivers salary \$ 242 airline ticket and hotel expense in Bluefields for 2 facilitators \$150 rental of a panga (skiff and outboard engine) \$600 food for field trip \$1730 research materials (lines, pvc pipes, boards, weigh measuring tapes, etc.) \$ 84, workshop refreshment \$225, rental of snorkels for field trip</p> <p>**Phase II Total \$4,200 proposed for the period ending March 2006</p>
Supplies and Materials	<p>List each type of item being purchased with the number of items of that type and the per-unit cost.</p> <p>Phase I Two day public workshop \$118: Room rental at \$59/day for two days \$90: Lunch for 15 participants \$3/person for two days. Phase I Total \$208</p>

	<p>Phase II REQUESTED- Proposed snorkel, gps, laptop *\$5285 Student snorkel gear for 35 participants at \$151/set (NFWF fund request) *\$500 GPS (two hand helds) at a cost of \$250 each (NFWF fund request) *\$1200 laptop computer dedicated to data analysis (NFWF fund request) *\$3700 for curriculum materials: field guides, field exercise preparation (lamination of field sheets, etc.). (NFWF fund request) *Phase II Totals \$10,685 proposed for period ending April 2006</p>
Printing	<p>List each type of item being printed with the number of items of that type and the per-unit cost (ex brochures, books, videos etc)</p> <p>Phase I \$105: Three conference posters “Designing a coral reef monitoring program for Caribbean Nicaragua”. Presented at the 58th Gulf and Caribbean Fisheries Institute, San Andres, Columbia. Phase I Total \$105</p>
Travel	<p>Indicate the number of trips, number of travelers, mode of transportation, and rates. International travel to be paid for with federal funds must occur on U.S. carriers to the extent possible.</p> <p>Phase I \$270: One round trip from Bluefields, Nicaragua to Managua, Nicaragua, two travelers, flights at \$135 per person. \$110: Food (\$20/day) and lodging (\$35/night) for two days in Managua.</p> <p>\$135: One round trip from Managua to Bluefields, one traveler, flight at \$135. \$100: Food (\$30/day) and lodging (\$20/night) for two days in Bluefields.</p> <p>\$42: One round trip from Bluefields to Managua, one traveler, bus at \$42. \$110: Food (\$20/day) and lodging (\$35/night) for two days in Managua.</p> <p>\$1485: One round trip from Bluefields, Nicaragua to San Andres, Columbia, one traveler, flight cost for the purpose of presenting “Designing a coral reef monitoring program for Caribbean Nicaragua”. \$1085: Food, lodging and conference registration and associated</p>

taxes. Food \$45/day for 7 days, Lodging \$90/day for 7 days, one conference registration \$50, \$90 for travel tax.

\$380: One round trip from Bluefields to Pearl Key, four travelers, boat \$380 flat rate.

\$40: Food for lunch \$10/per person for four travelers.

Phase I Total \$3,757

Phase II

\$135: One round trip flight from Managua to Bluefields, one traveler, flight at \$135.

\$200: Food (\$30/day) and lodging (\$20/night) for four days in Bluefields.

\$60: Transportation to and from airport in Managua

\$30: Transportation in Bluefields

Phase II Total \$425