

**NATURAL RESOURCES SYSTEMS PROGRAMME**  
***FINAL TECHNICAL REPORT<sup>1</sup>***

**DFID Project Number**

**R7976**

**Project Title**

Institutional arrangements for Caribbean MPAs and opportunities for pro-poor management

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MRAG Ltd

**NRSP Production System**

Land Water Interface

**Date**

August 2003

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

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This FTR comprises the front end report and X annexes, as listed below:

Annex A Scientific Annex: The impact of MPAs on poorer communities living in and around them: institutional opportunities and constraints.

Appendix I Methodology for fieldwork

Appendix II Case study of Princess Alexandra Land and Sea National Park, Turks and Caicos Islands

Appendix III Case study of Hol Chan Marine Reserve, Belize

Appendix IV Case study of Glover’s Reef Marine Reserve, Belize

Appendix V Case study of Negril Marine Park, Jamaica

Annex B1 Characterisation of Caribbean MPAs: an analysis of ecological, organizational and socio-economic factors.

Annex B2 MS Access database on ecological, organizational and socio-economic characteristics at 80 MPAs in the Caribbean

Annex B3 MSc Abstract: A review of legislation, policy and institutional arrangements, assisting or constraining, the implementation of MPAs in Dominica and the Turks and Caicos Islands.

- Annex B4 MSc Abstract: An assessment of the ecological impacts of two successfully implemented MPAs in Belize.
- Annex B5 MSc Abstract: An assessment of the impacts of two successfully implemented MPAs on stakeholders in Jamaica and the Turks and Caicos Islands.
- Annex B6 MSc Abstract: A preliminary assessment of the ecological impacts of two MPAs in the wider Caribbean
- Annex B7 MSc Abstract: A review of national policy and legislation contributing to or constraining successful MPAs implementation in Belize and Jamaica
- Annex B8 Caribbean MPAs: legal and policy framework
- Annex B9 A preliminary investigation of the impacts of legislative status, management and ecological condition of MPAs on the socio-economic status of stakeholders in Jamaica and the Turks and Caicos Islands.
- Annex B10 Project workshop report on institutional arrangements for Caribbean MPAs and opportunities for pro-poor management.
- Annex B11 Increasing the effectiveness of MPAs by working with local communities: Guidelines for the Caribbean
- Annex B12 Brief 1: Institutional evaluation of Caribbean MPAs: a new project has begun
- Annex B13 Brief 2: Institutional evaluation of Caribbean MPAs: characterization review
- Annex B14 Brief 3: Institutional evaluation of Caribbean MPAs: findings to date and project extension
- Annex C Project Inventory

## Abbreviations and Acronyms

ACLSNP	Admiral Cockburn Land and Sea National Park
CaMPAM	Caribbean Marine Protected Area Managers (network)
CANARI	Caribbean Natural Resources Institute
CBO	Community Based Organisation
CCA	Caribbean Conservation Association
CNP	Cabrits National Park (Dominica)
CSNP	Chalk Sound National Park (TCI)
DFID	UK Department for International Development
GCFI	Gulf and Caribbean Fisheries Institute
GRMR	Glover’s Reef Marine Reserve (Belize)
HCMR	Hol Chan Marine Reserve (Belize)
ICAM	Integrated Coastal Area Management
ICZM	Integrated Coastal Zone Management
ISRS	International Society for Reef Studies
LBS	Land Based Sources
LAMA	Local Area Management Authority
MBMP	Montego Bay Marine Park (Jamaica)
MMA	Marine Management Area
MPA	Marine Protected Area
MRAG	Marine Resources Assessment Group Ltd
NCRPS	Negril Coral Reef Protection Society (Jamaica)
NEPA	National Environment and Planning Agency (Jamaica)
NEPT	Negril Environmental Protection Trust (Jamaica)
NGO	Non Governmental Organisation
NMP	Negril Marine Park (Jamaica)
NRCA	Natural Resources Conservation Authority
NRM	Natural Resources Management
NRSP	Natural Resources Systems Programme
OECS	Organisation of Eastern Caribbean States
ORMP	Ocho Rios Marine Park (Jamaica)
PA	Protected Area
PALSNP	Princess Alexandra Land and Sea National Park (TCI)
PIPS	Policies, Institutions and Processes

SMMA	Soufriere Marine Management Association (St Lucia)
SSMR	Soufriere-Scotts Head Marine Reserve (Dominica)
TCI	Turks and Caicos Islands
UNEP	United Nations Environment Programme
UVC	Underwater Visual Count
UWI	The University of the West Indies
WCMC	World Conservation Monitoring Centre (UNEP centre, Cambridge)
WCS	Wildlife Conservation Society

## 1 Executive Summary

The purpose of the research project was to identify current institutional constraints to, and development options for, successfully implementing MPAs in a way that leads to a sustained improvement in the livelihoods of poor people in the Caribbean. A review of institutional and ecosystem characteristics of 80 MPAs in the Central and Antillean biogeographic zones of the Caribbean, was followed by more detailed studies at selected sites. These included legal and policy reviews (11 sites), ecological impact studies (4 sites), and participatory appraisals of the effect of MPA management on poor peoples livelihoods, and current institutional constraints and opportunities for improving them (4 sites). Results were presented at a regional workshop (as well as distributed via project briefs) and ideas further developed through working group sessions. Following this, a working group of key practitioners, funders, policy makers from the region was set up to advise and/or contribute to the synthesis of project findings and production of Guidelines for implementing MPAs that are sensitive to the needs of poorer groups living in and around them. Key results included the following:

- Less than half of the region's MPAs have more than a low level of management and approximately 25% have no management at all, showing there is still much room for improvement.
- Many MPAs border areas of significant poverty, while others are close to pockets of "at-risk" populations showing that the potential for MPAs to benefit the poor (and for poorer groups to impact on the MPA) exists.
- The legal and policy framework is of critical importance for the long-term success of an MPA but numerous variables, not directly apparent from the legal and policy typologies, may affect and even determine it. These include: development of systems to implement specific international obligations; rationalization and clarification of governance structures; the articulation and effective operation of area-specific policies to guide administrative action in respect of all activities impacting the protected area; availability and effective deployment of human and material resources; meaningful community participation.
- Whilst there are many ways that MPAs could benefit poorer groups (improving fisher livelihoods, improving benefits from tourism; empowering communities; creating additional/ alternative livelihood opportunities) the extent to which they do so varies considerably. Constraints and opportunities exist in the external legal, funding and policy environment; in the mechanisms for MPA decision-making; in the skills, attitudes and behaviour of those involved in some way in MPA management, and in the attributes of the communities themselves. A significant opportunity appears to lie in developing mechanisms for the co-management of MPA resources
- The Guidelines published at the end of this project outline ways in which approaches to MPA management can explicitly benefit poorer stakeholder groups in the Caribbean. In doing so, the outputs of this project contribute directly to the achievement of the first OVis of the current NRSP strategy. At the current time, it appears possible that these approaches to MPA management will be adopted by two target institutions, in that the Guidelines will be published as an integral part of an IUCN publication arising from the World Parks Congress (South Africa, September 2003), and that UNEP may also be adopting the Guidelines publication at its MPA meeting for Caribbean Managers in November 2003.

## 2 Background

The project responded to the recognised imbalance between the wealth of data on ecological performance of marine protected areas (MPAs) and the paucity of understanding about institutional and social performance, particularly in relation to livelihoods of the poorest in the region. NRSP has funded several projects in the Caribbean that were relevant to this work. Potential trade-offs between protection of diverse ecological resources and their use for economic gain are very evident in the Caribbean and a review of biological and ecological surveys of the UK Dependent Territories found them to be inadequately linked to livelihood analyses. One study in a completed NRSP project, R6783, showed that fishers perceived they had suffered at the expense of tourism suggesting that livelihood issues are not always adequately addressed. In addition, it is estimated that two-thirds of Caribbean MPAs do not achieve their initial objectives and are in need of improved management. This project drew heavily on research into the factors determining effective supply of, and commitment to, institutions (rules) for improved natural resource management

## 3 Project Purpose

The purpose of this project was to identify the current institutional constraints to, and development options for, successfully implementing MPAs in a way that led to a sustained improvement in the livelihoods of poor people in the Caribbean. This could then lead to improved methods for implementation and management of pro-poor MPAs. A key premise of this work was that successful implementation and beneficial stakeholder outcomes, including outcomes for the poor, were inextricably linked.

To increase the chance of successful uptake of project outputs, the project team aimed to regularly disseminate findings and seek comment and participation in project activities from those responsible for MPA development and management at regional, national and local levels. Adoption of project guidelines by relevant local, national and regional organisations was expected to influence future development initiatives and result in poverty reduction by

- improving understanding, amongst those responsible for MPA development and management, of the particular impacts that MPAs can have on poorer groups and identify options to ameliorate negative effects or improve positive ones.
- improving understanding of the institutional characteristics that increase chances of successful implementation of MPAs that are sustainable and sensitive to the needs of poorer groups.

Ultimate beneficiaries of the project were expected to be the poorest sectors of communities whose livelihoods depend on the coastal environment in the Caribbean region. This includes people living in areas where MPAs already exist and in areas where new MPAs are envisaged.

## 4 Outputs

### Overview

Four Outputs were defined to deliver the project Purpose. The first output aimed to improve understanding of the characteristics of MPAs in the region as a whole. Outputs 2 and 3 focused on a smaller number of sites to identify factors that affected MPA operational effectiveness and the extent to which MPAs benefited, or adversely affected, poorer groups living in or around them. Output four aimed to synthesise findings from these other outputs and develop and promote them throughout the region. Formal project partners included:

NRM Programme UWI and CANARI. The project also worked closely with: in Jamaica, Negril Marine Park; in Turks and Caicos, the Princess Alexandra Land and Sea National Park; and in Belize, Glovers Reef Marine Reserve and Hol Chan Marine Reserve. During regional consultation prior to, and during, the regional workshop, the project team also collaborated with another key regional organisation, the Caribbean Conservation Association (CCA) in Barbados.

Following a brief overview of research products, the remainder of this section summarises the results and findings that the project has produced against each Output, as specified in the project logical framework. The project was an enabling one, and whilst some research was conducted with poorer stakeholder groups living in or around MPAs, and in some cases results were fed directly back to them, the outcomes of the research are targeted at MPA policy makers, decision-makers and managers within the region. Benefits to the poor will be delivered via MPA agencies (& other relevant bodies) following uptake and adoption of the findings of this research. The research products generated by this project are a contribution to; scientific understanding; building of conceptual models for increased understanding of MPA impacts; methodologies and best practice guidelines for improving MPA management and outcomes.

The research products are presented in 4 project reports (Annex A; Annex B1; Annex B8; Annex B10), five MSc Abstracts (Annex B3 – B7) and MSc students' collaborative GCFI conference paper (Annex B9); a project database (Annex B2), a set of Guidelines (Annex B11) and three Project Briefs (Annex B12-B14). Details of their promotion and uptake are presented in section 7. Here, a brief overview is given only.

The project reports, database, MSc theses (of which only the abstracts are presented in this FTR) and conference paper are detailed technical findings and are particularly appropriate for scientists and other agencies interested in MPA research, though it is anticipated that MPA practitioners may also find them useful. Section 5 describes the activities from which these products were derived.

The project reports have been promoted via company/programme websites, attendance at workshops and list serves and then sent directly to regional organisations and individuals who have expressed an interest. The database was taken up by WCMC (UNEP) (for more details on all promotional activities, see section 7).

The project briefs (Annexes B12 – B14) are aimed specifically at MPA practitioners and policy makers throughout the wider Caribbean giving key results and information about the project in a user-friendly format. These have been promoted in a similar way to the project reports.

Finally, the Guidelines, the principal research product of the project, are aimed at MPA managers, Advisory Committees and NGO's and government departments responsible for MPA development and management. These guidelines were developed in consultation with a group of MPA practitioners and policy makers from the region (See Section 7). Through a process of consultation it was recognised that, in order to appeal to members of the target group, results had to be presented in terms of how MPA management could be made more effective and NOT how MPAs could reduce poverty. The term 'pro-poor' was particularly disliked by those in the region. This emphasis led to guidelines being written from the perspective of "improving MPA effectiveness by working with local people" as opposed to institutional constraints and opportunities for pro-poor MPAs. The guidelines have been promoted via the project briefs and have also been transformed into other media forms and advertised / distributed at conferences (again, see section 7 for more details).



The Guidelines (Annex B11), by providing recommendations on how MPAs could be managed/developed so that they are more sensitive to the needs of poorer groups, indicate to some extent what needs to be done to take research findings from this project forward. Further promotional activity is suggested in section 7.

As a final note, Annex A synthesises results from a number of different activities relating to different outputs and so, whilst its main function is to report results from activities relating to output 3, to avoid unnecessary repetition in the FTR, it has been allocated here as the Annex A. As a synthesis document, the Guidelines (Annex B11) could also have been presented as Annex A. They were not due to the fact that, for reasons explained above, they were written from the perspective of improving MPA effectiveness as opposed to, directly addressing the project's purpose. However, the Guidelines should be read as an addition to, or in conjunction with, Annex A.

### **Principal results and findings.**

#### **Output 1 - Increased understanding of the key institutional, social and biophysical characteristics of MPAs in the Caribbean region**

This output was achieved. Details of findings can be found in the Caribbean MPA characterisation review (Annex B1) and the project database (Annex B2), which holds all the questionnaires collected in this review (as well as a user-friendly interface and graphical representation of key results). A synopsis of key results was distributed via the 2nd project brief (Annex B13). Key results are described in Box 1.

#### **Box 1**

Coral reefs are found in 80% of MPAs, mangroves are cited in at least two thirds of MPAs while seagrass beds are the least represented type of coastal ecosystem. Few MPAs are established specifically to protect endangered species.

Less than half of the region's MPAs have more than a low level of management and approximately 25% have no management at all. These results suggest that there is still much room for improvement. Multi agency arrangements appear to lead to higher levels of management, as do those with formal stakeholder participation mechanisms. There has been a tendency towards multi-agency arrangements through time.

Funding comes from one of three core sources: national government, donor or visitor/user fees. Unsurprisingly, those MPAs with poor tourism capacity and low national priority are more reliant on external donor support, which in turn may increase their vulnerability and lower their likelihood of success.

While 'conservation' is emphasized in objectives/mission statements, it is clear that management programmes do draw on a wider range of purposes. Namely enhancement of tourism, conservation and sustainable and equitable use of coastal resources. Objectives of poverty reduction are therefore not explicit in the region but, on the other hand, the emphasis in some cases on socio-economic development and 'equitable' use of coastal resources suggests potential interest in, or room for, a poverty focus within these objectives.

Many MPAs border areas of significant poverty, while others are close to pockets of "at-risk" populations. So while the links between poor people and MPAs are often not yet clearly established, potential for MPAs to benefit the poor (and for poorer groups to impact on the MPA) exist.

Fishing is cited as a key use of MPAs in 70% of cases surveyed, yet water based recreation, i.e. tourism, is clearly the predominant use of MPAs in the region. As a corollary, the most frequently identified conflict amongst users is between fishers and divers, with zoning and consultation being the most common forms of management response.

Previous research and this review suggest again that the sector benefiting the most from MPAs is marine based tourism (with ownership disproportionately expatriate). Access to the benefits from successful MPAs is a key element to understand when considering their potential to address needs of poorer groups. Some MPAs actively address the impacts of management on their poorer neighbours, but beyond giving stakeholders greater participation in MPA management, the impact of such programmes is still to be determined.

## **Output 2 - Improved understanding of the enabling/constraining PIPS leading to successful MPA implementation, including the value of MPA integration into coastal zone management**

This output focused on understanding the factors that enabled MPAs to become operational (as opposed to, for example, being ‘paper parks’). It did not focus on understanding the PIPS leading to management that specifically had beneficial impacts on poorer groups (output 3) though it did not rule out the possibility that ‘impact on poor people’s livelihoods’ was a factor in operational effectiveness. This output was achieved in the main, though the objective of ‘increased understanding of the value of MPA integration into coastal zone management’ less so. Whilst the value of integration into coastal management was acknowledged in many of the project research activities, and some reference is made to it in research products, the subject of ICZM was not considered in any great depth due to lack of working examples in the region. Details of findings and recommendations can be found in Annex A, Annex B8 (legal and policy review), Annex B10 (workshop report that included working groups investigating these areas) and Annex B11 (Guidelines). Annex B8 was significantly informed by two MSc theses (Abstracts B3 and B7). A short summary on this subject presenting some of the results for Output 2 was distributed via the 3rd project brief (Annex B14). Key findings are described in Box 2.

### **Box 2**

There are presently over 200 MPAs existing throughout the wider Caribbean region and there is clearly a correlation between their functionality and the existence and use of regulatory institutions and policy instruments. Three basic typologies were identified. Reliance on traditional resource conservation laws; *ad hoc* legislation relating to the creation and operation of specific marine protected areas; and generic regulations providing a framework for the designation of such areas whilst injecting some degree of flexibility into the management arrangements applicable to specific marine protected areas. (Annex B8)

As a rule, dependence upon the incidental relevance of legislation provides neither a coherent nor an effective means of regulating usage of marine spaces. Legislation specific to marine protected areas tends to better protection on the whole, particularly where there is a requirement for establishment and operation of a management plan. At the same time there are systemic problems of inconsistent application of standards and procedures across the entire range of marine protected areas located within the country. (Annex B8)

As a conceptual proposition, general legislation setting up the regime for a system of protected areas, including marine protected areas, whilst allowing for flexibility in the individual operation of specific areas, provides the most sophisticated regulatory and policy approach. Flexibility may be attained for example, through idiosyncratic management plans, and/or the devolution of management to locally based individuals and groups, whilst maintaining central policy directives. (Annex B8)

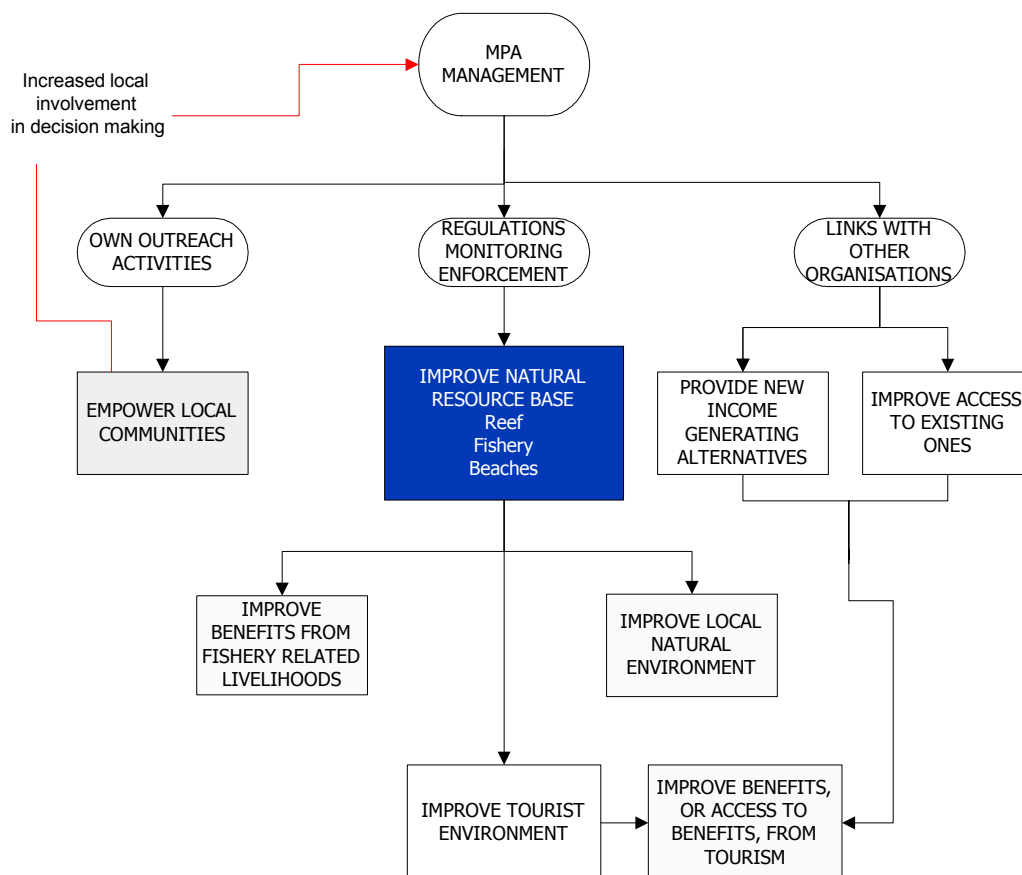
However, the correlation is not linear. Research demonstrates that numerous variables, not directly apparent from the legal and policy typologies, may affect and even determine the long-term success of the MPA. These variables include

- Development of systems to implement specific international obligations (Annex 8);

- Rationalization and clarification of governance structures (Annex B8);
- Articulation and effective operation of area-specific policies to guide administrative action in respect of all activities impacting the protected area (Annex 8);
- Motivated, adequate and appropriately skilled staff (Annex A, Annex B8);
- Meaningful community participation (Annex A, Annex B8);
- Adequate and assured systems of funding (Annex A, Annex B8, Annex B1);
- Appropriate devolution of roles and responsibilities (Annex A); and
- Effective inter-departmental co-ordination (Annex A)

### Output 3 Increased understanding of the impacts of successfully implemented MPAs on poor people's livelihoods and the structures/processes leading to beneficial/ harmful outcomes

This output was achieved. The principal findings related to this output are described in detail in Annex A. These results were then represented in the Guidelines (Annex B11). Other supporting evidence came from the MSc Theses (abstracts B4 – B6). An overview diagram (Figure 1) and summary of key findings (Table 1) are presented below.



**Figure 1**

The diagram (Figure 1) indicates the areas where benefits to poorer groups could be attained, which are elaborated on in Box 3. This information was a direct result of investigation at case study sites.

**Box 3**

With regulations sensitive to fishers' needs, or the provision of alternatives when total restrictions are necessary, fishers' livelihoods could be sustained/improved in the shorter term whilst waiting for the longer-term spill-over effects or resource improvement to occur.

General improvement of the natural resource base would lead to an improved natural environment for tourists and locals. Local benefits of this might include improved infrastructure or recreational areas (physical capital) or improved health and safety (human capital).

An improved natural environment is likely to be a boost to the local tourist industry, and an MPA could alone, or commonly by linking with other relevant agencies, advocate and promote local involvement in this. This could be through improving access to existing opportunities or by providing new ones.

The way an MPA works could serve to empower local communities. Education is one aspect of empowerment, but also included is group/individual capacity building and organisational strengthening. Specific outreach activities, or an inclusive participatory style of management generally, could have the additional benefit of increasing local communities ability (and desire) to be involved in MPA management, thereby improving its effectiveness.

By failing to think actively about providing these benefits, the impacts on poorer groups could be negative. They could include:

- Displacement and reduced access of fishers;
- Adverse consequences of tourism, (e.g. increased crime / pollution / in-migration) whilst at the same time an inability to gain access to the industry and its benefits;
- Reduced access to recreational areas and ability to enjoy traditional recreational activities;
- Increased conflict; and
- Disempowerment and loss of rights.

The extent to which these benefits and costs were realised in the case study sites varied considerably, allowing a comparative analysis of factors enhancing them and constraining them in each case. Institutional constraints and opportunities for each type of benefit are summarised in Table 1.

**Table 1**

<b>Potential Benefit</b>	<b>Actions/ characteristic</b>	<b>Impact on poorer groups and/or MPA outcomes (key results)</b>
Improving fishers livelihoods	<ul style="list-style-type: none"> <li>• Involving fishers in MPA design.</li> <li>• Zonation.</li> <li>• Strong local organisations representing fisher interests.</li> <li>• Continuous dialogue and education.</li> <li>• Presence of alternative fishing spots.</li> </ul>	<ul style="list-style-type: none"> <li>• Strong positive effect on outcomes. Absence of participation could cause negative as opposed to neutral outcomes.</li> <li>• On its own, presence of zonation was not enough to lead to positive outcomes.</li> <li>• Important factor in early negotiations. Only present in two cases.</li> <li>• Associated with positive outcomes. Again its absence could cause negative outcomes.</li> <li>• Important though not necessarily</li> </ul>

<b>Potential Benefit</b>	<b>Actions/ characteristic</b>	<b>Impact on poorer groups and/or MPA outcomes (key results)</b>
	<ul style="list-style-type: none"> <li>• Presence of alternative options</li> </ul>	<p>enough to ensure compliance.</p> <ul style="list-style-type: none"> <li>• Crucial for agreement in some cases.</li> </ul>
Improving human 'welfare'	<p>Lack of data on health and safety meant this was not investigated in any detail. However with respect to recreation.</p> <ul style="list-style-type: none"> <li>• Policy of elite tourism.</li> </ul>	<ul style="list-style-type: none"> <li>• Alienation of resident communities as hotels 'take-over' beaches.</li> </ul>
Increasing benefits from the tourist industry	<ul style="list-style-type: none"> <li>• Failing to deal with adverse consequences of tourism.</li> <li>• Foreign ownership; low wages; in – migration; language difficulties; eligibility for work permits; lack of tourism experience.</li> <li>• All-inclusive hotels stopping tourists leaving the hotel compound; little market for local commercial species (fishermen); little market for organic produce (hillside farmers).</li> <li>• All-inclusive hotels; cost of permits/ licenses; eligibility for permits/licenses</li> <li>• Locally driven tourism; local ownership; lack of all-inclusive hotels; constraints put on expatriate businesses; relevant skills, experience; strong tourism-associated user associations; fora for multi-stakeholder exchange; increased environmental awareness and promotion of sustainable tourism development.</li> </ul>	<ul style="list-style-type: none"> <li>• Increased levels of immigration; increase levels of crime; raised property values/ cost of living.</li> <li>• Constrained access to employment in tourism sector &amp; 2° industry.</li> <li>• Decreased market for goods in tourism sector.</li> <li>• Reduced opportunities for self employment in tourism sector.</li> <li>• Increased the access of poorer groups to the benefits from tourism.</li> </ul>
Providing alternative/ additional options	<p>Within the case studies chosen, it was too early to study the impact of some of the newer initiatives (e.g. community development funds) however some activities and associated constraints and opportunities were identified.</p> <ul style="list-style-type: none"> <li>• Community development funds.</li> <li>• Tour guiding (fishers/ ex-fishers).</li> </ul>	<ul style="list-style-type: none"> <li>• Positive impact on poorer groups lessened by factors such as: poorer groups not having skills/contacts to develop proposals; lack of, or lack of links with, community development organisations to help in their development; weak community-based organisations (CBO's) or other collaborating organisations; poorer groups not actively sought &amp; advertising not reaching them.</li> <li>• Not always successful. Positive outcomes associated with: locally driven tourism (when many of the</li> </ul>

Potential Benefit	Actions/ characteristic	Impact on poorer groups and/or MPA outcomes (key results)
	<ul style="list-style-type: none"> <li>• Sea moss farming.</li> <li>• Alternatives in general.</li> </ul>	<p>locals were fishers); a recognition that the fishery was in decline; relevant experience and equipment to take on role.</p> <ul style="list-style-type: none"> <li>• Limited interest from fishers (lower returns; lifestyle choice).</li> <li>• Success and presence of active programmes for providing alternatives caused by lack of time/ financial resources and community development and marketing skills.</li> </ul>
Community empowerment	<ul style="list-style-type: none"> <li>• Information, education services, consciousness raising.</li> <li>• Participation in decision-making.</li> <li>• Encouraging involvement in operational activities/ creating sense of ownership.</li> <li>• Reducing conflict.</li> </ul>	<ul style="list-style-type: none"> <li>• Factors important for increasing success in some or all of the activities in the left hand column included; access to local groups through community networks; strong outreach skills of MPA staff; strong and recognised local community-based organisations (CBOs) to work with – also good links to ‘members’; prolonged &amp; intense discussion in appropriate for a; motivation/ commitment of MPA manager; trust, mutual respect established (past performance/community ties / prolonged; inclusive schools’ education programme.</li> </ul>

#### **Output 4 Means to improve benefits to livelihoods of the poor defined, and on this basis, pro-poor methodology for MPA management developed and promoted**

This output was achieved. The end result of the project was the project Guidelines (Annex B11), which synthesised information from all relevant research activities, (including the end of project workshop where views of practitioners in the region were solicited), and provided recommendations for how to improve benefits to poorer people’s livelihoods. The project workshop, (fully reported in Annex B10), also allowed dissemination of project findings to date, and resulted in the development of a working group for the final production of the guidelines. Getting practitioners involved in the production of the Guidelines was seen as a significant means of increasing the chances of uptake of project findings within the region. A significant part of this Output focussed on promotion of research findings and recommendations, in particular increasing ownership, and chances of uptake, of the project Guidelines. At the project design phase, it was envisaged that this Output would culminate in a regional workshop and dissemination of the Guidelines. However, during the regional workshop in November 2002, there was a strong call from participants for a strong input by MPA practitioners and policymakers to enable development of appropriate Guidelines and, at the same time, promoting their future uptake by target institutions. Further to this call, the project team applied to NRSP for an 8-month extension of the project, and Output 4 was extended with a new sub-section to Activity 4.6.

The sub-activities of Activity 4.6 have been fully achieved in the last phase of the project and these activities, and the collaborative development of the structure of the Guidelines, are seen

as key to future uptake of Guidelines. A Working Group was established for Guidelines' development (composed of 12 members from the regional workshop) and their advice and input influenced the title, structure, contents and appearance of the Guidelines. The Working Group also contributed with case studies, increasing coverage of MPA experience in the region, above and beyond what could be researched within the project timeframe.

## 5 Research Activities

The principal research activities are described in Table 2. This includes all the activities that involved data collection and/or analysis (as opposed to a description of all the *log frame* activities (i.e. workshops, production of the guidelines etc.)).

**Table 2**

<b>Research activities (logframe activity)</b>	<b>Principal method</b>	<b>Log frame activity contributed to:</b>	<b>Reported in:</b>
Review of 80 MPA's (1.1)	Questionnaires & telephone interviews	1.1, 1.2, 1.3, 1.4, 2.1	Annex B1 Annex B2 Annex B13
Legal and policy research at 11 case study sites (2.4)	Literature review, questionnaire survey, and informal interviews	2.2, 2.4, 2.5, 2.6, 3.1	Annex B3 Annex B7
Overview of national/regional legal and policy issues (2.5)	Synthesis of case study research plus literature review	2.5, 2.6, 2.7	Annex B8 Annex B14
Ecological surveys at 4 operational sites (3.2)	UVC's in/outside park + stakeholder interviews	3.1, 3.2	Annex B4 Annex B6 Annex B9
Socio-economic surveys at 4 case study sites (contribution to 3.3)	Questionnaire survey and informal interviews	3.1, 3.3	Annex B5 (1 report on 2 of the case studies not written up as MSc due to illness) Annex B9
Participatory appraisals of the impact of MPAs on poorer groups at 4 case study sites (3.3)	Semi-structured interviews, visualisation techniques, workshops	2.4, 2.6, 2.7, 3.3, 4.4	Annex A Annex B10

Detailed methods for all research activities can be found in the relevant Annex as described in the right hand column of Table 2 above. Project research activities were mostly carried out as planned and planned inputs were achieved. Due to the events of September 11<sup>th</sup> and Hurricane Iris, the length of time the UWI MSc students were able to stay in the field was reduced, which in turn led to less interviews and/or less study sites than originally hoped for activities 2.4, 3.2, 3.3. It also delayed results being produced (with delays being incorporated into a new version of the log frame). However, this did not prevent the activities being carried out (though illness did prevent one of the students from completing her MSc thesis - though some of her data was still available to feed into the participatory appraisals (3.3)).

Regards special achievements in data collection and analysis, research activity 1.1 is one of the few attempts to produce a wide-scale survey of Caribbean MPAs focusing not only on biological characteristics. As such it has prompted regional debate, and the information, after

having been put into a more accessible form (activity 1.3), is being used elsewhere. (See section 7). The legal and policy review (2.5) also stimulated much interest and debate within the region.

However, one of the most important achievements of the project has been the identification and use of pre-existing vehicles to promote research findings and seek expert opinion within the region, allowing good coverage and participation on a relatively low budget. This is discussed in Section 7 but includes the linking of our regional project workshop (4.5) with the 55th GCFI Conference in Mexico and integrating our database (1.3) with others already existing in the region and worldwide.

## **6 Environmental assessment**

### **6.1 What significant environmental impacts resulted from the research activities (both positive and negative)?**

It is not believed that the project activities resulted in any direct environmental impacts. Site-specific research activities were limited to SCUBA observation surveys (to estimate ecological impacts of MPAs) and socio-economic questionnaires of stakeholders. No sampling took place at any time during the project. It is hoped that environmental considerations at MPAs will benefit from this project, which aims to understand institutional constraints to appropriate MPA management.

### **6.2 What will be the potentially significant environmental impacts (both positive and negative) of widespread dissemination and application of research findings?**

It is hoped that widespread dissemination of research findings (throughout the Caribbean, and internationally through the World Parks Congress in South Africa) will lead to increased inclusion and consideration of local stakeholders by those concerned with MPA management. This will, in turn, influence individual and group actions (e.g. fishing practices) within Caribbean MPAs and improve use of natural resources in a sustainable way.

### **6.3 Has there been evidence during the project's life of what is described in Section 6.2 and how were these impacts detected and monitored**

None

### **6.4 What follow up action, if any, is recommended?**

With respect to ecological impacts only, at the four MPAs where ecological assessments took place, it was recommended that this methodology be repeated regularly to gain a greater temporal understanding of the impacts of MPA management on the natural resource base.

## **7 Contribution of Outputs**

One of the key challenges for the project team was to find means of promoting research findings and exploring opportunities for ensuring uptake based on a project budget that was constrained in a region as diverse, multi-lingual and geographically challenging as the Caribbean. The project team were fortunate to find existing opportunities for uptake throughout, and immediately following the end of this project, and therefore the contribution of outputs to NRSP's purpose is far greater than considered possible during project conception. In relation to contribution of Outputs (numbered in left column), the principal project findings, achievements and promotional activities with various target institutions (both regional and international) are described in Table 3.



**Table 3**

<b>OUTPUT</b>	<b>ACHIEVEMENTS</b>	<b>PROMOTIONAL ACTIVITIES &amp; TIPS</b>
1	<ul style="list-style-type: none"> <li>➤ First attempt to review Caribbean MPAs outside of pure conservation focus – has prompted regional debate.</li> <li>➤ Revision of 1995 CaMPAM &amp; UNEP PA database using project database (WCMC agreement for data share and authors/DFID acknowledgement)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Promoted review &amp; dataset (briefs, list serves, website). Requested &amp; accessed by TI's. (Annex B1)</li> <li>➤ Review used by regional organisations to develop programmes (CANARI, CCA, CORAL Alliance).</li> <li>➤ Database (Annex B2) taken up and acknowledged by UNEP for use in 3 international databases (CaMPAM, IUCN PA, WCMC MPA).</li> </ul>
2	<ul style="list-style-type: none"> <li>➤ Stimulated debate on aspects of MPA management not previously researched (especially legal arrangements).</li> <li>➤ Findings are influencing NOAA socio-economic monitoring programme design in Caribbean (see Annex B10).</li> <li>➤ UNEP interested in our findings/ Guidelines for uptake into their Guidelines for Effectiveness of Management.</li> <li>➤ Interest of scientific community in project findings.</li> <li>➤ Demand expressed for action research.</li> </ul>	<ul style="list-style-type: none"> <li>➤ ISRS European Meeting (Cambridge, 09/02): presentation – Comparative analysis of case studies with respect to key institutional design principles (e.g. Ostrom)</li> <li>➤ Presentation to stakeholders at 2 MPAs: factors perceived to affect implementation (Annex A).</li> <li>➤ GCFI: MPA session presentation of legal characterisation of MPAs &amp; impact on management (&amp; group discussion) (Annex B8, B10).</li> <li>➤ GCFI: MPA session presentation on stakeholder perceptions of constraints/ opportunities (Annex B10).</li> </ul>
3	<ul style="list-style-type: none"> <li>➤ Raised awareness of important &amp; relevance of pro-poor focus in MPA management. Relevance recognised in GCFI workshop (this took large part of the workshop).</li> <li>➤ Incorporated poverty focus as integral part of project Guidelines (Annex B11).</li> </ul>	<ul style="list-style-type: none"> <li>➤ GCFI: MPA session presentation of constraints/ opportunities for pro-poor MPAs (Annex B10).</li> <li>➤ GCFI: MPA session Working Group on constraints/ opportunities for pro-poor MPAs (Annex B10).</li> <li>➤ Distribution of draft poverty related case study reports to workshop participants for comment/review and integration into Annex A.</li> </ul>
4	<ul style="list-style-type: none"> <li>➤ Linkage with GCFI:</li> <li>➤ Large, varied, high profile group at workshop;</li> <li>➤ Spent funds on sponsorship of 11 participants;</li> <li>➤ Wider exposure with other GCFI participants &amp; through www &amp; Proceedings.</li> <li>➤ UNEP interested in uptake of Guidelines for their ICRAN Effective Management Guidelines.</li> <li>➤ WPC organisers recognised importance of work and offered funding to present Guidelines at WPC in Durban (Sept03).</li> </ul>	<ul style="list-style-type: none"> <li>➤ Content of Guidelines discussed at GCFI MPA workshop &amp; prioritised TOC developed.</li> <li>➤ Other Caribbean pro-poor initiatives exist &amp; with enough time to collaborate could be incorporated to Guidelines. Some discussed at GCFI.</li> <li>➤ Suggested format for Guidelines reviewed/ agreed by partners.</li> <li>➤ Project sponsored 11 participants to attend GCFI &amp; representatives at workshop from 16 countries &amp; 28 agencies &amp; fishers -43 participants.</li> <li>➤ Time at workshop to verify relevance of project findings to wider Caribbean.</li> </ul>

OUTPUT	ACHIEVEMENTS	PROMOTIONAL ACTIVITIES & TIPS
		<ul style="list-style-type: none"> <li>➤ Co-host GCFI workshop with CCA (to disseminate 54<sup>th</sup> GCFI MPA session &amp; other CCA MPA programmes incl. LWI co-management project &amp; NOAA socio-econ monitoring programme).</li> <li>➤ Establishment of Caribbean Working Group for Guidelines development with 12 members.</li> <li>➤ Launch of Guidelines at WPC, Durban, September 2003.</li> </ul>

The Guidelines published at the end of this project outline ways in which approaches to MPA management can explicitly benefit poorer stakeholder groups in the Caribbean and, in doing so, promote effective management of MPAs. In this way, the outputs of this project contribute directly to the achievement of the first OVI of the current NRSP strategy. At the current time, it appears possible that these approaches to MPA management will be adopted by two target institutions, in that the Guidelines will be published as an integral part of an IUCN publication arising from the World Parks Congress (South Africa, September 2003), and that UNEP may also be adopting the Guidelines publication at its MPA meeting for Caribbean Managers in November 2003.

The project team have arranged for a launch of the Guidelines at the World Parks Congress (WPC) in Durban, South Africa on 18<sup>th</sup> September 2003<sup>2</sup>. A presentation and poster have been prepared by the project team and the Guidelines will be officially launched during a lunchtime session for three Workshops under the Building Support Workshop Stream (these are: Indigenous and local community, equity and protected areas (TILCEPA), Marine Protected Areas, Empowering the rural poor as partners in conservation and management of protected area) of the WPC. The Guidelines will be introduced by a coordinator of the Marine Theme, Dr Charles Ehler, Director of the International Programme Office of NOAA in Washington, USA. The presentation of the Guidelines will be given by a DFID co-management advisor, Rob Wild, from the Princess Alexandra Land and Sea National Park, Turks and Caicos which was one of the MPAs at which research took place. The project team has been advised that the Guidelines will most probably be included in an IUCN publication on Protected Areas and Poverty, which is being spearheaded by Rob Wild and will be published based on papers presented at the WPC.

It is recommended that the Project Guidelines, and their particular focus, be presented at the MPA session at the 56<sup>th</sup> GCFI in the Bahamas, November 2004. Members of the Working Group developing the Guidelines will be present at this meeting and so be available to present the Guidelines.

The 5-year UNEP project on Caribbean MPA effectiveness is ongoing, and concludes in 2005. The UNEP regional coordinator (RCU, Jamaica) attended the project workshop in November 2002 and was a member of the Working Group developing the Guidelines. The coordinator has indicated their intention to incorporate recommendations or Guidelines

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<sup>2</sup> **One of the project team was awarded funding to attend the WPC and present the Guidelines during the first panel of the TILCEPA workshop (Working the link between Protected Areas and Poverty) but was unable to attend due to work reasons.**

arising from this research into the larger framework for MPA effectiveness as the UNEP project lacks any poverty focus. The next UNEP project workshop will take place in Guadeloupe in November, and it is recommended that the Guidelines be promoted during this workshop.

Finally, one of the project team is now an MPA practitioner in Caribbean, which will further increase uptake of project findings in the region.

## 8 Publications and other communication materials

### 8.1 Books and book chapters

None

### 8.2 Journal articles

None

#### 8.2.1 Peer reviewed and published

None

#### 8.2.2 Pending publication (in press)

**Anderson, W.; Best, M. and Richards, R. In press.** Marine Protected Areas: Legal And Policy Framework. *Caribbean Journal of Law*. Barbados: UWI. In press

#### 8.2.3 Drafted

None

#### 8.2.4 Institutional Report Series

None

#### 8.2.5 Symposium, conference and workshop papers and posters

**Anderson, W.; Best, M. and Richards, R. 2002.** *Marine Protected Areas: Legal And Policy Framework*. Project Report. Barbados: Faculty of Law, UWI Cave Hill. November 2002.

**Best, M. 2002.** A Review Of Legislation, Policy And Institutional Arrangements, Assisting Or Constraining, The Implementation Of Marine Protected Areas In Dominica And The Turks And Caicos Islands. *Proceedings Annual Conference of the Sustainable Economic Development Unit of the University of the West Indies*. UWI, Trinidad. June 2002.

**Esteban, N. and Garaway, C. 2003.** Institutional Evaluation Of Caribbean MPAs And Opportunities For Pro-Poor Management. *Poster presented at World Parks Congress*. Durban, South Africa, September 2003.

**Esteban, N.; Garaway, C.; Oxenford, H.; Anderson, W. and McConney, P. 2002.** *Project Workshop: Institutional Arrangements For Caribbean MPAs And Opportunities For Pro-Poor Management. A Special Concurrent Session At The 55th Annual Meeting Of The Gulf And Caribbean Fisheries Institute (GCFI)*. Xel Ha, Mexico, November 2002. UK: MRAG Ltd.

**Francis, S.K.Y., O'Sullivan, C.H., Best, M.N., Richards, R.A., Oxenford, H.A. and Anderson W. In press.** A Preliminary Investigation Of The Impacts Of Legislative Status, Management And Ecological Condition Of Marine Protected Areas On The Socio-Economic Status Of Stakeholders In Jamaica And The Turks And Caicos Islands. *Proceedings 55th GCFI*, Xel Ha, Mexico, November 2002.

**Garaway, C. and Esteban, N. 2002.** Opportunities And Constraints For Successfully Implementing Pro-Poor MPAs. *Workshop Report On Institutional Arrangements For Caribbean MPAs And Opportunities For Pro-Poor Management At The 55th GCFI*. Xel Ha, Mexico, November 2002. UK: MRAG Ltd.

**Garaway, C. and Esteban, N. 2002.** Institutional Evaluation Of Caribbean MPAs And Opportunities For Pro-Poor Management. *European Meeting of the International Society for Reef Studies*. Cambridge, UK, September 2002.

#### 8.2.6 Newsletter articles

None

#### 8.2.7 Academic theses

**Best, M. 2002.** A Review of Legislation, Policy And Institutional Arrangements, Assisting Or Constraining, The Implementation Of Marine Protected Areas In Dominica And The Turks And Caicos Islands. *MSc thesis*. NRM Program, UWI Cave Hill, Barbados.

**Cummings, A.R. 2002.** An Assessment Of The Ecological Impacts Of Two Successfully Implemented Marine Protected Areas In Belize. *MSc thesis*. NRM Program, UWI Cave Hill, Barbados.

**Francis, S. 2002.** An Assessment Of The Impacts Of Two Successfully Implemented Marine Protected Areas On The Livelihoods Of Stakeholders In Jamaica And The Turks And Caicos Islands. *MSc thesis*. NRM Program, UWI Cave Hill, Barbados.

**O’Sullivan, C.H. 2002.** A Preliminary Assessment Of The Ecological Impacts Of Two Marine Protected Areas In The Wider Caribbean. *MSc thesis*. NRM Program, UWI Cave Hill, Barbados.

**Richards, R 2002.** A Review Of National Policy And Legislation Contributing To, Or Constraining Successful Marine Protected Areas Implementation In Belize And Jamaica. *MSc thesis*. NRM Program, UWI Cave Hill, Barbados

### **8.2.8 Extension leaflets, brochures, policy briefs and posters**

**Esteban, N., Garaway, C. and Oxenford, H. 2003.** Project Brief 3: Institutional Evaluation Of Caribbean MPAs: Project Findings And Extension. UK: MRAG Ltd. January 2003.

**Cowan, V., Garaway, C. and Esteban, N. 2001.** Project Brief 1: Institutional Evaluation Of Caribbean MPAs: A New Project Has Begun. UK: MRAG Ltd. May 2001.

**Cowan, V., Garaway, C. and Esteban, N. 2001.** Project Brief 2: Institutional Evaluation Of Caribbean MPAs: Characterisation Review. UK: MRAG Ltd. December 2001.

### **8.2.9 Manuals and guidelines**

**Garaway, C. and Esteban, N. 2003.** Improving MPA Effectiveness By Working With Local Communities: Guidelines For The Caribbean. UK: MRAG Ltd. August 2003.

### **8.2.10 Media presentations (videos, web sites, TV, radio, interviews etc)**

None

### **8.2.11 Reports and data records**

None

### **8.2.12 Project technical reports including project internal workshop papers and proceedings**

**Anderson, W.; Best, M., Richards, R. 2002.** Marine Protected Areas: Legal And Policy Framework. Project Report. Barbados: Faculty of Law, UWI. November 2002.

**Esteban, N., Garaway, C., Oxenford, H., McConney, P. and Anderson, W. 2002.** Project Workshop: Institutional Arrangements For Caribbean MPAs And Opportunities For Pro-Poor Management. A Special Concurrent Session At The 55th Annual Meeting Of The Gulf and Caribbean Fisheries Institute, Xel Ha, Mexico, 11-16 November 2002.

**Geoghegan, T., Smith, A. and Thacker, K. 2001.** Characterisation Of Caribbean Marine Protected Areas: An Analysis Of Ecological, Organisational, And Socio-Economic Factors. CANARI Technical Report No. 287. July 2001.

**Garaway, C. and Esteban, N. 2003.** Case Study Reports On MPAs: Negril Marine Park, Jamaica; Princess Alexandra Land And Sea National Park, Turks And Caicos; Glover’s Reef Marine Reserve And Hol Chan Marine Reserve, Belize. *Project Report*. UK: MRAG Ltd. August 2003

### **8.2.13 Literature reviews**

None

### **8.2.14 Scoping studies**

None

### **8.2.15 Datasets**

**Garaway, C. 2002.** Database Containing Baseline Information On 80 Caribbean Including Information On Biophysical, Management, Legal And Socio-Economic Characteristics. Dataset based on Geoghegan *et al.* 2001. *Database currently being integrated in ICRAN, IUCN Protected Area and CaMPAM databases*. UK: MRAG Ltd.

### **8.2.16 Project web site, and/or other project related web addresses**

*All project outputs are posted on [www.mragltd.com](http://www.mragltd.com) (click on “Land Water Interface programme” in left column, click on “selected project examples” and scroll down to R7976*

## **9 References cited in the report, sections 1-7**

Carney, D (ed) (1998) Sustainable Rural livelihoods. Department for International Development, London UK

## 10 Project logframe (revised February and December 2002)

Narrative summary	Objectively verifiable indicators <sup>3</sup>	Means of verification	Important assumptions
<p><b>Goal</b></p> <p>Improved resource-use strategies in coastal zone production systems developed and promoted.</p>	<p>By 2002, new approaches to integrated natural resource management and prevention of pollution which explicitly benefit the poor validated in two targeted areas</p> <p>By 2004, these new approaches incorporated into strategies for the management of coastal resources and adopted by target institutions in two targeted countries.</p>	<p>Reviews by Programme Manager.</p> <p>Reports of research team and collaborating / target institutions.</p> <p>Appropriate dissemination products.</p> <p>Local national and international statistical data.</p> <p>Data collected and collated by the Programme Manager.</p>	<p>Target beneficiaries adopt and use strategies.</p> <p>Enabling environment exists.</p> <p>Budgets and programmes of target institutions are sufficient and well managed.</p>
<p><b>Purpose</b></p> <p>Methods to improve benefits to livelihoods of the poor through MPAs defined, an on this basis pro-poor methodology for Caribbean MPA integration, implementation and management developed and promoted.</p>	<p>By 2003, impacts of MPA management on poor peoples' livelihoods and their causes, identified, and findings promoted in Caribbean region.</p> <p>By 2003, recommendations of the project will have been promoted and be used by Caribbean MPAs as a tool to identify institutional constraints and promote sustained improvement in poor people's livelihoods.</p>	<p>DfID commissioned reviews</p> <p>Final reports of research team and collaborating/target institutions.</p> <p>Local, national and international statistical data</p> <p>NRSP quarterly and annual reports submitted to Programme Manager</p>	<p>Commitment of target country authorities to devolution reflected at the local level</p> <p>Ability of government to elicit flexibility in the attitudes of vested interests.</p>

<sup>3</sup> Month 1 = April 2001, Month 21 = December 2002 (original EOP), Month 29 = August 2003 (new EOP)

<b>Outputs</b>	<b>OVI</b> s	<b>MoV</b>	<b>Assumptions</b>
1. Increased understanding of the key institutional, social and biophysical characteristics of MPAs in the Caribbean region.	Initial review and characterisation of MPAs in the region completed by month 4	Project report; scientific papers	Access to literature on MPAs in the region
2. Improved understanding of the enabling/constraining PIPS leading to successful MPA implementation, including the value of MPA integration into coastal zone management	Information from further study incorporated into review by month 17  Indicators for assessing the 'success' of integration and implementation developed by month 10  Characterisation of structural and procedural design principles associated with successful and unsuccessful MPA implementation by month 18	Project reports	Socio-economic and political situation in Caribbean states do not develop in a way that is adverse to the participation of MPAs  Relevant government departments/ NGO's/ organisations participate in research.
3. Increased understanding of the impacts of successfully implemented MPAs on poor people's livelihoods and the structures/processes leading to beneficial/harmful outcomes	Assessment of extent of MPA integration into ICZM (month 6) and identification of structural and procedural design principles associated with successful integration by month 18  Impacts in 4-6 sites identified by month 15  Criteria for judging success, including community criteria, identified by month 15  Factors causing beneficial/harmful outcomes identified by month 18	Project reports	Governments have ICZM policies  Outcomes can be identified
4. Means to improve benefits to livelihoods of the poor defined, and on this basis, pro-poor methodology for	Drawing on outputs 1-3, framework guidelines for pro-poor MPA management drafted for consultation by month 12	Project reports, including guidelines  Dissemination workshops	MPAs have capacity to take up guidelines  Local, national and regional

<b>Outputs</b>	<b>OVI</b> s	<b>MoV</b>	<b>Assumptions</b>
MPA management developed and promoted	& finalised by month 29. Increased awareness in Caribbean region of institutional constraints, & development options for MPAs benefiting the poor by: <ul style="list-style-type: none"> <li>• Regional awareness of projects aims &amp; identification of possible uptake pathways by month 4; &amp;</li> <li>• Identification of development options &amp; dissemination of project results with existing national, regional &amp; local organisations by month 21</li> </ul>		organisations interested in the aims and results of project

Activities	OVI's	Assumptions
<p>1.1. Review and characterisation of existing MPAs in the region, including degree of integration with wider coastal zone management, from literature and primary data collection</p> <p>1.2. Selection of potential MPA case study sites for further analyses</p> <p>1.3. Development of customised database to store, retrieve and query data collected in characterisation review, seeking compatibility with existing databases, where possible.</p> <p>1.4 Refinement of MPA characterisation based on findings from further comparative analyses (activities 2.1-2.3)</p>	<p>Project report completed by month 3</p> <p>Potential case study sites selected by month 4</p> <p>Database produced by month 18</p> <p>Project report completed by month 17</p>	<p>Literature is available</p> <p>Sufficient case studies can be identified for the different analyses</p> <p>Adequate data available for further analyses</p>
<p>2.1. Building from the MPA characterisation, develop a set of indicators to assess success of implementation and integration of MPAs</p> <p>2.2. Further review of MPA sites identified in 1.2 with respect to process and success of implementation and integration into ICZM.</p> <p>2.3. Refinement of typology of MPA implementation and ICZM integration.</p>	<p>Indicators developed and applied in review completed by month 10</p> <p>Review complete by month 10</p> <p>Project report by month 12</p>	<p>Literature available</p> <p>ICZM cases exist</p>



<p>2.4. Surveys at selected sites of operational rules and characteristics of decision-making structures and processes</p>	<p>Surveys in 8-12 sites (including sites for output 3) completed by month 17</p>	<p>Case studies with different processes of implementation &amp; levels of success can be identified</p>
<p>2.5. Review of national policy and legal institutions impacting on MPA decision-making structures and processes</p>	<p>Legal review complete by month 10</p>	<p>Literature available</p>
<p>2.6. Identification of factors perceived to affect implementation of MPAs, including their wider integration into ICZM;  2.6.1 Literature research  2.6.2 Stakeholder workshops at selected MPA sites.</p>	<p>Literature search, and stakeholder workshops completed by month 13</p>	<p>Stakeholders can be mobilised to attend workshops in project's timeframe</p>
<p>2.7. Comparative analysis of case study sites with respect to factors identified in 2.5 including collection of any additional information required</p>	<p>Additional information collected by month 17  Analysis complete by month 18</p>	<p>Adequate data provided by 2.4 –2.6</p>
<p>3.1. Literature review of key stakeholders, livelihood opportunities &amp; documented outcomes of MPA management at selected case study sites</p>	<p>Review of 4-6 case studies complete by month 10</p>	<p>Literature is available</p>
<p>3.2. Assessment of ecological impact of MPAs  3.2.1 Review &amp; analysis of existing data &amp; literature  3.3.2 Additional primary data collection, where necessary</p>	<p>Assessment at 4-6 case study sites complete by month 10</p>	<p>Weather conditions allow visual census   Project time frame suits availability of UWI researchers  Data &amp; literature are available</p>

<p>3.3. Participatory appraisals with poorest stakeholder groups</p> <p>3.3.1 Changes and trends in livelihood options &amp; capital assets.</p> <p>3.3.2 Evaluation of success of MPA management including stakeholder's criteria</p> <p>3.3.3 Identification of key structures and processes enhancing/ constraining success</p> <p>3.3.4 Identification of development options</p> <p>3.4. Additional surveys where need and capacity exist identified and implemented</p>	<p>Participatory appraisals in 4-6 case study sites complete by month 12</p> <p>Criteria for judging success, including community criteria, identified by month 15</p> <p>Any additional information analysed by month 18</p>	<p>Stakeholder communities available within the time frame set by the project</p> <p>Information from 3.2 &amp; 3.3 identifies further information requirements</p>
<p>4.1. Produce a series of briefs (by email) to promote and disseminate projects aims, key results and issues for consultation through-out the region</p> <p>4.2. Identify, review and finalise appropriate uptake pathways with project partners</p> <p>4.3. Guidelines framework developed as a 'living' document for review throughout project.</p> <p>4.4. Stakeholder workshops at case study sites to disseminate local project findings and discuss locally relevant development options</p> <p>4.5. Regional</p>	<p>First project briefing sheet complete by month 4. Series of briefing papers regularly disseminated. Contact with relevant organisations sustained throughout project</p> <p>Project report complete by month 6</p> <p>Framework for guidelines complete by month 12 Document revised after stakeholder workshops and PRA's (month 16)</p> <p>Workshops complete by month 15</p> <p>Workshops complete by month 20</p>	<p>Local stakeholders able to participate within the time frame set by the project.</p> <p>Regional</p>

dissemination workshop to discuss project results, review draft guidelines, identify development options and refinement of the means by which project results can best be utilised/promoted.		organisations available within time frame.
4.6. Final guidelines document produced in line with recommendations from 4.5.	Guidelines complete by month 29	
4.6.1. ToC prioritised after 4.5.	Workshop Report (month 21)	
4.6.2. Forum for collaborative production of guidelines developed.	Email Working Group produced as associated roles/responsibilities agreed (month 22)	Workshop participants (from 4.5) still interested in collaboratively-developed guidelines.
4.6.3. Annotated ToC and format agreed by Working Group.	Annotated ToC (month 24)	
4.6.4. Collection and collation of materials and contributions.	Month 26	
4.6.5. Final draft guidelines written and agreed.	Draft Guidelines (month 28)	
4.6.6. Production and awareness raising of final guidelines.	Final guidelines (month 29) Brief 4 (month 29)	
4.6.7. Linkage with UNEP to incorporate guidelines with their own.	Month 29	UNEP interested and timing within ICran project cycle.

## 11 Keywords

MPA, Caribbean, institutional analysis, ICZM, Guidelines, legal framework, resource management institutions, sustainable resource use, co-management