R7976 FTR ANNEX A

DFID Natural Resources Systems Programme

THE IMPACT OF MARINE PROTECTED AREAS ON POORER COMMUNITIES LIVING IN AND AROUND THEM: INSTITUTIONAL OPPORTUNTIES AND CONSTRAINTS TO PRO- POOR MANAGEMENT

SUMMARY OF MAJOR ISSUES ARISING FROM CASE STUDY RESEARCH

This document may be referred to as follows: Garaway, C. and Esteban, N (2003) Impact of Marine protected areas on poorer communities living in and around MPAs: Institutional opportunities and constraints to pro-poor management. MRAG Ltd, UK.

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ACRONYMS

ACLSNP	Admiral Cockburn Land and Sea National Park
CANARI	Caribbean Natural Resources Institute
CCA	Caribbean Conservation Association
CNP	Cabrits National Park (Dominica)
CSNP	Chalk Sound National Park (TCI)
CR	Characterisation review, CANARI, R7976
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
IS	Impact study, MRAG, R7976
ISRS	International Society for Reef Studies
LBS	Land Based Sources
LAMA	Local Area Management Authority
LPR	Legislation and policy review, UWI, R7976
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	Participatory Appraisals
PALSNP	Princess Alexandra Land and Sea National Park (TCI)
SMMA	Soufriere Marine Management Association (St Lucia)
SSMR	Soufriere-Scottshead Marine Reserve (Dominica)
TCI	Turks and Caicos Islands
UNEP	United Nations Environment Programme
UWI	The University of the West Indies
WCS	Wildlife Conservation Society

1   INTRODUCTION

This report presents results of detailed case study research at four Marine Protected Areas (MPAs) within the Caribbean region between January and March 2002. The main purpose of the research was to investigate the impact that Marine Protected Areas were having on poorer communities living in and around the Parks, and identify institutional opportunities for, and constraints to, improving these impacts. To separate it from results of other research activities mentioned in this report, this study is referred to as the 'impact' study throughout the remainder of this report.

The report also presents some results from other research conducted during the project R7976 *Institutional Arrangements for Caribbean MPAs and opportunities for pro-poor management* (NRSP-R7976), where it provides extra insights into why MPA management may or may not be operational, or why it is or isn't providing benefits to poorer groups. The nature of this other research is briefly described in section 1.4.

The report is structured as follows. The front end provides a summary of the major results from the impact study and other relevant R7976 research, and a discussion of the main issues arising from them. Attached to this are five Appendices. The methodology used to collect the data for the impact study is described in Appendix 1. Appendices 2-5 present detailed results from all the case study sites in turn. Within each Appendix, the following is described:

- Description of the MPAs history and current or recent management activities.
- Opportunities and constraints of management as perceived by implementing organisations.
- Profile of stakeholder groups living in or around the MPA, including those from the poorer groups.
- Opinions concerning the MPA, its management, and its impact on poorer groups, as perceived by members of these groups themselves.
- Conclusions and recommendations.

1.1   Definition of institutions

Due to its importance in this project a brief definition of institution, as understood here, is given. In this report the term 'institutions' refers to both formal and informal norms, rules, procedures and processes that define the way in which individuals should inter-relate and act[1]. Informal processes are as important as formal ones. Responsibilities and operating procedures may be well defined and even codified,

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1 Bingen (2000) separated institutions into 5 broad types which help to clarify its meaning in this context. 1. *Familial (cultural) institutions* cover a range of descent or kin-based (clan, lineage tribe) relations and practices. These are the institutions that people draw upon, or claim, to give meaning and identity in their lives and relationships. 2. *Communal (community) institutions* are grounded on principles of trust and reciprocity that are commonly tied to shared physical or natural resources. Geographic place and location play a role in defining these institutions. 3. *Social institutions* usually embody some principles of trust and reciprocity, but the norms or codes of conduct are derived from a societal interest. These include "vertical" institutions, such as various types of patron-client relations 4. *Collective institutions* are those in which the relations and practices are defined as contractual. These include the widely studied common property resource institutions. The rules-of-the-game or the working rules that comprise these institutions are defined principally outside those that characterize familial, communal and social relations and processes. 5. *Policy/Governance institutions* consist of constitutional or juridical conditions and stipulations, policies and specific legislation and/or regulations, as well as the norms that guide public action and conduct, including those guiding the programs of government technical services. This category covers a broad sweep of institutions from official or governmental land tenure and property rights laws and regulations to the norms and practices of agricultural research and extension.

but many institutional processes are simply and informally acknowledged as the "way things are done." Similarly, institutions with written rules and procedures are not more advanced or sophisticated than those with unwritten procedures. Consequently, institutions do not evolve from informal to formal. In thinking about institutions, it is the rules-in-practice that count.

1.2   Objectives of the impact study

The overall objective of the impact study, as mentioned above, was to investigate the impact that Marine Protected Areas were having on poorer communities living in and around the Parks, and identify institutional opportunities for, and constraints to, improving these impacts. To achieve this it was necessary to:

- Identify poorer stakeholders living in and around the park and their major livelihood opportunities and constraints.
- Identify the potential benefits and costs of MPA management to these stakeholder groups.
- Determine the extent to which these costs and benefits were being realised at each site and the institutional factors affecting this.

Work was conducted with the MPA staff at each site. In addition to the above, it was also important to identify how these and other factors impacted on the effectiveness of MPA operations themselves. As is described in section 2 below, this was not only because this was the primary interest of the staff themselves, but also because, from a poverty alleviation perspective, the long term environmental protection that could come from an effectively managed MPA would be a significant benefit to poorer groups if the potential short to medium term costs of management could be avoided, mitigated or overcome. In light of this, it was also necessary to:

- Describe the extent to which impacts on poorer people's livelihoods affected MPA operations (positively or negatively).
- Identify other human (as opposed to ecological) constraints to effective MPA implementation and maintenance.

1.3   Site selection and methodology

This is described in detail in Appendix 1. There were several criteria for site selection (the sample from which sites were selected came from the characterisation review of Caribbean MPAs by CANARI (Geoghegan *et al* (2001)). To be included sites had to have the following attributes;

- Located in areas where poverty was an issue.
- More than a low level of active management.
- Staff.
- Objective led management plan.
- Level of user awareness of rules i.e. 'working' rules.
- Operation more than 5 years.

After this initial selection, sites were chosen on the basis of variation between the sites in their institutional set up[2]. The sites chosen were

- Princess Alexandra Land and Sea National Park (PALNSP), Turks & Caicos
- Hol Chan Marine Reserve (HCMR), Belize
- Glovers Reef Marine Reserve (GRMR), Belize
- Negril Marine Park (NMP), Jamaica.

Briefly, the major steps in the research were:

- Interviews with implementing agencies to determine their principle activities and what they perceived to be their main operational constraints and opportunities.
- Identification of poorer stakeholder groups through literature and group discussion with MPA and outreach staff.
- Interviews with stakeholders. Information collected included: Use of the MPA and surrounding area; perceptions of the impact of the MPA on the natural resource base and on themselves; opinions of the MPA; perceptions of major constraints to, and opportunities for, the MPA improving their livelihoods.

Feedback of all results collected was given, where desired, to the MPA staff and multi stakeholder advisory committees. For more details see Appendix 1.

1.4   Other research

Results in the impact study were informed by other studies at these sites carried out under the same project (R7976 *Institutional Arrangements for Caribbean MPAs and opportunities for pro-poor management).* Results from these additional research activities, carried out by students at the University of the West Indies, are fully cited, when used, in the individual case study reports (Appendices 2-5).

Two further research activities undertaken during this project, which have informed this summary report, are described in turn below.

1.4.1   MPA Characterisation review

As a starting point for the project a review of 80 MPAs across the Caribbean was undertaken by CANARI to capture basic information on the ecological, institutional, socio-economic and management aspects of individual MPAs.   A standard data sheet was used to collate this information, which came from both a review of the literature and interviews with MPA managers and other informants. Some of the results from this review are presented here. Full details of methods and results can be found in Geoghegan *et al* (2001).

1.4.2   Legal and policy review

Following policy and legal research at selected case studies (including those that are the main focus of this report) by MSc students at UWI, results were synthesised to produce a report on the role and impact of legal and policy frameworks on levels of MPA management. Some of the results from this review are also presented here but full details can be found in Anderson *et al* (2003).

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[2] For a description of these see either the individual appendices or for a comparison of basic institutional characteristics, Geoghegan *et al*, (2001) or legal 'typology' Anderson *et al*, (2003).

1.5   Outline of this report

Results are presented in the following manner. Firstly section 2 looks at why MPA managers should be interested in being pro-poor and what the particular characteristics of poorer groups are that make them management challenges. It also suggests why ensuring effective operations of MPAs should be an objective of those interested in poverty alleviation.

Following on from this last point, section 3 identifies the potential hurdles to MPA implementation and investigates evidence of their prominence in the Caribbean Region and the factors that are affecting them.

Sections 5 and 6 then turn to looking at how MPAs can benefit poorer groups (particularly in the shorter term) to secure their longer-term future. Section 5 presents a framework of potential benefits and costs and section 6 presents results from the impact study.

Section 7 forms the concluding part of this report. It conceptualises the key 'players' and relationships that determine the operational effectiveness of MPA management, and summarises, in these terms, the current constraints to, and opportunities for, improving MPA management in a way that is sensitive to the needs of poorer groups.

2   RATIONALE FOR PRO-POOR MANAGEMENT

In the characterisation review (Geoghegan *et al,* 2001) it was noted that "whilst explicit objectives and mission statements, which were identified for 44, or 59%, of the MPAs surveyed, overwhelmingly emphasize conservation, an analysis of management programmes reveals that most MPAs tend to have a three-fold purpose (though in most cases one or more aspect takes precedence). These are:

1. Enhancement of the tourism product and recreational opportunities;
2. Conservation of critical ecosystems;
3. Sustainable and equitable use of coastal resources (including conflict management).

MPAs are therefore seen as being at once attractions, refuges, and sources of socio-economic development. This multi-dimensional vision may have developed in response to the failure of many early MPAs modelled along traditional conservation lines, which in some cases remain "paper parks" today" (Geoghegan *et al*. 2001 p. 10).

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. The question then becomes, 'why should MPA agencies be interested in being pro-poor?' as without such interest, the question of how it can be achieved becomes a rather academic one.

2.1   Poverty alleviation and MPA management. Why connect the two?

One of the reasons why MPA agencies should be interested in addressing the needs and concerns of poorer groups is that, as demonstrated in the characterisation review, many MPAs border areas of significant poverty and people from these groups may impact on, or be impacted by (or both) MPA management. Horril *et al* (1996)

noted that the "establishment of protected areas often generates resentment in traditional user communities - undermining the viability of protected areas." A simplified conceptualisation of two way effects and feedbacks are illustrated in Figure 2.1.
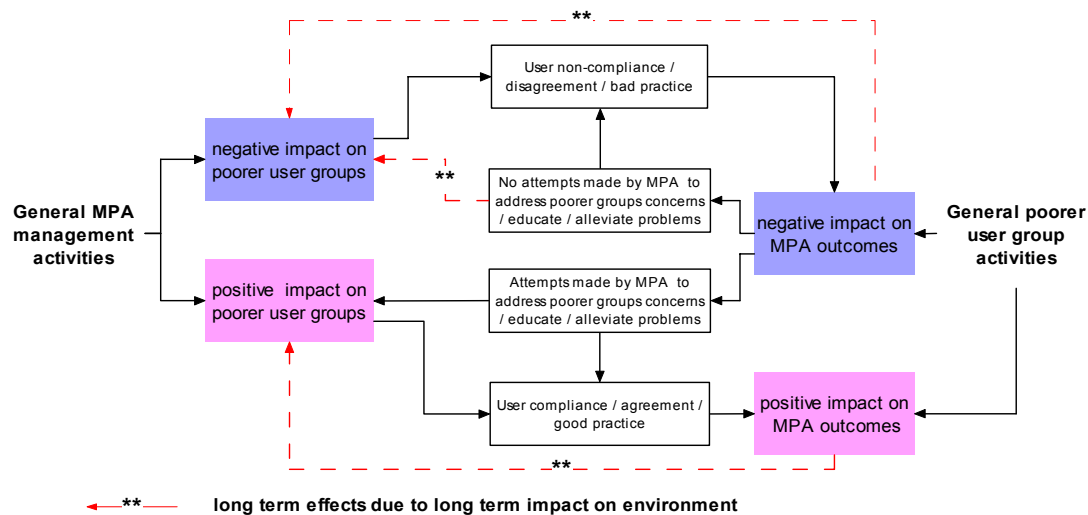
Figure 2.1 Conceptualisation of the linkages between effective MPA management and benefiting poorer groups living in or around MPAs

Starting from the left hand side, general MPA management activities, by impacting on poorer peoples livelihoods (see section 6), can catalyse actions on the part of the poorer groups, which can in turn have either positive or negative impacts on the MPA management outcomes themselves. If these MPA outcomes are negative, what the MPA then does about this will be important. By attempting to address poorer groups concerns, educate, and alleviate problems, the MPA agency may be able to reverse the negative activities of poorer users, leading to more positive outcomes. If no attempts are made to do this, negative outcomes will continue.

Starting from the right hand side of the diagram it is also clear that poorer user groups, by impacting on MPA outcomes, can catalyse actions that, in the long term can have either a positive or negative impact on their own livelihoods. This suggests that from the perspective of those agencies wishing specifically to address the needs of poorer groups, focusing on MPA management is also important. The long term effects of environmental degradation which may come from non-effective MPA management are likely to have a long term detrimental impact on poorer user groups relying on that environment.

This diagram only shows impacts due to the activities of poorer user groups. Of course, negative MPA outcomes can be caused by many other factors, and it is therefore in the interest of those interested in poverty alleviation to understand how these problems can be ameliorated too.

In conclusion, it is in the interests of both MPA agencies and those interested in poverty alleviation to attempt to identify opportunities and constraints to implementing MPAs, and doing so in a way that is sensitive to the needs of poorer groups living in and around them.

Section 3 looks at some of the major hurdles to MPA implementation as conceptualised in this study and evidence for their existence and factors causing them. Before this, section 2.2 discusses why poorer groups are of particular concern.

2.2   Why the need to focus specifically on poorer groups?

Figure 2.1 suggested some of the potential impacts of non-compliance, disagreement or bad practice, but these problems are not specific to poorer groups so why is there a need to focus specifically on this group? Obviously from the point of view of those agencies interested in poverty alleviation this is obvious, but it is also crucial for MPA agencies to consider.

 Figure 2.2 shows some of the characteristics of poorer groups that make them MPA management challenges. Chambers (1983) identified 5 characteristics of poorer groups that have implications in the MPA setting and these are presented in the top boxes on the diagram below.
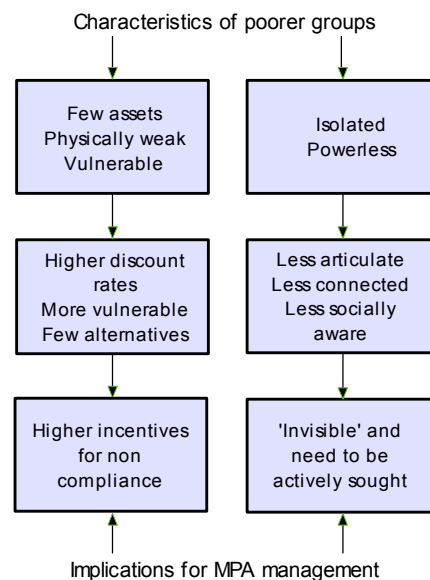
Figure 2.2 Characteristics of poorer groups that make them management challenges

Characteristics in the right hand top box (few assets, physically weak, vulnerable) suggest that more than any other group, poorer users dependant on the marine resource will be less likely to be able to comply with MPA measures that affect their use of the resource. This is so *even if* they understand the reasons behind the measures and are supportive of the objectives in general. With fewer alternatives, less capacity to cope with non-advantageous change and a need for short-termism, educational efforts (i.e. being told that their practices are unsustainable) will not necessarily be enough. Instead, active attempts to ameliorate negative consequences or provide other/additional benefits may be necessary.

Characteristics in the left hand top box (isolated, powerless) make identification of these groups more difficult. Powerlessness can be caused by, for example, lack of connections, or weak bargaining position and mean that such people will not normally be leaders of groups, or in positions where their views are heard. Isolation can be either geographical or related to access to information and services. Combined, the characteristics lead to a certain amount of 'invisibility' that can lead to normal outreach activities not reaching this group leaving their views unheard or being wrongly represented by other more influential people, frequently without their

knowledge. A common example of this is the case of poorer fishers who are often represented by a richer, more powerful fisher who has little understanding of their particular constraints. To address this, special attempts must be made, firstly to identify these groups and, secondly, to work with them. This may require skills above and beyond those needed for dealing with other stakeholder groups. Some of these skills are suggested in section 6 and in Garaway and Esteban (2003).

3   POTENTIAL HURDLES TO MPA IMPLEMENTATION

The types of hurdles that can affect successful MPA implementation are split here into three broad groups. This classification was a result of bringing together all the constraints cited by those involved in MPA management during the impact study.

1. Problems that prevent management programmes being put in place or sustained in the first place.
2. Problems with non-compliance, bad practice or non co-operation that undermine management programmes even when they are up and running.
3. Problems of ecological design that result in poor ecological outcomes despite active management programmes and good compliance.

Examples of group 1 problems include: Inappropriate legislation; inadequate funding; staffing problems. Problems identified in this research are discussed in detail in section 3.1. Examples of group 2 problems include: Breaking regulations; or failing to support park activities. Problems identified in this research are discussed in section 3.2. These two hurdles are what make up the 'human' dimension of MPA management.

The third hurdle relates to the ecological appropriateness of the MPA and its management (i.e. are the physical characteristics of the MPA and the rules put in place to regulate its use, likely to have the desired ecological effect?). Despite its obvious importance, this hurdle is not discussed here as it is well covered by others.

There is obviously some overlap between these groups, and solving problems in one may have a knock-on effect on problems in others. For example, good compliance (group 2) can reduce monitoring and enforcement costs thus decreasing financial problems (group 1). Or, good co-operation (group 2) can lead to better local technical knowledge therefore improving ecological design (group 3).

3.1   Problems that prevent management programmes being put in place or sustained in the first place (hurdle 1).

Evidence in this section comes from three sources, the characterisation review (0), the legal and policy review (3.1.2) and the impact study (3.1.3). Characterisation review

3.1.1   Characterisation Review

According to Geoghegan *et al* (2001), less than half of the region's MPAs have more than a low level of management[3] and approximately 25% have no management at

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[3] In those MPAs with active management, the following framework was used to describe management level:1)High: management is by objectives, management plan or operations plan is in place, adequate human and other resources are available to address all stated objectives with actions and programmes, there is a high level of awareness of and adherence to management rules; 2) Moderate: there is active management addressing objectives, but not all elements of high level management are in place (may lack a

all. These results suggest that problems relating to hurdle 1 are substantial in the region. Of those with moderate or high levels of management, a disproportionate number are in territories of France, the Netherlands, the United Kingdom, and the United States.

The level of management, according to this review, is in most cases directly related to availability of financial resources. Where such financial resources are available, they come from three major sources:

1. Government allocations (French and U.S. territories, Cuba)
2. Donor assistance
3. Visitor and user fees

With the exception of the MPAs in the U.S. Virgin Islands, those MPAs most often cited as having high levels of management all have functional user fee systems in place that cover all or most management costs (these include the SMMA, Saba and Bonaire Marine Parks in the Netherlands Antilles, Wreck of the Rhone Marine Park in the British Virgin Islands, Hol Chan Marine Reserve in Belize, and the Cayman Islands marine park system). Whilst successful, the review stressed that user fee systems are only appropriate or effective in areas where there is a high level of water-based tourism use. Given these findings, it appears that MPAs in areas with low levels of tourism use and in countries with limited financial resources or interest in marine conservation are unlikely to succeed unless they are able to attract external donor support. For more information on individual MPAs see Geoghegan *et al*., 2001.

3.1.2   Legal & policy review

Synthesising the results from detailed case study research carried out by UWI MSc students, Anderson *et al* (2003) looked at the impact of legislative type on levels of management at MPAs. This study relied on data from fewer MPAs (10) than the characterisation review (80 MPAs) but examined the institutions, policies and processes in place in more detail.

Three types of legislative type for setting up MPAs were recognised:

1. Use of traditional resource conservation laws;
2. *ad hoc* legislation relating to the creation and operation of specific marine protection areas; and
3. 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 protection areas.

It was hypothesised that, as a rule, dependence upon the incidental relevance of legislation, (1), provides neither a coherent nor an effective means of regulating usage of marine spaces. Legislation specific to marine protection areas (2) 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 protection areas located within the country. Whereas

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management plan, have insufficient staff or enforcement capability, or not have programmes addressing all objectives); 3) Low: some management activities are in place, but objectives are unstated or not addressed, resources are insufficient, management rules are not widely adhered to, and management may not be evident to visitors.

general legislation setting up the regime for a system of protected areas, including marine protection areas, whilst allowing for flexibility in the individual operation of specific areas (3), 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. For more information on these typologies see Anderson *et al*, 2003.

With this hypothesis, the 10 MPAs were given an expected management level based on typology;

(Type 1) – low level of management
(Type 2) – moderate level of management
(Type 3) – high level of management

Expected management levels were then compared with actual management level, and factors explaining deviation from expected outcomes were suggested. A summary of results is presented in Table 3.1. For full results see Anderson *et al*, (2003).

As can be seen from the table, whilst there may be preferred regulatory regimes there is no necessary correlation between the regulatory typologies and functionality. In every case, governance structures specific to the marine protected area in question must be supplemented by appropriate measures in order to ensure MPA functionality and viability.

Table 3.1 Actual versus expected levels of management and suggested reasons

MPA[4]	Expected management level (based on typology)	Actual management level (based on field research)	Suggested contributing factors
SSMR	Low	Low – moderate	+ Policies adopted in the Dominica National Environmental Action Plan and the Biodiversity Strategy have been used to further marine protection. + The composition of the management agency, LAMA, ensures widespread public participation in the running of the Reserve. + SSMR has a legally binding management plan. + LAMA has contracted a manager for SSMR. + Wardens of SSMR are designated as authorized officers for the purpose of upholding the law and any special measures instituted by LAMA. + Community participation was used extensively in the establishment of SSMR and continues to be used in the operation of the MPA, and is probably the single most important factor contributing to the success of the Reserve.
CNP	Low	None	– No marine specific regulations, objectives or management plan – No community participation used in its creation
SMMA	Low	High	+ Clarity of legislative and policy framework + Broad based membership of SMMI + Consultations to resolve use conflict and regular reviews + Sensitivity to the fulfilment of international obligations
HCMR	Moderate	High	+ The structured response to international commitments and obligations for the protection of world heritage sites.

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[4] For full names and countries, see acronyms at the front of this report

MPA[4]	Expected management level (based on typology)	Actual management level (based on field research)	Suggested contributing factors
			+ Existence and operation of a management plan with clearly defined and attainable objectives. + Reserve-specific management in the form of the HCMR Board with on-site management personnel. + The institutionalization of community participation in the HCMR Board, although there are other respects in which the relatively low incidence of grass-roots public participation requires attention. + Public involvement of HCMR management officials in educational activities + Satisfaction by the Reserve of multiple use demands in accordance with strict conservation guidelines. + Strong legislative and policy support with respect to the establishment, management and regulation of activities within the Reserve. + Existence of an independent line of funding through a user fee system + Effective enforcement procedures
GRMR	Moderate	Moderate	+ Being managed in accordance with a management plan and in fulfilment of international obligations + Successful in the area of research and monitoring + Significant community participation − Management plan appears not to have considered development legislation so that the Reserve is not connected to any national development plan − Funding concerns
NMP	High	High	+ High level of community and stakeholder participation in many aspects of management plan design and implementation
MBMP	High	Moderate-high	− Funding − Implementation of polices and programmes agreed by the Trust tend to be delayed by having to receive approval from the bureaucracy of government. − Assistance from NRCA not as generous as desired. − Pollution problems − Enforcement of planning and environmental restrictions is often adversely affected by political influence or institutional inertia.
ORMP	High	Non - operational	− No management plan or objectives − Little or no community participation at present
PALNSP	High	Moderate - high	− Local law has not implemented multilateral environmental agreements ratified by British Government − PALSNP has a management plan with specified management objectives but the plan is not legally binding. − The relevant regulations have not been amended in the decade since they were enacted and some revisions may be necessary. − Enforcement powers have not been legislatively delegated to the park wardens. − Public participation was not used in the establishment of PALSNP, although there is now a high degree of public awareness of the park and its management. − Park management has no input into the decision-making concerning whether development should be allowed on the fringes of the park
ACLSNP	High	Low-moderate	− As with PALSNP and CSNP, the ACLSNP was not established in response to any international environmental obligations.

MPA[4]	Expected management level (based on typology)	Actual management level (based on field research)	Suggested contributing factors
			− There are no ACLSNP dedicated staff; management of the park is dependent upon the pooling and sharing of human resources with other protected areas. + Funding comes exclusively from government; and proposed revenue to be earned from the usage of the park will go into the consolidated fund. − Enforcement powers reside with the DECR Officers. − No management plan or MPA specific objectives have been drawn up for the park.
CSNP	High	Low	− As with PALSNP, international environmental obligations played no rule in the establishment of the Park. − The express power in the Governor to allow for residential development in the Park, without, apparently, recourse to the Park management. − There is no management plan, nor is there an on-site manager. − Enforcement functions carried out by the DECR, which responds to calls by concerned citizens rather than engage in regular patrolling.

Anderson *et al* concluded that whilst the legal and policy framework is of critical importance, numerous variables, not directly apparent from the legal and policy typologies, may affect and even determine the long-term success of the MPA. 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.

With regard the final point, in all those MPAs where the management was higher than the, a priori, legislative type would have predicted, community participation was cited as one of the key contributing factors.

3.1.3   Impact study

All those involved with MPA management in the four case study sites were asked what they thought were the major constraints to putting in place or sustaining MPA management. All these sites had been chosen for having more than a low level of management, but they still faced ongoing constraints that threatened their effective functioning, independent of good stakeholder compliance. The major constraints suggested are summarised in Figure 3.1. For more detailed information of each of the case studies, see the individual appendices 2- 5. As can be seen, the individual constraints fell into four major categories and resulted in a wide variety of impacts that prevented the MPA from functioning as desired. These categories were:

• Problems with personnel
• Problems with funding
• Lack of devolution
• Lack of interdepartmental co-ordination
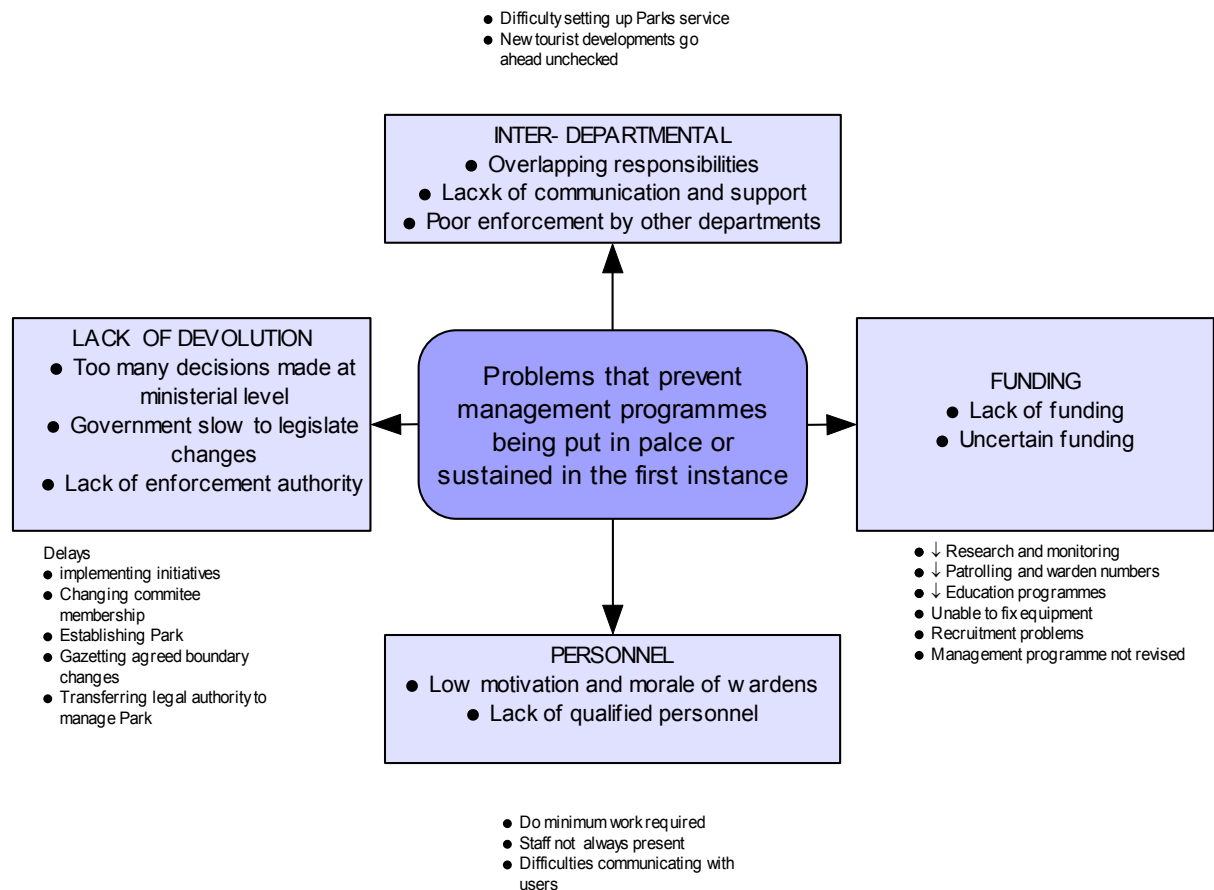
Figure 3.1 - Problems cited in impact study that prevented MPAs supplying management as desired

3.1.4   Summary of evidence

Table 3.2 provides a summary of factors specifically cited as positively affecting levels of management. This list is not expected to be exhaustive. The characterisation review was necessarily limited in detail whilst the legal review was specifically written from a legal and policy perspective. The results from the impact study are the opinions of MPA agency staff alone.

Table 3.2 Summary of institutional factors specifically cited as positively affecting levels of management. (LPR = legal and policy review, IS = impact study (MPA agency opinion), CR = characterisation review)

Factors affecting Hurdle 1	Study
The articulation and effective operation of area-specific policies to guide administrative action	LPR
Meaningful community participation	LPR, IS (other results in study)
Adequate and assured systems of funding	CR, LPR, IS
Rationalization and clarification of governance structures.	LPR
Development of systems to implement specific international obligations	LPR
Motivated, adequate and appropriately skilled staff	LPR, IS
Appropriate devolution of roles and responsibilities	IS
Effective inter-departmental co-ordination	IS

The importance of some of these factors will be illustrated when looking at results from the impact study on the impacts of MPAs on poorer groups in section 6. At a special session on MPAs at the 55th GCFI (sponsored by R7976, for details see Esteban & Garaway, 2002), the importance of many of the factors above were stressed as crucial by participants (MPA practitioners, donors and policy makers from the region). The lack of sustainable funding was for them a priority constraint as was the lack of co-ordination between organisations/sectors caused by a lack of integrated coastal zone management policy. Whilst not specified in the list above (though suggested by the legal review under the term 'community participation), the importance of, and need for, co-management, was also a key priority area according to this group. All three areas were specifically discussed in working groups at the session and presentations given on current mechanisms, opportunities and constraints to achieving them. Results of these presentations can be found in Esteban & Garaway, 2002. As will be seen in later sections, there were many positive outcomes associated with stakeholder involvement in decision-making and management, giving extra credence to the belief that co-management arrangements were an important step forward. The subject of co-management and how to achieve local collective action is not discussed in any great detail in this report, but guidelines for how it might be achieved are one of the main subjects of another R7976 output, Garaway & Esteban, 2003.

3.2   Non-compliance, bad practice and/ or non co-operation (hurdle 2)

The second identified hurdle to operational management was those problems concerning non-compliance, bad practice and/or non co-operation, which undermine management programmes even when they are up and running. From the point of view of MPA agencies it is in attempting to solve these problems that taking a pro-poor perspective might be particularly advantageous.

 Results of the extent and nature of non-compliance, bad practice and/or non-co=operation come from the characterisation review (3.2.1) and the impact study (3.2.2). Reasons for these problems are discussed in later sections of this report.

3.2.1   Characterisation review

Below are some of the results from the data used to compile the CANARI Characterisation Review (Geoghegan *et al* 2001). These results suggest that problems associated with users are significant and widespread in Caribbean MPAs.

Of those who responded to the question of the existence of conflict (49 out of 80 MPAs), 84% indicated that there was conflict of some kind concerning the MPA. This included 28% incidence between the MPA agency & traditional users (fishers), and 32% between local user groups (divers & fishers). Conflict then frequently, and unsurprisingly, involved local people.

Whilst not specifically asked in the survey instrument, 30% of MPAs also volunteered information regarding non-compliance, including poaching and illegal dumping by those living in and around the MPA.

3.2.2   Impact study

Evidence of non compliance, bad practice and/or non-cooperation existed for all the case studies in this study. Figure 3.2 shows the form it took, as described by those involved in MPA management. In all cases the problems were constraining

management effectiveness. Details for each case study are in appendices 2-5. Factors causing problems are suggested in section 6.
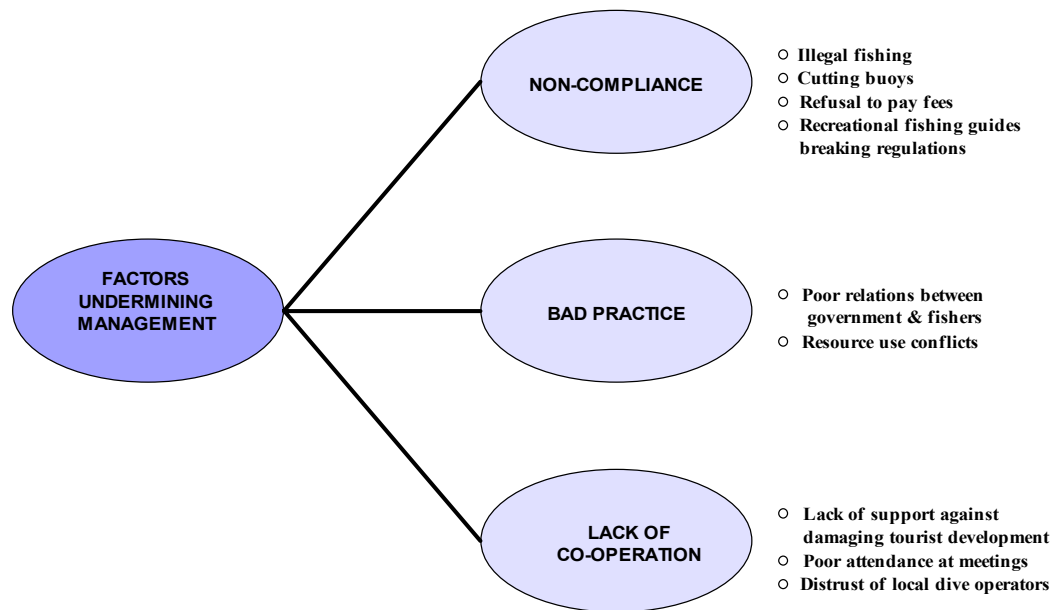

Figure 3.2 - Problems from users as perceived by those managing MPAs. Examples from case studies

4   WHO ARE THE POORER STAKEHOLDERS AFFECTING OR BEING AFFECTED BY MPAS

Table 4.1 shows those poorer stakeholder groups that were interviewed in the impact study, having been identified as now or in the past, using and/or impacting on the area the MPA was designed to protect. Full details of stakeholder identification at each site can be found in the Appendices 2- 5.

Table 4.1 Key poorer stakeholder groups identified and interviewed in impact study

MPA	Income (direct/*indirect*)	Subsistence (fish)	Recreation	Other
PALNSP	• Fishermen • Beach vendors • *Hotel staff* • *Construction workers*	• Hotel staff • Construction workers • Local immigrant community	• Hotel staff • Construction workers • Local immigrant community	-
HCMR	• Fishermen • *Wood carvers* • *Beach vendors* • *Hotel staff* • *Construction workers*	-	• Local community	-
GRMR	• Fishermen	• Fishermen		-
NMP	• Fishermen • Craft vendors • Small watersports operators	• Local community, including unemployed	• Hotel staff • Construction workers	• Small farmers

As can be seen, those identified included those who relied indirectly on the MPA, through tourism, and those who used it for recreational purposes as well as those who relied directly on the MPA for income generating activities. It also included, in the case of Negril Marine Park, small farmers who, whilst they did not use the MPA themselves, impacted on it, through agricultural run-off.

Given time constraints, in most cases only small numbers of representatives from each group were interviewed (actual numbers are detailed in the relevant appendices), and certainly in most cases the sample was not big enough to be statistically representative. However, the objective of the research was to canvass as many views from as many different stakeholder groups as possible, whilst at the same time allowing for reasonably detailed interviews. More details of data collection techniques and rationale can be found in Appendix 1. Results in sections 5 and 6 come from interviews with MPA staff and the respondents mentioned above in Table 4.1.

5   POTENTIAL BENEFITS & COSTS OF MPA MANAGEMENT

Following the data collection at each case study site in the impact study, a list of all the potential benefits and costs of MPA management at that site were drawn up. Actual benefits and costs were then compared against these and institutional constraints and opportunities identified. Detailed potential (and actual) costs and benefits to poorer groups can be found in the individual Appendices. In this section a generic framework is provided.

The types of capital that form part of DFID's sustainable livelihoods framework (Carney 1998) were used as an aid to identifying the potential benefits and costs an MPA could provide. A representation of these is shown in Figure 5.1. It shows five types of capital (assets): Natural; human; financial; social; and physical.
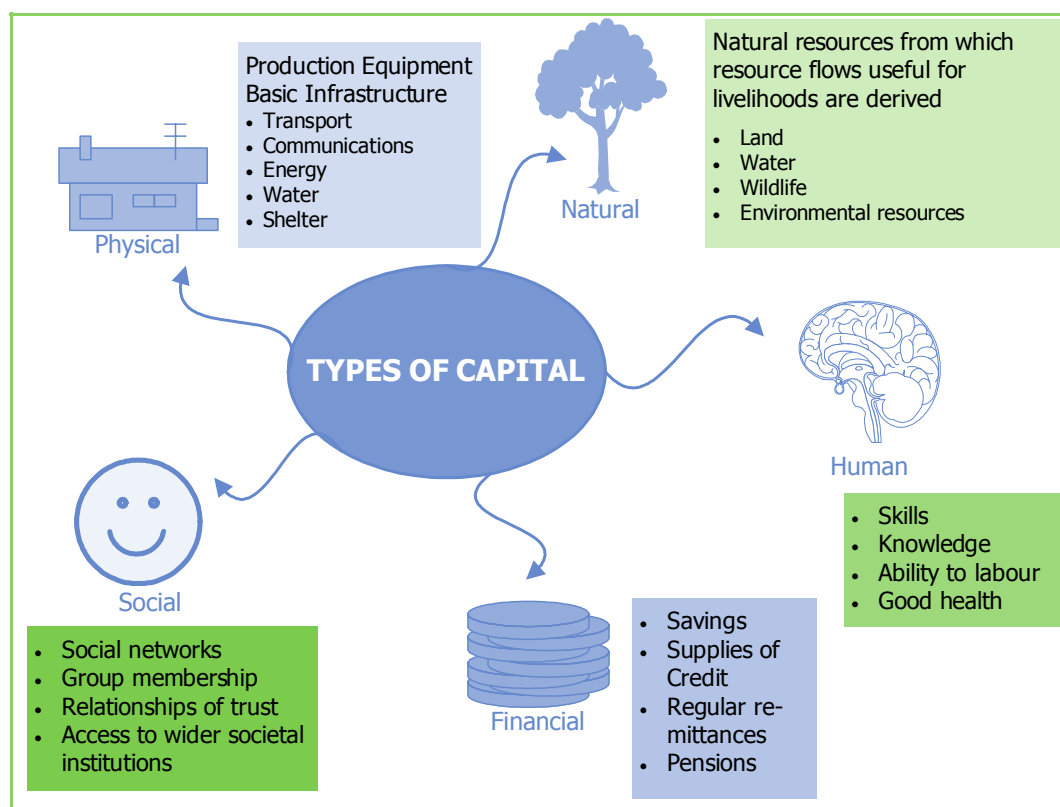

Figure 5.1 Types of capital contributing to improved livelihoods of poorer groups

MPAs are generally set up to improve/protect/sustain the marine environment and hence it is perhaps obvious that MPAs can have a role in improving local people's natural capital (that is, if they are not excluded from it, or from the benefits associated with its improvement). Frequently, tourism is enhanced by the presence of an MPA, hence it is clear that an MPA can improve the financial capital of local people in the tourist sector (again, that is, if they are able to gain access to it). However, there are less obvious ways that an MPA can contribute to local people's livelihoods and an overview of the types of benefit an MPA can provide is presented in Figure 5.2. These types of benefits span all the types of capital mentioned above.

In Figure 5.2, the top boxes indicate common MPA management activities. Regulations, and the monitoring and enforcement of them, will hopefully lead to an improvement in the natural resource base, often a principal aim of an MPA and given priority as the central box in the diagram. Achieving this will not, however, lead automatically to an improvement in local people's livelihoods. This will depend on the type of regulations in place and the other activities of the MPA agency.
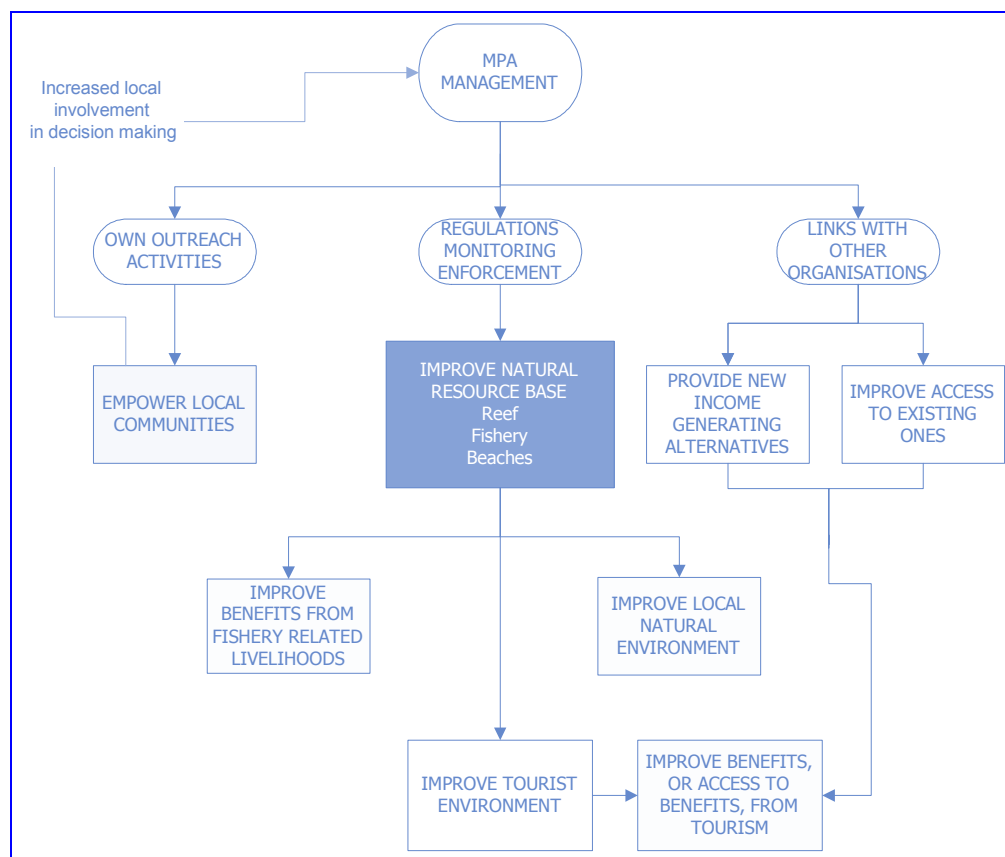
Figure 5.2 Generic framework of benefits that an MPA can provide to poorer groups

There are several areas where benefits to poorer groups could be attained.

- 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 can 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, can 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
- Disempowerment and loss of rights

Whilst some of these problems might not be caused directly by rules set up by MPA agencies, such negative impacts may affect the extent to which poorer stakeholders are willing to co-operate with MPA management, and therefore should still be of relevance to MPA managers.

6   BENEFITS AND COSTS OF MPA MANAGEMENT ON POORER USER GROUPS & INSTITUTIONAL OPPORTUNITIES AND CONSTRAINTS

The following sections present a summary of results from the impact study, looking at all the areas mentioned above where there could be potential benefits. Detailed results for each case study can be found in the individual appendices. As mentioned there, results in this section are based on an individual's *perceptions* of impacts. Not only was it impossible to 'objectively' identify 'actual' impacts within the timeframe of this study, investigating perceptions was crucial as it is people's perceptions of impact, as opposed to 'actual' impacts that will influence their actions. Results are separated into five sections: Improving fishery-related benefits (6.1); improving human welfare (6.2); benefits from the tourist industry (6.3); providing additional or alternative livelihood options (6.4); community empowerment (6.5).

6.1   Improving fishery related benefits

Table 6.1 shows the importance of each MPA as a fishing spot for fishers, and fishers' perceptions of the impact of MPA regulations on their fishing activities and/or catches. Numbers and types of fisher interviewed are described in more detail in the individual appendices.

Table 6.1 Importance of Marine Park Area to fishers and their perception of the impact of MPA regulations on fishing

MPA name	Regulation type	Type of fisher	Dependence on MPA area for this activity	Their perception of impact		
				-ve	Zero	+ve
PALNSP	No extractive activities	Commercial	Low	*	*	
PALNSP	No extractive activities	Subsistence	High	**		
GRMR	Zoned uses	Commercial	Medium	***		(**) (spillover)
NMP	Zoned uses	Commercial	High	* (***)		* (nursery zones only)
NMP	Zoned uses	Subsistence	High	(***)	*	
HCMR	Zoned	Commercial	Medium	*		* (spillover)
HCMR	Zoned	Subsistence	Low		*	* (spillover)

* Extent of impact of majority of stakeholders interviewed;
( ) - perception of future impact

In general, dependence of the fishers on the MPA area was mixed, negative perceptions outweighed positives and perceived benefits were generally low. In at least two sites there was a perception that benefits didn't compensate costs. Of all stakeholder groups spoken to during the impact study, it was fishers who most frequently felt that they were paying the costs of MPA implementation whilst others (most notably the tourism industry) were reaping the benefits. This seriously affected the fishers' perceptions of the MPA, creating, in some cases, resentment and distrust of MPA aims, and ultimately, less willingness to comply with fishing regulations. Some of these outcomes, and the factors that were thought, by the fishers, to be negatively impacting on them, are described in Table 6.2.

Table 6.2 Summary of responses of factors affecting impacts, and outcomes in terms of compliance

MPA name	Factors affecting perceptions	Outcomes. Opinions of users & MPA staff	Perceptions of overall levels of compliance
PALNSP	✓ Fishing elsewhere X Access to subsistence fishing is difficult as MPA close to major population centres.	X Some poaching of conch ground. X Poaching from beach in small boats at night/early morning. X Staff have enforcement problem due to lack of willingness to comply.	Low / moderate
GRMR	✓ Fishing elsewhere although not as good. X Closed zone is too large and boundaries different to those agreed on.	X Poaching occurs when rangers absent. X Fishers still coming to Glover's Reef, especially unlicensed, foreign boats.	Low/moderate
NMP	✓ Fishing zones and nursery zones exist in MPA. X The best areas for fishing are exclusion areas. X Many of the fishing zones are unsafe or need a motorised boat as zones are distant from shore or exposed to rough seas. X Fishing zones are only accessible by boat; shore zones are dangerous during	✓Nursery zones are self-enforced due to education. ✓Use of destructive fishing gear has reduced. X Poaching exists due to decreased access as fishing zones are not the best areas or are unsafe. X Poaching with canoes and pots in diving zone.	Moderate (NB this was likely to change when more stringent restriction came in)

MPA name	Factors affecting perceptions	Outcomes. Opinions of users & MPA staff	Perceptions of overall levels of compliance
	rough weather.		
HCMR	✓ Only a small area is closed zone. ✓ Traditional fishing ground still open. X Some of best fishing areas (barrier reef) are in the closed zone.	✓Many fishers respect closed zones and inform MPA when they observe infraction. ✓Little conflict between local subsistence fishers and MPA staff & enforcement of closed area is no problem. X Some "outsider" fishers with less awareness visit closed zone at night-time. (Rangers have difficulty enforcing closed zone due to distance from shore)	High
Key ✓ positive factor/outcome x negative factor/ outcome			

Apart from the individual problems or benefits, what these results show, is that compliance can be high even when there are negative impacts and also that compliance can be low when negative impacts are relatively few. Whilst there may be a correlation between impact and levels of compliance at both ends of the spectrum (i.e. when impacts are severely negative, there is likely to be less compliance and when impacts are inconsequential, compliance may be high) it appears that there are significant grey areas in between where the degree of compliance can be affected by other factors.

Comparison of case studies identified several factors that were possible facilitators in fisher's agreement. These are presented as column headings in Table 6.3 and the extent to which they existed or not shown in the table.

Table 6.3 Possible facilitating factors in fishers' agreement

Case Study	Zoning	Fisher's involved in making regulations/legitimacy	Strong local organisations representing fisher interests	Alternative options (a) or fishing areas (b)	Continuous dialogue and education
HCMR	✓	✓	✓	✓a, b	✓
NMP	✓	✓	x	x	✓
PALNSP	x	x	x	✓b	x
GRMR	✓	x	x	✓b	x

Results show that the most common management measure to address fishers' needs (zoning) is not necessarily enough. Whilst this occurred at three sites, only at one (Hol Chan) did the fishers have a high level of acceptance for the regulations. Having alternative and equally good fishing areas outside the Park (such as at PALNSP) was also not enough to achieve full acceptance. What did appear to make a significant difference to fisher's perceptions (seen at HCMR and in certain areas of the Negril Marine Park (nursing areas)) was fishers' involvement in crafting the regulations. This appeared to greatly increase the perceived *legitimacy* of regulations, whilst absence of fisher involvement had the opposite effect. This then was a key issue alongside whether the regulations would have beneficial impacts.

The presence of strong local organisations (such as the fisher co-operatives in Hol Chan) also ensured that fishers' needs were fully considered in the design of the MPA in general, and zones in particular. Fishers opinions were also sought in

developing the zoning plan for NMP. However, with no strong fishers organisations to push their case, it was fortunate for the fishers that the manager at that time saw the importance of local stakeholder involvement. Here the traditional fishing grounds were protected through negotiation when the MPA was first set up Along with continuous dialogue and education, such involvement also led to fisher empowerment. This subject is returned to in section 6.5.

Continuous dialogue was a crucial factor in the self-policing (by fishers) of fish sanctuaries at Negril. The advantages of self–policing were obvious. The fishers were in prime position to monitor the respective bays (unlike NMP staff) and when fishers from outside did come in with nets, the fishers had their own informal methods of dealing with it, as they did with conflicts that arose within their own fishing community.

Finally the presence of alternative options in the tourist industry was also critical to success in HCMR. This will be returned to in section 6.3.

6.2   Improved human welfare

Sustainable management of natural resources ultimately leads to an improvement in the environment in which the local community live, and this is referred to here as an improvement in 'human welfare'.

These improvements can lead to improved human health and safety, access to facilities or services or purely providing a sense of increased mental well-being. As such, changes in human welfare can improve both human and natural capital.

Given the lack of data on health and safety impacts, and lack of time, it was not possible to investigate these benefits in much detail. However, regarding recreation activities of the poorer groups (and in both MPAs with beaches (PALNSP, NMP) these were considered important to poorer groups), in PALNSP regulations and attitudes of hoteliers were hampering the activities of local communities who felt they had lost ownership of their beaches. Whilst some respondents believed that this was not the case as those claiming to have been displaced had not been in the country long enough, it is felt that this might be true for some, but by no means all. Firstly many of those claiming displacement who had been there prior to the MPAs formation (early 1990's). Secondly, active management hadn't really started until 1998, and therefore even those who had been in the country 4-5 years would have seen an impact in their traditional use. Problems cited by respondents included:

- Regulations banning cook outs
- Hotel 'take over' of beaches
- Regulations without consultation
- Lack of communication & enforcement of regulations
- Policy of elite tourism

These were reported as causing an additional level of resentment and led to disempowerment of the local communities living adjacent to the MPAs borders.

6.3   Benefits from tourist industry

It is well recognised that the presence of an MPA can bring benefits to the tourist industry and many have been set up with this as an aim. All those interviewed in the impact study believed that the presence of the respective MPA was, or in the future would be, though the extent to which this was the case varied. At one extreme

(HCMR) the reserve was one of the principal tourist attractions of the area, bringing the tourists to it. At the other end (NMP, PALNSP) the tourists came anyway but having the Park would enhance the area for tourism (keep beaches clean, maintain reef status etc).

Local user community perceptions of problems associated with tourism are presented in Table 6.4. As can be seen, constraints for poorer groups entering or benefiting from the tourism industry were quite diverse including access to credit, a market for goods and/or a market for services.

Table 6.4 Local user community perceptions of problems associated with tourism

MPA	Adverse consequences of tourism development	Factors constraining access to industry and its benefits		
		Employment in tourism sector & 2° industry	Market for goods in tourism sector	Self employment in tourism sector
PALNSP	• Sense of loss of ownership of beaches • Raised property values / cost of living	• Foreign ownership • Low wages • In-migration from nearby islands • Language & eligibility for work permits (non-native islanders)	• All inclusive hotels stop tourists leaving the hotel compound	• All-inclusive hotels • Cost of permits/ licenses • Eligibility for permits/ licenses
NMP	• In-migration • Crime	• In-migration	• Little market for local commercial species (fishermen) • Little market for organic produce (hillside farmers)	• Cost of permit fees & license fees (e.g. watersports operator/ restaurateur
HCMR	• In-migration • Littering / crime	• Lack experience & language (mainlanders)		Cost of licenses (tour guide)

Of all the case studies, local benefits from tourism were by far the most restricted in Turks & Caicos. Both the native islanders and immigrant populations had significant problems accessing the industry, whilst the nature of the industry was bringing social and economic costs. For immigrant populations, restricted access was linked to an inability to get work permits and being paid extremely low wages. For the native islanders it was related to being squeezed out of the lower end of the market by the availability of cheap immigrant labour and at the higher end by the all–inclusive nature of the vast majority of hotels on the island, which kept the tourists in the hotels, and their money in the hands of the predominantly expatriate hotel owners. PALNSP, with few outreach activities and links with locals, had not been active, until recently, in trying to reverse any of these trends.

In Negril, there was more local ownership of tourism businesses, and accessing the industry was easier. Minimum wages also protected nationals. The NMP was also committed to developing linkages with the local community and improving their access to the industry. Despite this, a survey of employees of seven Negril hotels (480 employees) showed that only 3% actually came from Negril (CARECO, 2001 p.29). New initiatives (such as organic farming) were also hampered by a lack of local tourist market support. Fishers reported similar problems.

The benefits of tourism to the local community were most striking in the area surrounding HCMR.   Factors facilitating this distribution of benefits included the following:

- The locals themselves drove tourism. Almost all hotels and restaurants on the island were family run and there were few large resorts. The lack of all-inclusives also increased access for small businesses. In addition, immigrants from the mainland were not taking jobs away from locals, who, in the main, had already found their niche in the tourist industry.
- There was a national legal requirement for tour guides to be Belizean, preventing overseas developers from bringing in their own staff.
- The fishery was in rapid decline when tourism started, encouraging many fishers to switch and, given that many already had boats and a good knowledge of the marine resources, they were in a good position to fill the demand for guides.
- The presence, organisational strength and power of user associations connected with the tourism industry such as the San Pedro Tour Guide Association and the Belize Tourism Industry Association (BTIA) protected the interests of their members well.

In terms of the MPA's role in this, there were a number of factors that contributed to the success of tourism and local involvement in it. These included:

- Protecting the natural capital upon which tourism (to a certain extent) depended.
- Significant role in marketing the reserve as a tourist attraction.
- Built social capital on the island during its emergence (in terms of reducing conflict, bringing different stakeholders together) in a way that encouraged local initiative.
- Increased environmental awareness and encouraged sustainable tourism development.

In summary, many of the problems linked with tourism did not, at first glance, appear to be within an MPA agency's remit to solve. It was in this area more than others so far mentioned that the absence of integrated coastal zone management (or at least initiatives requiring action from a higher policy level) were seen as fundamental constraints. However, the example of HCMR shows that MPA agencies are in a key position to positively influence the situation, whether it be through increasing local peoples capacity to self organise (as in the case of HCMR), by putting pressure on the government or tourist industry, by developing initiatives themselves or in association with others, or by providing formal and informal linkages between different stakeholder groups. A list of possibilities therefore includes:

- Being aware, and promoting awareness, of adverse consequences and access problems.
- Helping local people to self organise (capacity building, local organisational strengthening, building linkages and communication networks between locals & industry).
- Lobbying (improved legislation, sustainable tourist development, improved access to credit)
- Developing or become actively involved in local initiatives (e.g. training & employment of local guides, distribution and sale of local crafts and produce).

6.4   Providing new additions or alternatives

This section presents examples where MPAs have individually, or with other local organisations, *actively* attempted to address the issue of providing additional or alternative livelihoods for local people whose traditional activities have been affected by the MPA. Fishers are the most common user group to be targeted for this type of assistance - unsurprising given that they are frequently the groups most obviously displaced. Alternatives can be crucial. For example, there is no doubt that the presence of alternatives in the tourist industry was fundamental to high levels of fisher agreement in the Hol Chan Marine Reserve, and ultimately, therefore, its success.

Table 6.5 shows the status and success of initiatives undertaken by MPAs, or organisations associated with them, to create alternative livelihood options for poorer resource users. More information on specific initiatives can be found in the individual appendices.

Table 6.5 Status and success of initiatives undertaken by Park, or organisations associated with them, to create alternative livelihood options for poorer resource users.

Case study	Initiatives	Status	Reaching poor?
PALNSP	Micro-business projects (not specific to MPAs)	Started 2001	Not yet
HCMR	Tour guiding	Started late 80's	Almost all those formerly engaged in fishing who are still on the island are engaged as fishing and/or tour guides.
GRMR	Employing fishers as temporary research assistants COMPACT (not specific to GRMR)	Started 2002	Unknown
NMP	Organic farming River trips for fishers Sea moss farming		Partially successful Not successful Partially successful

The micro-business project (PALNSP) and COMPACT (GRMR) were similar in that they were funds that local people could apply for, for conservation or livelihood enhancing activities in their 'communities'. In Princess Alexandra it related to country-wide community projects with, for example, attempts to revive traditional skills. Whilst initiatives were fairly recent and therefore their impact could not yet be adequately assessed, some factors that were constraining the extent to which they were likely to benefit or had benefited poorer groups were identified, and these included;

1. Poorer groups not actively sought & advertising not reaching them.
2. Poorer groups not having skills/contacts to develop proposals.
3. Lack of, or lack of links with, community development organisations to help in point 2.
4. Weak community-based organisations (CBO's) or other collaborating organisations.

1), 2) & 3) were considered specific constraints to benefits from the micro-business project reaching the poor in PALNSP. In Negril, 4) was thought to be a significant factor in preventing fishers becoming river guides.

What was clear from the study was that developing alternatives required time, financial resources and also skills that were not always part of an MPA agency's portfolio. Detailed stakeholder analysis and social/economic assessment were likely to be needed as was expertise in community liaison/development and marketing. Apart from economic feasibility, issues such as social/cultural acceptability and marketing potential had to be addressed. Other local agencies may have such skills and, in such cases, linkages should be sought. Given its complexity, these issues need to be given more consideration at the MPA planning and design phase as opposed to, as is more frequently the case, being dealt with after the event. Examining the true costs or feasibility of providing alternatives early on could lead to a more realistic assessment of whether it is possible to restrict traditional use, or what extra resources are required if it is to go ahead. Involving local people in such an exercise would increase chances of workable and locally specific solutions.

6.5   Community empowerment

Empowerment, as we use it here, is concerned with the capacity building of individuals and/or the community to increase:

- Social awareness;
- autonomy over decision-making;
- balance in community power relations.

enabling them to gain better control over the utilisation and management of the physical, social, financial, human and natural capital that make up their livelihoods. Empowering activities could include:

- Increasing access to information and services;
- increasing community participation in decision making;
- strengthening local community based organisations or creating new ones;
- consciousness raising;
- business and enterprise management skills;
- reducing conflicts.

In the impact study, it was found that all MPAs engaged in activities that could lead to community empowerment (Table 6.6) but some were more successful in achieving it than others (Table 6.7). Specific initiatives could be grouped around the following headings:

a) Information, education services, consciousness raising.
b) Participation in decision-making.
c) Encouraging involvement in operational activities / creating sense of ownership.
d) Reducing conflict.

Table 6.6 Existence of programme or activities involving local communities or addressing their needs

Initiatives	PALNSP	HCMR	GRMR	NEGRIL
1.Information, education services, consciousness raising	✓	Not much now		✓
2.Participation in decision-making	✓ Only recently	✓ Not so much now	✓	✓
3.Encouraging involvement in operational activities/ creating sense of ownership		(✓)		✓
4. Reducing conflict		✓		✓

N.B. ✓ indicate that a Park has a programme or activities to address these aspects of empowerment. (✓) indicates that they had in the past. This slide shows existence and not success of activities.

Table 6.7 Extent to which initiatives in case study sites have reached, or addressed the needs of, local communities, in particular poorer groups.

Initiatives	PALNSP	HCMR	GRMR	NMP
1.Information, education services, consciousness raising	Not yet	Most well aware	Less aware	Yes
2.Participation in decision-making	Not yet	Past – yes Now not felt	Not felt	Partially
3.Encouraging involvement in operational activities/ creating sense of ownership	Loss of sense of ownership	Now – reduced sense of ownership	Loss of sense of ownership	Partially
4. Reducing conflict		Partially	Still exists	Partially

NB. Shaded areas are where initiatives exist. Non-shaded areas are where no activities were currently being carried out, by the Park.).

Generally, success had only been partial. However, where no action has been undertaken, outcomes were generally worse. Comparative analysis of successful / less successful outcomes led to a list of suggested key facilitating / constraining factors, which are outlined in Table 6.8

Table 6.8 Factors facilitating activities that could lead to local community empowerment and results of impact study

Factor (& activities it was important for - a, b, c or d – see list on previous page)	Effect
Access to local groups through community networks [a, b, c, d]	Significant opportunity in NMP and constraint in PALNSP where staff were non local.
Strong and recognised local community-based organisations (CBOs) to work with – also good links to 'members' [b, c, d]	In HCMR, strong fisher's co-operative crucial in protecting fisher interests in decision-making. A constraining factor for fisher involvement in NMP
Prolonged & intense discussion in appropriate fora [c, d]	Facilitating factors in both NMP & HCMR.
Strong outreach skills of MPA staff [a, b, c, d]	Particularly obvious in NMP where much effort was being put into community outreach.
Motivation/commitment of MPA manager [b]	Mechanisms for participation in decision-making existed in all cases, but extent to which they were acted on very dependant on this (especially in start up phase).
Trust, mutual respect established (past performance/community ties/prolonged relationship) [b, c, d]	Lack of this a significant constraint at PALNSP, and, to a certain extent, GRMR
Inclusive schools' education programme [a]	Existed in Negril but in PALNSP education only at a few places and not at schools where many of local immigrant communities attended.

As can be seen, long-term activities with skilled and motivated staff were crucial factors to achieving success.

6.6 Summary of how well poverty has been addressed in these case study sites

Table 6.9 summarises the constraining or enhancing characteristics or actions that have increased the benefits to poorer groups in the case study sites. These results have been described in more detail above and in even more detail in the individual appendices.

Table 6.9 Summary of potential benefits and constraining / enhancing characteristics or actions

Potential Benefit	Actions/ characteristic	Impact on poorer groups and/or MPA outcomes
Improving fishers livelihoods	• Involving fishers in MPA design • Zonation • Strong local organisations representing fisher interests • Continuous dialogue and education • Presence of alternative fishing spots • Presence of alternative options	• Strong positive effect on outcomes. Absence of participation could cause negative as opposed to neutral outcomes. • On its own, presence of zonation was not enough to lead to positive outcomes. • Important factor in early negotiations. Only present in two cases • Associated with positive outcomes. Again its absence could cause negative outcomes • Important though not necessarily enough to ensure compliance • Crucial for agreement in some cases
Improving human 'welfare'	Lack of data on health and safety meant this was not investigated in any detail. However with respect to recreation. • Policy of elite tourism	• Alienation of resident communities as hotel 'take-over' of beaches
Increasing benefits from the tourist industry	• Failing to deal with adverse consequences of tourism • Foreign ownership; low wages; In – migration; language difficulties; eligibility for work permits; lack of tourism experience • All inclusive hotels stopping tourists leaving the hotel compound; little market for local commercial species (fishermen); little market for organic produce (hillside farmers) • All-inclusive hotels; cost of permits/ licenses; eligibility for permits/licenses • 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;	• Increased levels of immigration; Increase levels of crime; raised property values/ cost of living • Constrained access to employment in tourism sector & 2° industry • Decreased market for goods in tourism sector • Reduced opportunities for self employment in tourism sector • Increased the access of poorer groups to the benefits from tourism

Potential Benefit	Actions/ characteristic	Impact on poorer groups and/or MPA outcomes
Providing alternative/ additional options	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	
	• Community development funds	• 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 & advertising not reaching them.
	• Tour guiding (fishers/ ex-fishers)	• Not always successful. Positive outcomes associated with: locally driven tourism (when many of the locals were fishers); a recognition that the fishery was in decline; relevant experience and equipment to take on role.
	• Sea moss farming	• Limited interest from fishers (lower returns; lifestyle choice)
	• Alternatives in general	• Success and presence of active programmes for providing alternatives caused by lack of time/ financial resources and community development and marketing skills
Community empowerment	• Information, education services, consciousness raising • Participation in decision-making • Encouraging involvement in operational activities/ creating sense of ownership • Reducing conflict	• 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 & intense discussion in appropriate for a; motivation/ commitment of MPA manager; trust, mutual respect established (past performance/community ties / prolonged; inclusive schools' education programme

The table above shows that much could be learnt, even from a relatively few number of case study sites and there were many positive and constraining factors currently in existence.

Table 6.10 gives a simplified overview of the extent to which the individual MPAs in the impact study were providing benefits to poorer communities living in or around the park. As a general comment it shows that there is still much room for improvement in all areas already discussed, and in all MPAs. For more detail on individual cases and explanations of performance, including information about ecological performance, see the individual Appendices 2 – 5.

Table 6.10 Summary of benefits brought specifically to poorer groups by MPAs

	Community Empowerment	Alternative options	Fishing based	Tourism based	Natural environment
Princess Alexandra	☹	☹		☹	☹
Hol Chan	☺ ☹		☺	☺	
Glovers Reef	☹	☹	☹		
Negril	☺		☺ ☹	☹	

Key: No face indicates that there was neither a positive nor negative impact. Two contradictory faces means that there were different views, either 'now' compared to the 'past' or just different views now. Smaller faces indicate a lesser overall impact. In some cases, the lack of action on the part of the Park has led to the negative impacts portrayed here.

6.7   Empowerment and co-management; a mutually beneficial relationship

What came through again and again during the impact study and at the MPA session at the 55th GCFI (Esteban & Garaway, 2002) were the positive outcomes that came from getting stakeholders involved in decision-making and other aspects of MPA management (fishers at HCMR, NMP; local hoteliers and others involved in the tourist industry at HCMR; examples from MPAs elsewhere in the region). At the same time, lack of involvement tended to have a negative impact as opposed to just a neutral one.

By enabling local communities to gain better control over their livelihood assets, empowerment activities are one way in which MPAs can benefit poorer communities but as well as being an end itself, such empowerment is also a powerful means of increasing MPA effectiveness. Empowering local communities to gain better control over the utilisation and management of these resources, by getting them more involved in MPA management and decision-making often benefits the MPA.

Such systems of co-management are being increasingly advocated within the Caribbean region[5]. As stated by Geoghegan & Barzetti (1994) "the genuine importance of community participation in natural resource management has now

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[5] Having said this, co-management may be an important step forward but given that characteristics of poorer groups can lead to them being 'invisible', the needs of poorer groups can still be missed even when management involves local communities.

been widely accepted; in fact most resource managers now believe that effective conservation is only possible with the full co-operation of local communities".

The potential benefits of local involvement are well documented. The following list is adapted from Kelleher(1999).

- Management is more effective as it harnesses local knowledge and skills.
- Regulations can be better adapted to local socio-economic conditions and therefore more acceptable to local resource users.
- Costs of monitoring and enforcement are reduced, because of more appropriate regulations, voluntary compliance or self-enforcement.
- Management responsibilities are shared, lessening the burden of the MPA agency.
- Alliance between MPA agency and local stakeholders can fend off resource exploitation from outside interests.
- Trust is increased between the parties leading to greater commitment to implement joint decisions.
- Problems and disputes are less likely due to the increased understanding and knowledge among all concerned of the views and positions of others.
- Public awareness of conservation issues increases.

Given these potential benefits, investigating the factors that encourage or constrain local involvement and/or co-management is a very important area of inquiry and one that has been the subject of much academic debate in recent years. A brief overview of some of the current thinking and some guidelines on achieving involvement of local communities in MPA management can be found in another R7976 output " Improving MPA effectiveness by working with local communities; Guidelines for the Caribbean (Garaway & Esteban (2003)).

7   SUMMARY OF INSTITUTIONAL CONSTRAINTS AND OPPORTUNITIES TO IMPLEMENTING PRO-POOR MPAS

The previous sections have presented results showing the extent to which management is operational in Caribbean MPAs and the extent to which it provides benefits for poorer user groups. Through comparative analysis of sites it has also identified key opportunities and constraints in regard to both these issues. Finally, previous sections have suggested that community empowerment, leading to increased involvement of stakeholders in decision-making and other management activities is one area that can benefit both MPA operational effectiveness and poorer groups. If this can be realised, it would provide a significant opportunity for a mutually beneficial partnership. As mentioned at the end of the previous section, this subject is dealt with in more detail in Garaway and Esteban (2003).

Figure 7.1 shows a hypothesis of the different the stages towards improving the chances of a mutually beneficial relationship between an MPA and poorer stakeholders living in and around the Park. NB. This hypothesis is only relevant for those MPAs that border areas of significant poverty. Where this is not the case, the relevance of helping and/or involving poorer groups would be negligible.
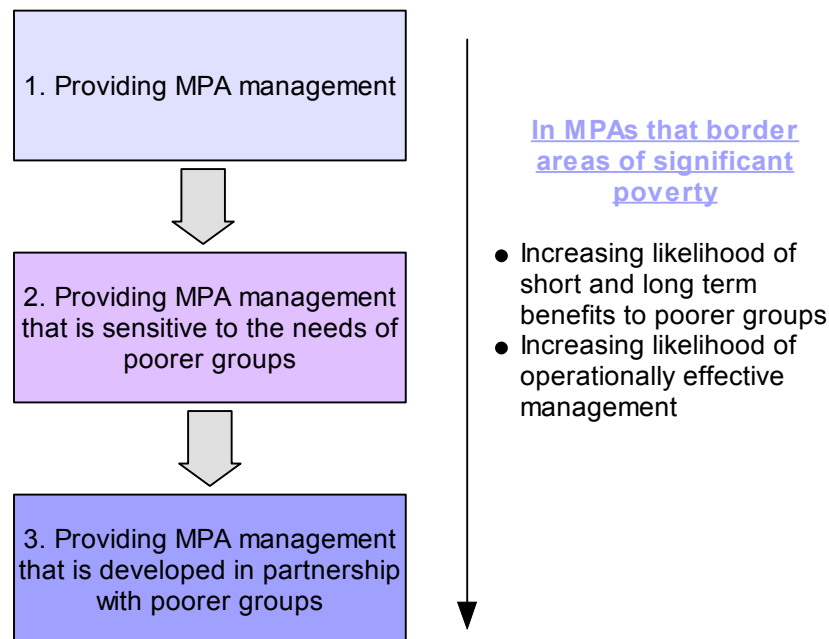
Figure 7.1 Stages towards improving the chances of a mutually beneficial relationship between the MPA and poorer user groups.

It was shown in section 3 that, irrespective of the needs and concerns of poorer groups, putting in place MPAs that are actually operationally sustainable (stage 1) is a significant challenge and comparative analysis of MPAs in the region pointed towards several enhancing and constraining factors. These were summarised in Table 3.2.

 In section 3.2 the incidence of non-compliance, bad practice and non-co-operation were discussed and there was evidence that this was affecting the operation of MPAs in the case study sites. One, but by no means the only, root cause of these problems was that the MPA was adversely affecting poorer groups which is why stage 2 (in the diagram above) is thought to increase the likelihood of operationally effective management.

The opportunities and constraints of providing benefits for poorer groups were discussed in detail in section 6. Whilst several distinct means of benefiting poorer groups were identified, and there were many examples of attempts to realise them at all the study sites, levels of success varied dramatically. These varying degrees of success allowed a comparative analysis of factors thought to be enhancing and constraining beneficial outcomes and these are mentioned for each types of benefit in the relevant sub sections of that section.

What became clear was that when local groups were more involved in decision-making and/or management the benefits were greater than when they were not. Examples included fishers self-policing in Negril and HCMR coming up with a plan that kept fishers happy whilst at the same time assisted in enabling local people to be the main beneficiaries of tourism. It is this finding that has led to the hypothesis that increasing poorer groups involvement in decision-making (stage 3 in Figure 7.1) would further increase chances of successful outcomes for both poorer groups and MPA agencies. How this could be achieved was not discussed in any depth in this report but is described in more detail in Garaway and Esteban, 2003.

Institutional constraints and opportunities have been detailed throughout this summary report and to avoid repetition are not described again in any great detail

hear. However, it is interesting to note *where* in the whole system of providing pro-poor MPAs, that constraints and/or opportunities in the case study sites, actually lie.. Figure 7.2 shows the relationships between what are termed 'service delivery' organisations and other key 'players' or 'arenas' they affect or are affected by, based on a conceptualisation taken from Hobley, 2001. The three key groups are

- Service delivery organisations. In this case the MPA agencies (those agencies or groups of agencies responsible for the design, implementation and operation of MPAs).
- The external legal, policy and funding environment which is outside of the direct control of the MPA agencies but affects them.
- The users and organised groups of users, affecting, and affected by, MPA management.
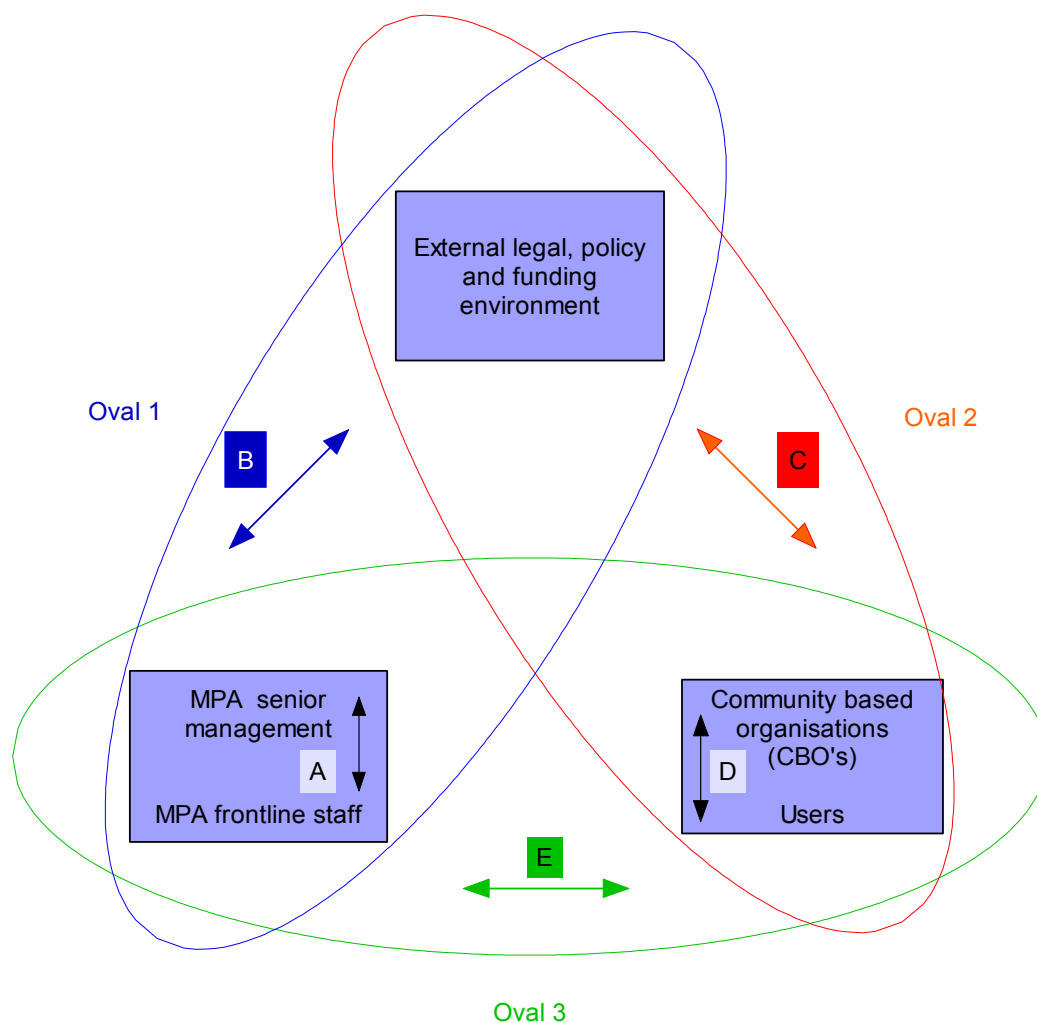
Figure 7.2 Relationship between service delivery organisations (in this case MPA agencies) and those they affect or are affected by based on a diagram presented in a draft version of Hobley (2001).

The arrows represent relationships between and within these three groups. Characteristics of each group / sub-group, plus the nature of the relationship between

them, will ultimately determine the ability of an MPA to implement pro-poor management. Relationships include those:

A) Within MPA 'service delivery' organisations (e.g. between senior managers and front line staff)
B) Between the policy, legal & funding environment and MPA 'service delivery' organisations
C) Between the wider policy & legal environment and local users (both organisations & individuals)
D) Between individuals and the CBOs that are supposed to represent them
E) Between the MPA service delivery organisations and community based organisations.

In the impact study, opportunities and constraints in all these areas and relationships have been found, affecting delivery of all the potential stages mentioned in Figure 7.1. These are summarised in Table 7.1 (on the following page) For more information on the effect of the legal, policy and funding environment (relationships B & C) see Anderson *et al*, 2003. For additional other information on those and the other areas, see Esteban & Garaway, 2002 and Garaway and Esteban 2003.

Table 7.1 Summary of factors found to enhance or constrain pro-poor management. Results from this research

Area (see fig 7.2)	Enhancing factor	Constraining factor
Oval 1	- Development of systems to implement international obligations - Integrated approach to coastal development - Rationalization and clarification of governance structures - Appropriate devolution of roles and responsibilities - Area specific policies to guide administrative action - Adequate and assured funding - Two way consultation and communication mechanisms - Training and / or adequate resources given for local community outreach - Motivation of MPA manager - Funds for community development initiatives	- Lack of coherent policy between departments (horizontal & vertical) - Lack of integrated policy - No consultation and / or participation in policy making - Lack of integrated coastal zone management policies - Lack of integrated policies between tourism and other sectors - Lack of funding - Lack of effective vertical and horizontal communication
Oval 2	- Minimum wage - Requirement for guides to be nationals - Policy of devolution of responsibility and/or governance - Funds for community development initiatives - Strong CBOs - Strong and influential leaders	- Lack of easy access to credit - Policy of elite tourism - Lack of recognition of local decision-making - Politically weak CBOs - No consultation and/or participation in - decision-making
Oval 3	- Institutional framework for stakeholder involvement on boards and committees - Forum for multi-stakeholder group exchange - Local involvement in decision-making - Funds for community development initiatives - Strong CBOs - Strong and influential leaders - Good links with members - Strong skills of outreach staff - Good staff access to users through community networks - Prolonged, intense dialogue between groups - Established trust and mutual respect between groups - Inclusive schools programme	- No consultation and/or participation in decision-making - Lack of effective means to communicate with leaders - Lack of staff with local connections - Lack of staff with appropriate outreach skills - Low motivation of MPA staff - Lack of training and / or adequate resources given for local community outreach - Lack of links with other NGO's/ community development organisations - Lack of skills / resources of both the CBOs and the users - Lack of representation of some stakeholder groups/users - Poor groups not actively sought out - Materials / approach not appropriate

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