

**R8317**  
***“Institutional arrangements for Coastal Management in the Caribbean”.***

**FTR Annex D**  
**Final Report of Experiment 2: Testing co-management tools and messages for training natural resource users and managers**

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## Contents

1	Introduction.....	1
1.1	Background.....	1
1.2	Rationale and overview.....	1
1.3	Definition of Key Terms.....	2
2	Methods.....	3
2.1	Communications plan.....	3
2.2	Workshops and meetings.....	3
2.3	Presentations and lectures.....	3
2.4	Paper and electronic documents.....	4
2.5	Internet communications.....	4
3	Results and discussion.....	4
3.1	UWI Cave Hill Campus.....	4
3.1.1	Inception workshop.....	4
3.1.2	Lectures and presentations.....	10
3.2	UWI Mona Campus.....	10
3.2.1	Promotion of products.....	10
3.2.2	Lectures and presentations.....	11
3.3	UWI St. Augustine Campus.....	12
3.3.1	Promotion of products.....	12
3.3.2	Lectures and presentations.....	13
3.4	Non-UWI activities.....	13
3.4.1	URACCAN Bluefields Campus.....	13
3.4.2	Glover’s Reef Advisory Committee.....	14
3.5	Evaluation exercises.....	14
3.5.1	Graduate student evaluation.....	14
3.5.2	Feedback by email from Mona and St. Augustine faculty.....	17
3.5.3	Feedback from Cave Hill CERMES faculty.....	18
4	Conclusions and recommendations.....	19
5	References.....	21
6	Appendices.....	22
6.1	Appendix 1: Communications plan.....	22
5.1	Appendix 2: Main products from participating projects.....	24
5.2	Appendix 3: Post-inception work plan with products to be developed.....	25
5.3	Appendix 4: Methods of measurement.....	27
5.4	Appendix 5: List of UWI participants.....	31

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## R8317 FTR Annex D: Experiment 2 Final Report

### Disclaimer

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# 1 Introduction

## 1.1 Background

The Caribbean Natural Resources Institute (CANARI), Caribbean Conservation Association (CCA) and the Marine Resources Assessment Group Ltd. of the UK (MRAG) implemented a research project entitled “*“Institutional arrangements for Coastal Management in the Caribbean”*”. Other partners included the University of the West Indies’ Centre for Resource Management and Environment Studies (CERMES) and the University of Puerto Rico’s SeaGrant College Program. This project (R8317) was funded by the UK Department for International Development (DFID) as part of the Land-Water Interface (LWI) component of its Natural Resources Systems Programme (NRSP). The project was implemented from September 2003 to September 2005.

At the inception workshop that was held in San Juan, Puerto Rico in November 2003, it was agreed that the overall purpose of the project should be reworded as: “to change policies and practice in order to effectively implement integrated and equitable natural resource management in the coastal zone”. The primary focus of the project has thus been on the identification, testing and dissemination of the strategies and pathways that can best ensure that the lessons, methods and tools gained from Suite 1<sup>1</sup> NRSP-funded projects are communicated effectively. All project activities were designed as contributions towards the production of a comprehensive Communication Strategy that will provide a framework for the on-going dissemination and promotion of integrated and equitable approaches to coastal resource management and development in the Caribbean region.

The design of the project was therefore centred on four experiments, namely:

- i. An experiment to test uptake of policy messages at the national level.
- ii. An experiment to test uptake or effectiveness of a tool or set of tools for use in training.
- iii. An experiment to test uptake and effectiveness of methods and tools for integrated and equitable coastal resource management.
- iv. An experiment to test uptake of a research agenda.

CCA and CERMES took responsibility for the design and conduct of the second experiment, and this report provides a summary of the activities carried out and results obtained. The experiment ran from April 2004 to June 2005.

## 1.2 Rationale and overview

Integrated and equitable natural resource management in the coastal zone will not be realised in the Caribbean without changes in the attitudes, perceptions, skills and capacities of a range of people in government agencies, civil society organisations and the private sector. Universities in

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<sup>1</sup> The Suite 1 projects are: Institutional and technical options for improving coastal livelihoods (CANARI, reference: R7559); Institutional arrangements for Caribbean Marine Protected Areas and opportunities for pro-poor management (MRAG, reference: R7976); and Requirements for developing successful co-management (CCA, reference: R8134).

the region, in a range of disciplines that include biology, natural resource management, social work, economics and government, educate and train many people who are potentially change agents. The tools, messages and materials that have been produced by DFID-NRSP-LWI-funded projects and other research initiatives in the region need to be made available to these educational institutions. Educators and trainers need to be motivated and equipped to use these items in their instruction where most appropriate and likely to produce the most useful outcome.

The main purpose of this experiment was to identify the ways in which tools and messages can effectively and efficiently be made available to the teaching staff of tertiary education and training institutions, as well as ways in which these people and institutions can be informed of the benefits to be derived from the inclusion of such tools and messages within their curricula and programmes. This involved the implementation of a communications plan for uptake using the messages, products and pathways identified at the experiment's inception workshop.

The experiment focused on products from the project on coastal resource co-management (R8134), with attention to marine protected area (MPA) management (R7976) and coastal livelihoods generally (several projects). The primary target for the experiment was the Cave Hill Campus of the UWI in Barbados. However, within the constraints of time, logistics and budget, the experiment was extended to the other campuses of the UWI (in Jamaica and Trinidad) and to another university in the wider Caribbean (in Nicaragua).

The next section of this report outlines the methods used, the results of which are then presented and discussed. Finally, some conclusions are drawn and recommendations made. The appendices provide considerable detail on the experiment.

### 1.3 Definition of Key Terms

The authors have made every effort to use language that is clear and free of jargon, but some key terms used in the document may be unfamiliar to readers, or may be used in a sense that is somewhat different from their everyday use. These terms include the following:

<b>Term</b>	<b>Definition</b>
<b><i>Results</i></b>	Public policy messages, management tools, and research priorities coming out of the research projects.
<b><i>Target audiences</i></b>	Specific audience segments to which the messages will be addressed, e.g. coastal resource users, public officials, resource managers, local residents. These audiences can also be defined as <b><i>coastal management stakeholders</i></b> .
<b><i>Products</i></b>	Materials that synthesise and package the results in forms appropriate for dissemination to specific target audiences through appropriate pathways (e.g. case studies, video documentaries, training curricula, PowerPoint presentations, policy briefs).
<b><i>Pathways</i></b>	Channels and activities through which results and products are delivered to target audiences (e.g., distribution of print materials, meetings, field visits, training workshops, visual presentations, mass media).
<b><i>Uptake</i></b>	Acceptance and use of products by target audiences, as evidenced by changes in practices, behaviours, attitudes, and policies.

## **2 Methods**

### **2.1 Communications plan**

Strategically, one of the most important components of the experiment was the communications plan (Appendix I) that evolved out of several meetings and exchanges with the leaders of the other experiments and the funding agency. The plan was formulated while taking into account the original products that the experiment had to work with (Appendix II), and adopted a realistic perspective on what items could be developed and tested within the framework of the experiment (Appendix III). Monitoring and evaluation were incorporated to assess the impacts of the products that were developed during the experiment. The communications specialists for the overall project supplied feedback on the plan and the products.

### **2.2 Workshops and meetings**

The inception workshop held at the Cave Hill Campus and subsequent follow-up there with students and faculty provided most of the experiment's quantitative data and in-depth analyses. The workshops were highly participatory, brief and informal. Some of the instruments used are shown in Appendix IV. Meetings to exchange information were held on all three UWI campuses with individuals and small groups. These elicited useful observations and opinions from the participants. The aim of these interactions was to provide feedback on the experimental products described below. This feedback came from mainly from the UWI faculty and teaching assistants in Appendix V, and graduate students. The participating students, at Mona and Cave Hill, are not individually identified, but were about forty in numbers. There were about twenty-five diverse participants at the workshop in Nicaragua.

### **2.3 Presentations and lectures**

A graphically enhanced slide presentation of the co-management guidelines was developed along with lecture notes focussed on the concepts and conditions for successful co-management. The slides of the original R8134 project were purposefully left rather plain. For the experiment, the concepts were broken out into smaller units of information, and pictures of the region were added to create Caribbean identity. Colours and fonts were modified to make the presentation more appealing. The lecture notes simplified and condensed the contents of the six substantive chapters of the guidelines into four lectures aimed at graduate level. Colour coded boxes suggested class questions and exercises to stimulate discussion and facilitate group work. Other shaded boxes highlighted key learning points, definitions and concepts.

The slides and notes were both tested in teaching at Cave Hill and Mona. The presentation was also shown to a gathering of faculty at St. Augustine. Case study slides were presented at Cave Hill. The two leaders of this experiment did the various presentations and lectures, and this facilitated the evaluations subsequently conducted with participants. The CANARI video of the Mankote mangrove management in St. Lucia was also used.

## **2.4 Paper and electronic documents**

The co-management guidelines, case studies with summaries and comparative analysis were all made available in paper and via electronic files on CD. These were widely distributed on all campuses. Typically these items were laid out at meetings and most were distributed, with a set retained for display and from which copies could be generated. At Mona and St. Augustine key faculty members served as the contacts from which others could obtain copies of the full range of products.

The new products were the summaries of lessons learned that were developed from each of the six coastal co-management case studies previously produced under R8134. These summaries were designed for meeting the needs of graduate course reading assignments and the exam habits of students who search for dense information on coastal resource co-management. The summaries were intended to supplement, not replace, the case study presentations and reports.

## **2.5 Internet communications**

The experiment used several internet services. The CERMES and CCA web sites were promoted as locations from which the co-management documents and slides could be downloaded. MRAG and CANARI sites were identified for marine protected area (MPA) and a variety of products respectively. Another DFID-funded project, the UWI Coastal Management Research Network (COMARE Net), was used as the vehicle for distributing the original products from the projects. The UWI Environmental Research Network (UWIENV), a Yahoo e-group, and electronic mail were used to contact the people who participated in the experiment.

# **3 Results and discussion**

## **3.1 UWI Cave Hill Campus**

### **3.1.1 Inception workshop**

In preparation for the inception workshop a snowball technique was used to identify lecturers and persons in information services at the Cave Hill Campus who had an interest in coastal management teaching materials. As one person referred Parsram and McConney to others we reached a total of about fifteen people. The number of people on the Cave Hill Campus with an interest in coastal management is quite small. Some of them were on leave or were otherwise unavailable for the workshop. Nine participated in the inception workshop held at CERMES on 6 July 2004. The lecturers with primary responsibility for teaching and training related to coastal management were all present. Prior to the workshop they received products, mainly from R8134, to review. The inception workshop report (CCA 2004) is summarised below.

Participants completed a form to verify the teaching and training they offered, and to identify which and what proportion of the messages from the coastal co-management guidelines (R8134 main output) they currently used. They also indicated what messages, not currently in use, would most likely be used or not used. These data provide a baseline assessment of current and potential use. They also identified areas for further research. This is relevant to Experiment 4.

The UWI Cave Hill courses related to coastal resource management include:

Undergraduate courses

- Marine Biology
- Human Ecology and Conservation
- Caribbean Island Biogeography
- Techniques of Historical Investigation

Graduate courses

- Sustainable Tourism in the Coastal Zone
- Environmental Law and its Administration
- Introduction to Environmental Planning and Management
- Environmental Impact Assessment
- The Value and Conservation of Biodiversity (including field trip)
- Fisheries Biology and Management
- Monitoring and Measurements in Natural Resource Management
- Concepts and Issues for Environmental Managers
- Coastal Ecology and Management
- Landscape History of the Eastern Caribbean

At both undergraduate and graduate levels the majority of courses with coastal content approach the topic primarily from a natural science perspective with little or nothing on the human dimension of management or governance. Aspects of co-management are included in several courses, but they do not constitute a major part of any course currently offered. The CERMES graduate courses (all of the above except the last), are the most relevant to this experiment at the Cave Hill campus. Within CERMES courses the co-management content varies. Some of the variation is due to the academic and professional backgrounds and preferences of the lecturers. The remainder is generally due to the natural science orientation of the topics in the curriculum.

The responses on the assessment of the messages indicated that some messages were not, and would not be, used in courses due the curriculum. This would be the case regardless of whether lecturers personally agreed with the messages or not. Some lecturers said that they would have the scope to include new messages. Only a few of the messages were used by almost all lecturers under most circumstances. These included:

- Maintaining healthy coastal and marine ecosystems is fundamental for sustaining livelihoods.
- The people of the Caribbean region, especially the poor and other disadvantaged groups, should be able and allowed to effectively engage in partnerships with government to sustain livelihoods that are dependent upon coastal resources.
- Co-management requires teamwork. Although stakeholders have common interests they also have differences. Working together towards common goals requires collective action. Trust and mutual respect are essential for this to happen without undue conflict.
- The Caribbean has few coastal and marine non-governmental and community organisations that are positioned to play roles in co-management. Community organising will be a critical component of introducing or strengthening co-management in the Caribbean.



## R8317 FTR Annex D: Experiment 2 Final Report

- There may be limitations in stakeholder and state agency capacity, and legal framework, which are barriers to decentralisation, delegation and devolution.
- Where there is not much information about the resource or its use it may be necessary to formulate precautionary objectives.

Another category comprised messages that are, or would be, used by lecturers only in specific circumstances. Some indicated that they would use the messages if they had the opportunity to verify them beforehand with evidence, rather than to simply accept them as received wisdom. The content of the case studies could provide the evidence. Not all participants had read all of the project outputs in detail. They may review these in the future if schedules and interest permitted.

The messages in the third category were sub-divided into three types, as this category is the most pertinent to assessing the potential for uptake. The two messages that generally were not used now, but would be in the future were:

- Openly acknowledge that co-management is an experiment, and then design it for all stakeholders to monitor and evaluate it as a learning process.
- Organisations should set priorities and schedules for building capacity, with testing, monitoring and evaluation incorporated to measure success.

From this one may conclude that the lecturers are in favour of monitoring, evaluation and the notion of learning-by-doing. These are fundamental features of good natural and social science. Lecturers may be persuaded to use several more messages on the basis of evidence such as in the case studies. This deserves attention in uptake promotion.

The last category of messages is not, and probably would not be, used by most of the lecturers:

- People who work by the sea often cling tenaciously to their main lifestyle as an expression of their culture and personality, preferring complementary (not alternative) work.
- In general, restricting access and establishing property rights will be powerful incentives once the socio-cultural resistance to limiting access is overcome.
- A key to success is to reduce the openness of access to coastal and marine resources through the establishment of property rights.
- It is a common mistake to take leaders out of their element and expect them to do equally well in another environment.

They concern livelihoods, property rights and leadership. All warrant further investigation. The notion of property rights attracted comments that suggested a need for more detailed explanation. This is not surprising given the complexity of the concept, and its varied uses and interpretations.

The few lecturers whose courses contained a high content of co-management topics already used between 50-80% of the messages, and indicated that they would use most of the others not now in use. This important subset of educators is apparently quite receptive to the project messages. It is on this group, all located in CERMES, that materials for promoting uptake are likely to be most successful and have the greatest impact. The lecturer concerned with history and heritage studies was also quite receptive to the messages, but the scope for his significant impact on natural resource managers in the Caribbean is less than for CERMES staff.

Concerning topics for further research, again participants qualified their responses, resulting in the overall perspective shown in the table below where the extent of agreement is a combined index comprising counted responses and comments.

<b>Key area for future co-management research</b>	<b>Extent of agreement</b>
Property rights regimes or their absence	✓✓✓✓✓✓✓✓
Institutionalising collective action	✓✓✓✓✓
Communicating marine science	✓✓✓✓✓✓
Dimensions of trust and respect	✓✓✓✓✓✓
Capacity enhancement and utilisation	✓✓✓✓✓
Traditional ecological knowledge and shifting baselines	✓
Stakeholder analysis (patterns emerging from studies)	✓
Conceptual frameworks for “change agent” impacts	✓

If possible, these results could be fed into Experiment 4 of the overall project, which looks at research relevant to pro-poor integrated coastal management, including co-management. These perspectives are also relevant to COMARE Net.

Parsram and McConney also reviewed specific products to investigate how participants received coastal management information, and how they disseminated it to students and colleagues. Presented were:

- CCA coastal co-management project
  - Case studies, comparative analysis, guidelines document and guidelines slides all available as hard copy, on CD and as downloads from the CCA and CERMES web sites
- MRAG institutional arrangements for marine protected areas (MPAs)
  - Guidelines document available as hard copy, on CD and as download from the MRAG web site
- CANARI Mankote mangrove educational pack
  - Document, video and slides

Of the three product sets presented, only the Mankote material had been used extensively, and only by one lecturer. Others found what was presented on Mankote to be very useful and were interested in obtaining copies of this CANARI educational pack. It was thought that the Mankote material had not been sufficiently promoted and distributed since its initial production.

Even within the same department there is relatively little sharing of teaching material among lecturers, and the specific content of courses is seldom discussed in group settings aimed at information exchange and integration of course materials. However, CERMES lecturers, because their material is interdisciplinary and integrated, pay more attention to content similarities and divergences or contradictions than lecturers in areas in which the focus of the courses tends to be narrower or not inter-disciplinary. The MRAG guidelines on MPAs were thought to be particularly relevant for teaching in heritage and history studies.

There was discussion of the context and goal of teaching about coastal co-management in the UWI system in terms of the demand. It was thought that there should be a strong link between

content and demand. One lecturer said feedback from a CERMES student revealed that while the relevance of co-management may not have been appreciated in the classroom, it was very much appreciated when the student conducted fieldwork and got to experience firsthand the governance of coastal natural resources. The practical use of training in co-management needs to be further emphasised through the teaching materials and assignments.

It was noted that co-management is actually taking place. The UWI is only now beginning to catch up to this reality in degree courses. Meanwhile short courses on the topic, by this or other names, some offered by NGOs, have existed for some time. The work of CANARI was mentioned. It was generally agreed that, while not being explicitly demand-driven, teaching in co-management was proving itself useful in NGO settings and public administration.

Regarding communication channels, with few exceptions, the lecturers preferred to get their information through field visits and a variety of documents (e.g. case studies, guidelines and scholarly articles). There was more variation in the ranking of sources such as Internet, face-to-face meetings, lectures, conferences, training workshops and visual presentations. Lowest ranked were cultural communications, newspapers, radio and exhibitions. Lecturers communicated coastal management information to graduate and undergraduate students mostly by lectures, visual presentations and field trips. This reflects normal modes of teaching. Lecturers communicated to colleagues by most means except mass media. Face-to-face meetings ranked quite high and therefore could be effective means of communication for the uptake of messages perhaps tailored to the specific requirements of the individual.

In a group exercise participants summarised their views on the use and development of the CCA coastal co-management project (R8134) outputs. Participants commented on use of products in their current form, identified limitations and constraints (good points were also noted), and were specific on recommending changes to render them of even greater use for teaching. The comments were used to inform the communications plan and priority activities. The results are in the table below.

Potential use “as is”	Limitations/constraints	Recommended change
<b>Existing product</b> Case studies (6)		
<ul style="list-style-type: none"> <li>• Student reading material</li> <li>• Lecturer reference for preparing lectures</li> <li>• Easy to access on CERMES website or to be put on shared server</li> <li>• Research or baseline source of starting point</li> </ul>	<ul style="list-style-type: none"> <li>• Only a snap shot in a particular time – relevant in a particular context and place in time</li> <li>• Needs updating if lessons are to be current and correct for the present</li> <li>• Message could be out of date or superseded</li> </ul>	<ul style="list-style-type: none"> <li>• Produce updates and addendums to the cases</li> <li>• Lessons learnt, that are more durable, could be the focus of information gained</li> <li>• Produce a video of the case studies (check the CFRAMP outputs for examples)</li> </ul>
<b>Existing product</b> Comparative analysis		
<ul style="list-style-type: none"> <li>• Generally as above</li> <li>• Good reference material</li> <li>• Complements case studies in coverage</li> </ul>	<ul style="list-style-type: none"> <li>• Dutch/French/Spanish experiences, if different, could be a big omission or could be irrelevant. Not clear if there is a gap</li> <li>• Similar to UWI’s political, language, cultural gaps</li> <li>• Regional, truly Caribbean, coverage would be ideal</li> </ul>	<ul style="list-style-type: none"> <li>• Extract from Dutch, French and Spanish experiences, but do not expect them to necessarily be relevant</li> <li>• Incorporate lessons from other, more similar English-speaking countries, globally</li> </ul>
<b>Existing product</b> Guidelines document		
<ul style="list-style-type: none"> <li>• Simple and short enough to be made available to students as course reading</li> <li>• Can be used directly by a lecturer</li> </ul>	<ul style="list-style-type: none"> <li>• The messages, when extracted, do not reflect the linkages apparent in the guidelines, perhaps as a result of the condensed style of writing</li> </ul>	<ul style="list-style-type: none"> <li>• More promotion required</li> <li>• Convert to quick reference lecture notes, bullet form</li> <li>• Convert to a how-to-do or self-teaching manual</li> <li>• Reduce the use of technical terms and jargon</li> <li>• Create a web based/online course that students can interact with (incorporate a query and response system like FAQs) including video</li> </ul>
<b>Existing product</b> Guidelines slides		
<ul style="list-style-type: none"> <li>• Use directly in a lecture presentation, no need to prepare from scratch, but can add to slides</li> </ul>	<ul style="list-style-type: none"> <li>• Slide show cannot be used stand alone; it needs the background reading of the guidelines document or a lecturer</li> </ul>	<ul style="list-style-type: none"> <li>• Needs promotion and more testing on audiences</li> </ul>

### 3.1.2 Lectures and presentations

CERMES graduate students (25 in the largest class) interacted with the experiment in three of their courses. In “Concepts and Issues for Environmental Managers”, the first course of the academic year, students received copies of the co-management guidelines. These guidelines, lecture notes developed from them, the enhanced guidelines slide show and new case study slides were used in parts of “Fisheries Biology and Management” and “Managing Coastal and Marine Resources and Biodiversity”. These courses are listed under their original titles in the summary of the inception report.

The students were informed that these teaching materials were part of an experiment and that they would later be asked to evaluate their usefulness. The lecturers responsible for these courses asked the experiment leaders to deliver the materials as guest lecturers. Therefore it was not possible to investigate how lecturers handled the materials for and during delivery. Parsram and McConney took note of students’ reaction to various products and parts of the presentations. The evaluations by the students are presented and discussed later in this report.

## 3.2 UWI Mona Campus

### 3.2.1 Promotion of products

Following up on expressions of interest from faculty at the UWI Mona Campus in the uptake products of R8317 Experiment 2, McConney held a meeting there hosted by the Department of Life Sciences on 22 February 2005. The initial contact and dissemination of information was via the UWI’s electronic Environmental Research Network (UWIENV), its Coastal Management Research Network (COMARE Net) and the web site of the Caribbean Conservation Association (CCA). Not all persons expected to be at the meeting could attend. Present were Dr. Dale Webber (Head of Department) and lecturers Dr. Judith Mendes, Dr. Peter Vogel, and Mr. Karl Aiken. A variety of uptake products were distributed as part of Experiment 2 and COMARE Net. The products distributed included paper and electronic copies of case studies, presentations, guidelines, lecture notes, summaries and reports of the NRSP-funded projects.

Dr. Webber hosted the meeting. He and the other participants briefly outlined their involvement in teaching and training related to coastal management and their interest in co-management. They all teach undergraduate and graduate courses, and undertake training and research consultancies in projects for a variety of local, regional and international clients. Dr. McConney described the project, the experiment and the inception workshop at Cave Hill. He then presented, explained and promoted each of the uptake products with emphasis on the lecture notes, case study summaries and enhanced slide presentation of the co-management guidelines.

Webber indicated that all of the materials were of interest to his department and possibly to others who were not present. He agreed to immediately see what materials could be used in a coastal management course that he was about to teach and that he could provide feedback upon their use in about six weeks. Also, the Department of Life Sciences is in the process of preparing a MSc in Marine, Estuarine and Riverine Systems, and co-management may be useful as a component. Peter Vogel, Karl Aiken and Judith Mendes also teach graduate and undergraduate courses that may benefit. They currently use material from many sources.

Those present appreciated that the project was offering to tailor teaching materials to meet demand, but noted that lecturers often preferred to work with “raw” material to tailor on their own. While documents by others are used in teaching, it was less common to use pre-packaged lecture notes and slide presentations unless they were initially part of the course design. It would be difficult to produce such packages to meet the needs of the very different teaching and training requirements at Mona. Meeting participants did not think that much promotion of the materials was needed beyond ensuring they were readily available to lecturers.

The question of copyright was raised. Intellectual property rights and restrictions on using some materials are becoming issues of concern to lecturers. The group was pleased to hear that the co-management materials could be freely used and adapted for educational purposes. On-line courses are being encouraged by UWI in policy, but in practice their use is less certain. The demand for on-line teaching increases with the number of part-time students, but this varies among courses in the teaching programme and between years. Some courses that were to be converted for on-line delivery have remained face-to-face. There are pros and cons of on-line teaching in the current UWI system that do not allow a single simple answer as to whether on-line material on co-management would be used, if available, and to what extent.

Given that the products developed in the experiment were only a small portion of what lecturers may use, McConney noted the difficulty that a research assistant was having in locating and obtaining from UWI faculty electronic copies of coastal management research documents or other outputs for distribution by COMARE Net and for adding further value to the materials from the NRSP-funded projects in R8317. Mona faculty members replied that much of their work was done as consultancies for clients. Some of these reports are never published (due to the two-year publication restriction). They are not included in their CVs or listed in departmental reports. Seldom is the research of graduate students turned into reports available to the public. In this context the group welcomed receiving, through COMARE Net, copies of the NRSP-funded project outputs and the articles published in primary literature. It was agreed that more grey literature related to coastal management research needs to be made more accessible, but accomplishing this would be challenging and time-consuming. The group acknowledged the recently initiated effort of CERMES to (re-)start a technical report series in electronic and paper formats that can be distributed by COMARE Net.

### 3.2.2 Lectures and presentations

At the end of May 2005, the guidelines document and the enhanced slide presentation were used in lectures to about 20 graduate students in the MSc. course entitled “Concepts and issues in tropical environmental and natural resources management”. In an informal evaluation at the end of the series of 10 lectures, the students indicated that the guidelines, which they all received as a reference document and mandatory reading, were useful as were the slides.

The Head of the Department of Life Sciences, UWI Mona Campus, indicated his intention to incorporate elements of co-management materials into undergraduate and graduate courses beginning September 2005. He said that plans to use the products sooner did not materialize due to on-going dialogue about course structure and content that remained unresolved until recently.

### **3.3 UWI St. Augustine Campus**

#### **3.3.1 Promotion of products**

Following up on expressions of interest from faculty at the UWI St. Augustine Campus in the uptake products of R8317 Experiment 2, and the usefulness of the meeting at the Mona campus on 22 February 2005, McConney held two meetings on campus in Trinidad on 3 March 2005. The initial contact and dissemination of information was via the UWI's electronic Environmental Research Network (UWIENV), its Coastal Management Research Network (COMARE Net), and the web site of the Caribbean Conservation Association (CCA). Two sessions were held so as to provide more than one opportunity for participation. The first (1000-1130) was organized by Dr. Indar Ramnarine of the Department of Life Sciences. The second (1230-1330) was organized by Dr. Asad Mohammed of the Department of Surveying and Land Information.

A variety of uptake products were distributed as part of Experiment 2 and COMARE Net. The products distributed included paper and electronic copies of case studies, presentations, guidelines, lecture notes, summaries and reports from the Caribbean NRSP-funded projects. The product presentation ended with the Experiment 2 enhanced slide presentation of the co-management guidelines. Discussion followed. In addition to UWI faculty, researchers from the Institute of Marine Affairs (IMA) who are graduates of UWI programmes also attended the first session. Graduate students from the Department of Surveying and Land Information who are involved in coastal planning attended the second session.

Combining the discussion points from both sessions, the participants found the presentations useful and several indicated that they could use some of the material immediately. Others said that they would review it send comments by email, but would have no immediate opportunity to use any of the products. The materials were thought to be applicable also to agriculture, forestry and irrigation systems, especially in illustration of methodology. Gender and stakeholder analysis were cited as methods in need of Caribbean-oriented manuals. The planners were particularly interested in methods applicable to the coastal interface and said that the emphasis on fisheries was more marine than they required. Participants noted the need for more methods literature for Caribbean research and said that the lecture notes needed to refer to sources of information on methods for further reading. The lecture notes should also refer to particular of the case studies for illustration. This would be helpful to both lecturers and students.

The case studies drew attention to the large amount of grey literature from other projects that could be converted into cases useful for teaching, but this was not being done in recent times. The Matura turtle conservation and Nariva swamp water studies were cited as situations that had been well researched but insufficient material had been prepared specifically for teaching. The use of an analytical research framework for the co-management case studies was appreciated. Some lecturers said many available case studies tended to be purely descriptive. Updates to case studies are needed to keep teaching material current and relevant, but there were few cases of longitudinal community studies in the Caribbean. Those present were not familiar with the Mankote mangrove teaching materials produced by CANARI.

Having teaching materials in electronic versions was considered essential since students tended now to use the internet more than the library, and more courses were being taught on-line. One

lecturer who specialised in extension training said that distance education for mid-career professionals involved in natural resource governance could benefit from a module covering co-management. He found it difficult to meet the demand for on-line materials. The same applies to the degree courses in rural sociology.

The applied researchers from the IMA noted that when they started their socio-economic studies using participatory methods they found less reference material for the Caribbean than for other areas despite the large number of studies that they knew were done. The UWI should obtain grey literature from government departments and convert these into teaching materials. Several of the concepts and skills described in the co-management guidelines were not covered in their relatively recent graduate degrees, but the situation was improving. These graduates noted that much of the grey literature needed careful screening and peer review before use. The quality of reports varies significantly and some have only very narrow relevance. The production of working papers from projects and publication of conference presentations was thought to be useful as an interim phase before publishing in primary literature. Too little is being published.

Views were mixed on whether the uptake products needed to be actively promoted as against being made more accessible. Many of the lecturers teaching about participatory methods and co-management and integrated coastal management are natural scientists who have recently discovered social science perspectives. There are fewer social scientists who focus on natural resource management. Some quantitative natural scientists were said to be reluctant to change their teaching materials and established courses despite being urged to keep current by faculty deans and campus principals. These people require promotional efforts, but the majority of lecturers in integrated coastal management need no encouragement. Increasing incorporation of materials on participation had resulted in duplication and overlap of some course content.

Both sessions included members of the SEDU team who implemented the R8135 project and are also currently engaged in uptake promotion. Their contributions were very useful. The need for policy briefs to change the currently constraining policies on participation in many Caribbean countries was emphasised, especially by the planners. Conflicting and competing administrative jurisdictions by management authorities in coastal areas was identified as a persistent problem.

### 3.3.2 Lectures and presentations

Unfortunately there were no opportunities for lectures and presentations to students on this campus. The researchers and educators who attended the presentation were unable to use the materials in their courses within the timeframe of the experiment. Unlike the Cave Hill and Mona situations, the experiment leaders were not invited to guest lecture in any of the courses.

## 3.4 Non-UWI activities

### 3.4.1 URACCAN Bluefields Campus

The co-management guidelines, lecture notes and enhanced slide presentation were used for a Workshop on co-management and responsible fisheries, 14-18 March 2005 in Pearl Lagoon, a rural community on the Caribbean coast of Nicaragua. The materials were provided to fisheries lecturer, Ms Karen Joseph, from the Bluefields campus of the Universidad de las Regiones Autonomas de la Costa Caribe Nicaraguense (URACCAN). She re-printed the lecture notes in



large font and elaborated on only a few technical words to suit the audience of about 20 men and women from about 5 communities surrounding Pearl Lagoon. Participants included fisher men and women, government officials and community group leaders. Due to uncertain electricity supply no slide presentation using a projector was feasible, but the presentation was converted into a handout with space for note-taking. Some difficulty in adjusting the slides to the right size and style for clear reproduction in black and white illustrated the need to produce a handout other than what results from the standard PowerPoint options.

Most participants had working knowledge of English, but communication also took place in Spanish and the Miskito language. The lecturer added many games and small-group exercises that were not part of the original lecture notes. Some of these enhancements may also be appropriate for an interactive on-line version of the training. McConney participated in the workshop. The participants were observed to have no difficulty following the course material, and each lecture took one day to deliver with the enhancements mentioned previously.

#### 3.4.2 Glover's Reef Advisory Committee

The co-management guidelines, enhanced slide presentation and a slides handout were used for a workshop on co-management for the Glover's Reef Advisory Committee, 17 March, in Belize City, Belize. McConney undertook the half-day training as part of CERMES Coastal Resource Co-management Project (CORECOMP) at the request of the Wildlife Conservation Society of Belize. The materials were used unaltered, except that an exercise adapted from one observed in Nicaragua was used to illustrate objective trade-offs under co-management. The 10 participants included fisher, tourism and local government representatives, an NGO, coastal and fisheries management authorities. Each slide was discussed in the context of relevance to Belize and the Glover's Reef MPA. Upon oral evaluation at the end, participants said that the materials were clear and understandable. However they needed additional time to study the guidelines and look over the slides handout since the delivery time was constrained. They appreciated the use of Belizean examples, most taken from the R8134 Belize case studies, to illustrate and explain points from the slides. The Fisheries Department is considering using the teaching materials for training other MPA advisory committees

### 3.5 Evaluation exercises

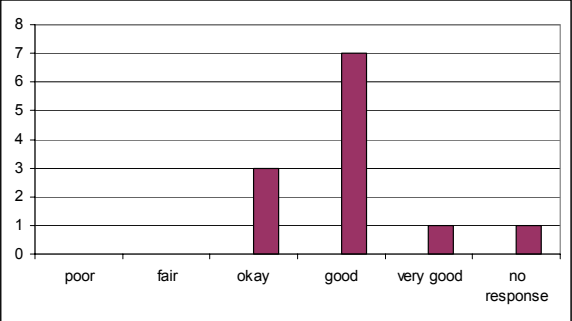
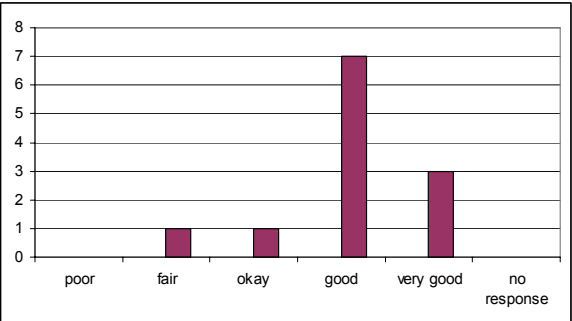
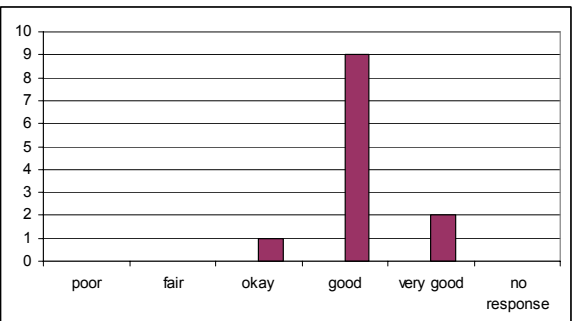
The results and discussion above include several instances of informal evaluation. However, the experiment also included some more structured evaluation exercises involving the use of simple questionnaires. These were administered to graduate students and to some CERMES faculty. The presentations of teaching products at the campuses were vigorously followed up by Parsram to obtain feedback on their actual use, or at least their review, by persons at the presentations. The responses to repeated requests for feedback were generally few and brief, especially since none of the participants had actually tested the materials yet. This lack of response was informative, as were the comments received from Mona and St. Augustine faculty. These evaluations are below.

#### 3.5.1 Graduate student evaluation

Graduate students taking the course in *Concepts and Issues for Environmental Managers* received a copy of "Guidelines for coastal resource co-management in the Caribbean: Communicating the concepts and conditions that favour success". The guidelines, related lecture

R8317 FTR Annex D: Experiment 2 Final Report

notes and slide presentations were used in parts of *Fisheries Biology and Management* and *Managing Coastal and Marine Resources and Biodiversity*. This section summarises 12 students' evaluation of these teaching materials and their use. The instrument used for gathering data is in Appendix IV, but the questions asked are reproduced here for convenience.

<p>1. Quality of the contents of the guidelines publication (blue book)</p>  <table border="1"> <thead> <tr> <th>Category</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>poor</td> <td>0</td> </tr> <tr> <td>fair</td> <td>0</td> </tr> <tr> <td>okay</td> <td>3</td> </tr> <tr> <td>good</td> <td>7</td> </tr> <tr> <td>very good</td> <td>1</td> </tr> <tr> <td>no response</td> <td>1</td> </tr> </tbody> </table>	Category	Count	poor	0	fair	0	okay	3	good	7	very good	1	no response	1	<p>Suggested improvement:</p> <ul style="list-style-type: none"> <li>• Good guide; encourage more reading of it</li> <li>• Will be kept and used as reference</li> <li>• Need more examples of it at work</li> <li>• Could not recall the details of contents</li> </ul>
Category	Count														
poor	0														
fair	0														
okay	3														
good	7														
very good	1														
no response	1														
<p>2. Quality of the information content of the co-management lectures</p>  <table border="1"> <thead> <tr> <th>Category</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>poor</td> <td>0</td> </tr> <tr> <td>fair</td> <td>1</td> </tr> <tr> <td>okay</td> <td>1</td> </tr> <tr> <td>good</td> <td>7</td> </tr> <tr> <td>very good</td> <td>3</td> </tr> <tr> <td>no response</td> <td>0</td> </tr> </tbody> </table>	Category	Count	poor	0	fair	1	okay	1	good	7	very good	3	no response	0	<p>Suggested improvement:</p> <ul style="list-style-type: none"> <li>• Additional examples and increased interaction aid in understanding process</li> <li>• Seemed to repeat themselves a lot</li> <li>• More interactive lectures can be done for the previous lectures; I particularly liked Kemraj's approach to making us think and figure things out as opposed to just giving it to us (Note: included the Mankote case study video and teaching package).</li> </ul>
Category	Count														
poor	0														
fair	1														
okay	1														
good	7														
very good	3														
no response	0														
<p>3. Quality of the information content of the supporting slide presentations</p>  <table border="1"> <thead> <tr> <th>Category</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>poor</td> <td>0</td> </tr> <tr> <td>fair</td> <td>0</td> </tr> <tr> <td>okay</td> <td>1</td> </tr> <tr> <td>good</td> <td>9</td> </tr> <tr> <td>very good</td> <td>2</td> </tr> <tr> <td>no response</td> <td>0</td> </tr> </tbody> </table>	Category	Count	poor	0	fair	0	okay	1	good	9	very good	2	no response	0	<p>Suggested improvement:</p> <p>No suggestions</p>
Category	Count														
poor	0														
fair	0														
okay	1														
good	9														
very good	2														
no response	0														

In addition to the scaled questions the students were also asked questions with dichotomous (yes/no) responses for which explanations were sought. Students answered 'yes' in all cases. Their open ended explanations for the response are given as bullet points below each question.

4. Were the materials adequate in informing you about the concepts of coastal co-management?  
 Yes ... Please describe how.       No ... Kindly explain why not

- I gained an understanding of the entire co-management process — the types of co-management, the importance of stakeholders and what needs to be done to have a successful co-management process
- Theoretical concepts clear to understand and relevance to various sectors and industries (e.g. tourism, fisheries CZM) illustrated
- The materials showed us what tools were needed for co-management to work and how it would be without it. It seems to work much better than the top-down approach. Everyone feels co-management is important
- Yes, but as the question asks it was only conceptual when the field is very hands on. Loses a bit of sense of value when strictly theoretical.
- The case studies used were helpful in illustrating the concepts
- The issues in various islands' case studies and what can be adopted by others. Guidelines on how to approach the co-management arrangement as best as possible
- Types of co-management, reasons for management and case studies showing the process used in different situations, helped bring out the elements necessary for a successful co-management project
- Not sure — some things are still not clear. Co-management and the extent or importance will have to show up later.
- The materials were presented in a very logical framework. Also their use. A number of case studies which allows for clarity as to how co-management actually works.
- Yes, because the coastal environment on the seaward side is a 'national commons' and to restrict use may well be to restrict peoples' livelihoods (regulation of poverty)

5. Based on all of these materials, do they encourage you to try to promote or implement coastal resource co-management if the opportunity arises?  
 Yes ... Please describe how.       No ... Kindly explain why not

- It seems like a viable solution in natural resource management as it allows everyone to be involved and have a say in what needs to be done and provide solutions to any arising issues.
- In situations where communities share and have a strong interest in maintaining a resource where traditional approaches have failed
- It lets the stakeholders know that their view is important and that they are not overlooked in decision making
- The soft science lost me with respect to a sense of material learned, I do now have an appreciation for its necessity if nothing else
- Coastal resources are very limited and traditional techniques are inadequate, so a bottom up approach may be adequate
- I can use the materials presented in lectures and case studies (fisheries, mangrove, biodiversity). I see the benefits of co-management arrangements from the various case studies and I think it is a good way to go so that all stakeholders can benefit and the natural resources on which people depend are protected

## R8317 FTR Annex D: Experiment 2 Final Report

- Shared management has been proven to lead to a successful project where the resource is protected, the community empowered and all stakeholders participate, leading to a sustainable outcome.
- Not sure. There are examples of success and failure and experience of attempts which did not get very far.
- Because the results of co-management are very equitable; not only the people benefit, but the resource is protected and used sustainably. The materials presented also are very structured and clear and can be followed quite well. The materials also allows for the implementation to be skewed on a part-situation
- To use this approach is to seek equity/fairness which is important for sustainability & reduction of degradation of our resources

A couple of students also volunteered additional information. They said:

- I have a better understanding of the need/usefulness of co-management. The concept or idea behind it and some of the problems encountered. I still feel uncomfortable with some aspects related to its failure in some situations
- The concepts presented in the books were very thoroughly researched and put together and as such covered those areas of co-management which were a little difficult to grasp

### 3.5.2 Feedback by email from Mona and St. Augustine faculty

Below are messages from UWI Mona and St. Augustine faculty who attended presentations of the teaching materials and agreed to review them for feedback to the experiment implementers. The text of the message is reproduced with minimal editing in order to preserve the context.

#### Lecturer 1

It looks fine to me, but the class I had been planning to try it out in was cancelled. So I have not yet had the opportunity to get student feedback.

#### Lecturer 2

I have only used one small piece of the materials in one of my classes. However, I tried to go through as much of the materials as possible so that I could give some feedback. I am from the Extension "Unit" (formerly the Department of Agricultural Extension) of the Department of Ag Econ & Ext. The general point is that often we find a dearth of local teaching materials to use in our courses so that the compilation provided through this project is very welcome. As time goes on and as we become more familiar with the materials I am sure they we'll find more ways of using it than we are seeing now. For the past few years we have been mainly using a video and some printed materials about SMMA for modules in our courses dealing with participatory approaches including co-management. This material expands our source materials considerably. It's very useful to have some of the materials (the more the merrier) in ready-made form i.e. the PowerPoint presentation and the lecture notes on co-management. These could be used pretty much in the same form to teach the concept. In fact, I used a printout of some of the slides, as a handout for a lecture on co-management and other participatory approaches. This was for a final year course entitled, "Technology transfer in agriculture," with "agriculture" used in the broad sense encompassing fishing, forestry, natural resource management and the environment.

Basically the main uses for the materials (which we have shared with our colleagues) in our Extension/related courses are for teaching/discussing the concept of participatory approaches including co-management in several of our courses ranging from our undergrad to postgrad courses. The case studies will be useful in this regard. I should also mention that we also have distance ed courses in rural sociology that will also benefit from these materials. We also do module/s on role of NGOs and CBOs in rural development and there are several case studies/examples in the materials that will be useful. Also case studies on Advisory Councils/Boards will be useful in our courses on Programme Development. Graduate courses, "Sustainable Rural Development" and "Rural Sociology" will also find the conceptual discussions and cases on poverty, sustainable livelihoods, characteristics of rural communities etc. very useful.

The department also has on the books a one-year Diploma in Agricultural Extension which has suffered from low numbers of applicants over the past couple of years. Although the base has been agriculture, of necessity we have to broaden it to Extension in a general sense. We have had students going into Fisheries Extension and we have had to struggle with getting relevant materials. There is lot in the materials that will help us in providing specific information on fishing communities, organizations etc. I expect too that the materials will be useful in providing ideas for research projects at various levels in the system. What would be nice to complement what is already there are videos if possible or even kiosk type PowerPoint presentations with spoken or written commentary using the photos that you have. The other point is that it needs some more "promotion" in the way that it was done recently [by visiting] although much of material is on web, granted there are difficulties with that.

#### Lecturer 3

I have found the material to be very useful. Very easy to use, user friendly and a great way to extract "case studies" for teaching. It is very applicable and very relevant to the teaching of - Coastal Ecosystems Management- there is great overlap especially in the areas of understanding "communities" and "community participation". In terms of co-management of coastal resources I will be using it next year.

#### Lecturer 4

The materials were certainly in a format which was quite suitable for teaching and I am looking forward to using it and commenting when I have done so.

### 3.5.3 Feedback from Cave Hill CERMES faculty

On 20 May 2005 the final evaluation exercise was conducted on the Cave Hill campus using the instrument shown in Appendix IV, and considerable free-ranging discussion. Only four of the faculty, all from CERMES, could attend along with the experiment leaders who had delivered lectures in some of their courses. The group reviewed the results of the graduate student evaluation and the emailed comments of people at Mona and St. Augustine.

The two CERMES lecturers asked the experiment leaders to deliver lectures in their courses said that, while they were impressed with the teaching materials, it required too much of their time to personalise the material for them to deliver within the timeframe of the experiment. Also, since neither was primarily a co-management specialist, it would have been their practice anyway to bring in a guest lecturer as is customary for specialty areas. Lecturers tend to teach from their

own experience. For them, the most feasible way to incorporate the material would be to have it as a self-contained video or DVD, including prompts for classroom exercises. This is similar to the Mankote mangrove educational pack, and explains some of the reasons for the pack being a popular teaching tool. The group thought that with recent technology it may be more cost effective to prepare a DVD or video and sound enhanced CD of slides rather than a video cassette. The CD or DVD should be less expensive and easier to produce, allowing distribution in smaller quantities and updating on a more regular basis.

Concerning the option of an on-line teaching module, the lecturer responsible for the on-line environmental planning course indicated that it would require a full re-organisation for a module to be incorporated. She said that this could be done for the coming academic year. The creation of a stand-alone on-line module on co-management may not be practical until the university became more involved in distance education for non-degree certification, at least at Cave Hill.

The group also discussed their perceptions of the learning attitudes and aptitudes of students. It was thought that students are more now interested in acquiring specific job skills than in the conceptual aspects of academic topics. The modular system of teaching also causes them to focus less on underlying principles than if courses were run at a more leisurely pace spanning an entire semester as was previously done. Students also responded more to practical exercises than to conceptual debates and discussion-oriented seminars. Teaching materials design should take these observations into account.

## **4 Conclusions and recommendations**

The experiment leaders concluded that the products tested, and their associated messages, reached their audiences and were adequate in informing them about the concepts of coastal co-management. In particular, the products were functional in teaching and training natural resource users and managers. Participants expressed their willingness and interest to use the materials in lectures for a variety of courses at undergraduate and graduate levels, but particularly the latter.

The test products were reasonably user-friendly, and it was especially useful to have materials in ready-to-use form for teaching. However, the materials have to be even easier to use and more comprehensively packaged as self-contained learning modules for their use to be widespread. Students said that they were likely to promote and implement coastal resource co-management where possible utilizing these products. They made it clear that the products assisted their understanding of the need for, and usefulness of, co-management. This was especially so when lectures and presentations were reinforced with practical exercises.

Some lecturers were not able to utilize the products in teaching due to course cancellations and the timing of some courses during the semester. However, they welcomed the opportunity to review and comment on the products, and expressed willingness to utilize the products in future courses and teaching opportunities.

In general, the pathways used to promote the uptake of the products were effective. Face-to face meetings prove to be the most effective in this regard. Distributing products and trying to obtain feedback on them via email was not very effective. Having the products accessible via the

## R8317 FTR Annex D: Experiment 2 Final Report

internet through downloads was particularly emphasized as an effective pathway for uptake once a demand existed. Given that personal communication is most effective but costly, and electronic mail is most (cost) efficient but ineffective, there are significant trade-offs among strategies for uptake communication.

The experiment leaders recommend that in order to ensure future uptake and promotion of this experiment's products and other related materials, that the following be considered:

- Production of a self-contained teaching DVD, incorporating various resources on co-management such as the Mankote Mangrove case studies, co-management guidelines slide show and other relevant materials.
- In terms of an online teaching module, follow-up should be done with CERMES to incorporate co-management into the online environmental planning course.
- The feasibility of an online teaching module for distance education needs to be examined.
- Future teaching materials design should seriously take into account the learning attitudes and aptitudes of students as described in section 3.5.3 above.
- Follow-up should be done with those lecturers and heads of department from UWI, Mona and St. Augustine who expressed a willingness to use the products and provide feedback.
- Finally, the products produced from this experiment along with the original R8134 and R7959 products should continue to be promoted.

## 5 References

1. See Appendix II for documents from the original projects.
2. Caribbean Conservation Association. 2004. Report of the First workshop on testing co-management tools and messages for training natural resource users and managers. Centre for Environmental Studies and Resource Management, University of the West Indies Cave Hill Campus, 6 July 2004. 20pp
3. Caribbean Natural Resources Institute. 2003. Presentation of a Research and Communications Project. Inception workshop report. Institutional Arrangements for Coastal Management in the Caribbean. 26pp.



## 6 Appendices

### Appendix I: Communications plan

Targets	Messages/products	Objectives	Pathways	Products	Partners	Evaluation
Lecturers and Other Faculty Members	See table 1 and report of first workshop 6 July 2004: Testing co-management tools and messages for training natural resource users and managers, appendix 1.	Increased communication/inclusion of co-management themes/messages in Natural resources management related courses	<p>Presentation at workshop;</p> <p>Websites,</p> <p>Email,</p> <p>COMARE Net</p> <p>Face-to-face meetings</p>	<p>Guidelines documents</p> <p>Videos, CD,</p> <p>Guidelines updates,</p> <p>Summary lessons,</p> <p>Case study slides,</p> <p>Lecture notes/quick reference guide</p> <p>Online course</p> <p>Self study module</p>	<p>UWI department: the Department of Biological Sciences, CERMES, Department of History and Philosophy, Department of Management, School of Education.</p>	<p>Initial workshop baseline survey among workshop participants July 6 2004</p> <p>Survey of uptake in workshop 2 in April 2005</p> <p>Terminal workshop April 2005</p>

R8317 FTR Annex D: Experiment 2 Final Report

Targets	Messages/products	Objectives	Pathways	Products	Partners	Evaluation
Managers of training institutions and	See table 1 and report of first workshop 6 July 2004: Testing co-management tools and messages for training natural resource users and managers, appendix 1.	Increased recognition of importance of co-management in the teaching of Natural resources Management.  Readiness to include co-management into university curricula	Presentation at workshop  Face-to-face meetings	Online course  Guidelines documents	Same as above	Save as above
Librarians,	See table 1 and report of first workshop 6 July 2004: Testing co-management tools and messages for training natural resource users and managers, appendix	Increased availability of products and materials related to co-management in training institutions libraries	Website COMARENet; Face-to-face meetings; Presentations and distribution of products	Guidelines documents  Videos, CD  Case studies  Self study module	UWI library and departments	Same as above

## **Appendix II: Main products from participating projects**

### *R7976: Institutional arrangements for Caribbean Marine Protected Areas and opportunities for pro-poor management*

Garaway, C. and Esteban, N. 2003. Increasing MPA effectiveness through working with local communities: Guidelines for the Caribbean. MRAG Ltd. 45pp.

### *R8134: requirements for developing successful co-management*

McConney, P., R. Pomeroy and R. Mahon. 2003. Caribbean Coastal Co-management Guidelines Project: Guidelines for coastal resource co-management in the Caribbean: communicating the concepts and conditions that favour success. Caribbean Conservation Association, Barbados. 60 pp. [includes a slide presentation].

Pomeroy, R., P. McConney and R. Mahon. 2003. Caribbean Coastal Co-management Guidelines Project: Comparative analysis of coastal resource co-management in the Caribbean. Caribbean Conservation Association, Barbados. 34 pp.

McConney, P, R. Mahon and C. Parker. 2003. Caribbean Coastal Co-management Guidelines Project: Barbados case study: the sea egg fishery. Caribbean Conservation Association, Barbados. 75 pp.

McConney, P, R. Mahon and H. Oxenford. 2003. Caribbean Coastal Co-management Guidelines Project: Barbados case study: the fisheries advisory committee. Caribbean Conservation Association, Barbados. 81 pp.

McConney, P. 2003. Caribbean Coastal Co-management Guidelines Project: Grenada case study: the lobster fishery at Sauteurs. Caribbean Conservation Association, Barbados. 67 pp.

McConney, P. 2003. Caribbean Coastal Co-management Guidelines Project: Grenada case study: legislation of beach seine traditional rules at Gouyave. Caribbean Conservation Association, Barbados. 72 pp.

McConney, P., R. Mahon and R. Pomeroy. 2003. Caribbean Coastal Co-management Guidelines Project: Belize case study: fisheries advisory board in the context of integrated coastal management. Caribbean Conservation Association, Barbados. 73 pp.

Pomeroy, R. and T. Goetze. 2003. Caribbean Coastal Co-management Guidelines Project: Belize case study: marine protected areas co-managed by friends of nature. Caribbean Conservation Association. 73 pp.

**Appendix III: Post-inception work plan with products to be developed**

<b>Activities and products suggested as follow-up at the inception workshop of Experiment 2</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>
<i>Complete and distribute report of First Workshop</i>	X									
<i>Promote all related products (web sites, email, COMARE Net, fax, etc.)</i>	X	X	X	X	X	X	X	X	X	
<i>Identify the courses and lecturers for follow-up activities</i>	X									
<i>R8134 case studies:</i>										
Produce update documents for each of the 6 case studies (5pp)		X	X	X						
Produce for each case a summary of lessons learnt (2pp notes)			X	X						
Investigate available videos on Caribbean co-management		X	X							
Create case study slide shows of lessons learnt using photos				X	X					
<i>R8134 comparative analysis:</i>										
Seek documentation on co-management in non-English places		X								
Update and enhance comparative analysis using new sources			X							
<i>R8134 guidelines and slides:</i>										
Convert guidelines into lecture notes or quick reference guide			X	X						
Enhance existing slide show using photos and simplifying					X					
Use the lecture notes and enhanced slide show to create an on- line course that could be incorporated as a self-study module					X	X				
<i>Introduce existing and modified products into UWI Cave Hill courses:</i>										
CERMES (a) coastal and (b) fisheries management (Semester 2)							X	X	X	
Other UWI courses [to be identified]			X	X	X	X	X	X	X	

R8317 FTR Annex D: Experiment 2 Final Report

<b>Activities and products suggested as follow-up at the inception workshop of Experiment 2</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>
<i>Monitoring of, and technical support for, use of products</i>			X	X	X	X	X	X	X	
<i>Evaluation of experiment and use of products in second workshop</i>										X
<i>Complete and distribute report of Second Workshop and Experiment 2</i>										X

**Appendix IV: Methods of measurement****Communication pathways and products**

1. How do you prefer to *receive* information about coastal management issues?

Please rank the following communication methods in order of preference from 1 to 5, with number 1 representing your most preferred method and number 5 the least preferred one.

<b>Pathways for receiving information</b>	<b>1 [best]</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 [least]</b>
Informal face-to-face meeting					
Field Visits/ Study Tours					
Staff exchanges					
Training workshop					
Cultural media (e.g. song, theatre)					
Seminars and conferences					
Exhibitions					
Written case studies					
Guidelines docs					
Visual presentations (e.g. slides)					
Radio shows					
Newspapers					
Books or scholarly papers					
Brochures					
Policy briefs					
Educational materials (e.g. handouts)					
Internet					
Lecture					
2. Is there any other method that you would like but we neglected to mention here?					
Other (specify)					
Other (specify)					
Other (specify)					

3. In your experience what is the most effective communication method to convey coastal zone management messages to the general public?
4. Can you give one or two cases or examples of methods that have been particularly successful?
5. Regarding the methods that you use, or would use, for teaching and training, how would you rank the following in terms of your preference for reaching the identified audiences?

For each audience:

Please rank the following communication methods in order of preference from 1 to 5, with number 1 representing your most preferred method and number 5 the least preferred one.

Pathways for receiving information	Audience [Rank 1 (best) to 5 (worst) for each]				
	Undergrad	Graduate	Lecturer		
Informal face-to-face meeting					
Field Visits/ Study Tours					
Staff exchanges					
Training workshop					
Cultural media (e.g. song, theatre)					
Seminars and conferences					
Exhibitions					
Written case studies					
Guidelines docs					
Visual presentations (e.g. slides)					
Radio shows					
Newspapers					
Books or scholarly papers					
Brochures					
Policy briefs					
Educational materials (e.g. handouts)					
Internet					
Lecture					
6. Is there any other method that you would like but we neglected to mention here?					
Other (specify)					
Other (specify)					
Other (specify)					

#### Graduate Student Evaluation of Co-Management Teaching Materials, 17 May 2005

During **Concepts and Issues for Environmental Managers** you received a copy of *Guidelines for coastal resource co-management in the Caribbean: Communicating the concepts and conditions that favour success*. The guidelines, related lecture notes and slide presentations were used in parts of **Fisheries Biology and Management** and **Managing Coastal and Marine Resources and Biodiversity**. We would like your evaluation of these materials and their use.

Kindly **circle the number** of the response that is closest to your opinion. We welcome your suggestions for improvement. These can be written on the lines below or on the back of the page.

This is the key for responses ..... 1 = poor; 2 = fair; 3 = okay; 4 = good; 5 = very good

1. Quality of the contents of the guidelines publication (blue book) ..... 1 2 3 4 5

*Suggested improvement:*

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2. Quality of the information content of the co-management lectures ..... 1 2 3 4 5

*Suggested improvement:*

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3. Quality of the information content of the supporting slide presentations ... 1 2 3 4 5

*Suggested improvement:*

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4. Were the materials adequate in informing you about the concepts of coastal co-management?

a.  Yes ... Please describe how.

b.  No ... Kindly explain why not

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5. Based on all of these materials, do they encourage you to try to promote or implement coastal resource co-management if the opportunity arises?

c.  Yes ... Please describe how.

d.  No ... Kindly explain why not

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*Please use the back of the form for providing additional information if you wish. Thank you.*



**Faculty Evaluation of Co-management Teaching Materials, 20 May 2005**

1. Have you reviewed the co-management teaching material provided to you after the inception workshop? [ ] Yes [ ] No ... please describe the reasons for not reviewing (*end here*)

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2. Have you used the co-management teaching material provided after the inception workshop? [ ] Yes ... please describe how and with what outcome  
[ ] No ... please describe the reasons for not using them

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3. Please say which of the materials are **most** useful, based on your use or review, and why?

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4. Please say which of the materials are **least** useful, based on your use or review, and why?

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5. What improvements do you suggest for any or all of the materials in order to encourage use?

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*Please use the back of the form for providing additional information if you wish. Thank you.*

**Appendix V: List of UWI participants**

<b>Name</b>	<b>Department, teaching focus and mailing address</b>	<b>Other contact info</b>
Hazel Oxenford	CERMES, Fisheries Biology	417-4571 hoxenford@uwichill.edu.bb
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Sharon Hutchinson	Agriculture Fisheries & Natural Resource Economics	
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Tarick Hosein	Surveying and Land Information	
Milica Bajic Brkovic	Surveying and Land Information	
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