

# Managing coastal zones

Conserving valuable coastal ecosystems while accommodating relatively poor and rapidly expanding populations



**Coastal zones have always held a fascination for people as areas of great natural beauty. But they are also important sources of livelihood for many people in the developing world. They are among the most valuable ecosystems on the Earth and yet constitute only 8 percent of the world's surface area. The lives of more than one billion people are dependent on the integrity of coastal ecosystems and they provide 25 percent of global primary productivity.**

Coastal zones are fragile, yet dynamic and restless entities and are a complex mixture of human, physical and biological endeavours that all affect each other in different ways. The mixture is continually changing and this inevitably brings conflict. Can valuable ecosystems be conserved while at the same time accommodate relatively poor and rapidly expanding populations that rely on natural resources for their livelihoods? Can coral reefs, mangroves and seagrass beds be protected alongside rapid increases in fishing and tourism and the pollution and degradation these can bring?

## Separating people and natural resources?

In the Caribbean, Marine Protection Areas (MPAs) are used to manage and conserve coastal resources. These are areas with legally established boundaries that are set aside to prevent the over-exploitation of natural resources. Evidence from research suggests that they do improve biodiversity and fisheries management.

However, they are rarely set up by, or explicitly for, the general populace living in and around them despite the fact that MPAs can have a profound effect on such people's livelihoods, affecting their sources of income, nutrition and recreation. Equally, the activities of local people impact on natural resources within an MPA and can have a significant effect, both positive and negative on any management initiatives.

Those who advocate MPAs have often extolled their potential value in socio-economic terms. But in reality MPAs have more often generated deep resentment in communities that find themselves excluded from resources to which they have traditionally had access. This lack of consideration can result in actions that prevent an MPA achieving its objectives and undermine the viability of the protected areas. This suggests that it is in the interests of both MPA authorities and those interested in poverty alleviation 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.

## Need for information

There is a wealth of information on the ecological performance of MPAs but there was a paucity of understanding about institutional and social performance, particularly in relation to livelihoods of the poorest in the region. This need for more information led to a research project in the Caribbean to identify current institutional constraints to, and development options for, successfully implementing MPAs in a way that would both conserve coastal resources and lead to a sustained improvement in the livelihoods of poor people.



**Marine Protection Areas often generate deep resentment among traditional users undermining the viability of protected areas**

A review was undertaken of the institutional and ecosystem characteristics of 80 MPAs in the Central and Antillean bio-geographic zones. This was followed by more detailed studies at selected sites that included legal and policy reviews, ecological impact studies and participatory appraisals of the effect of MPA management on the livelihoods of poor people and current institutional constraints and opportunities for improving them.

### Help or hinder?

The characterisation review, one of the first of its kind in the Caribbean, confirmed that many MPAs border areas of significant poverty and so the potential for MPAs to benefit the poor and equally for poorer groups to impact on MPAs existed.

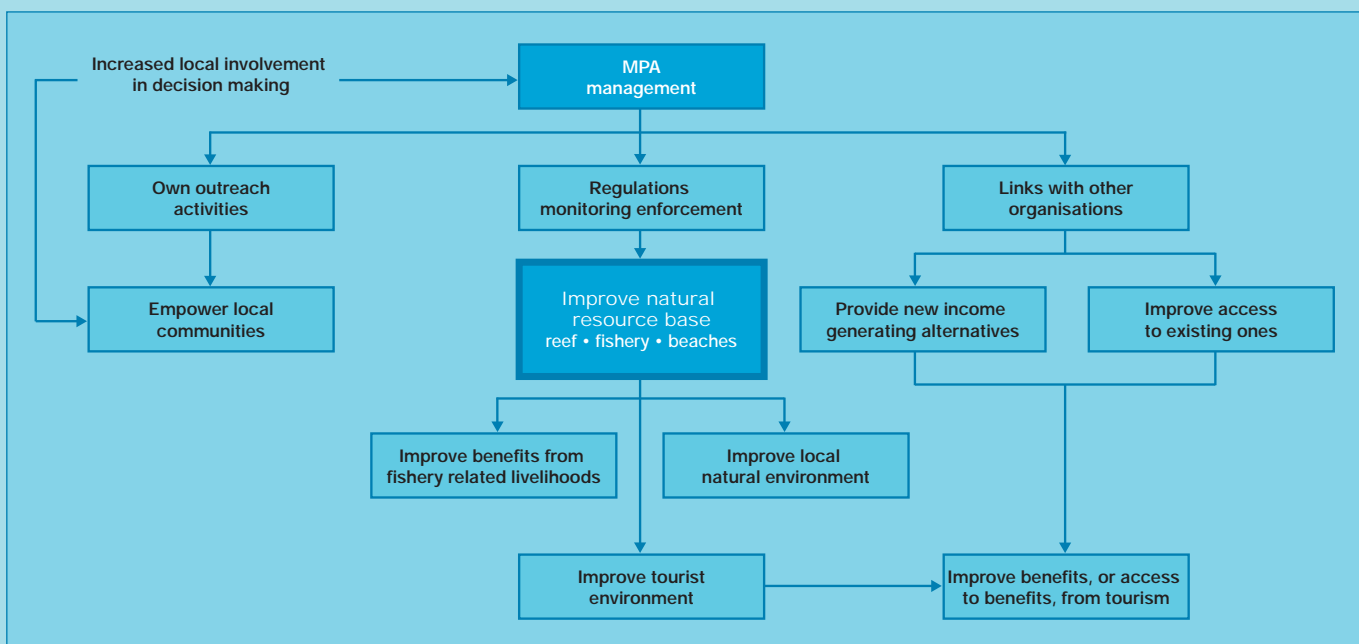
The review confirmed that the viability of protected areas is often undermined by non-compliance, bad practice or a lack of co-operation by local people that fuels resentment and conflict and this is widespread in the Caribbean. In many cases MPAs include a poverty dimension but research suggests that poorer groups are not only 'invisible' and less able to articulate their views but they are also less likely to comply with MPA measures because of their short-term perspectives and limited access to alternatives. Such activities can only hinder progress by reducing the effectiveness of MPA management and adding to the costs.

### Beach cleaning programme, Statia Marine Park, St Eustatius

The Atlantic coast provides a nesting beach for four species of endangered turtle and islanders are involved in monthly cleaning to prevent entrapment of hatchlings. Removal of plastics, rope, clothing and other land and sea debris takes place on a weekend afternoon. Clean-ups are advertised via schools and local radio and transport to the beach is provided by the Marine Park Managers with support from school, church groups and dive operators. Results of clean-up are provided in the local newspaper.

### They will help you if you help them

The principal aim of an MPA is to improve the natural resource base and the main method of achieving this is through regulations, monitoring and enforcement. But this does not automatically lead to improvements in local people's livelihoods. This will depend on the type of regulations in place and the other activities of the MPA management agency (see diagram). For example, better regulation of local fishing activities that are sensitive to fishers' needs, or the provision of alternatives when total restrictions are necessary, can maintain or even improve fishers' livelihoods in the shorter term whilst waiting for the longer-term spillover effects or resource improvement to occur.



Improvements in the natural environment are likely to be a boost to the local tourist industry and an MPA working with other relevant agencies could advocate and promote local involvement in this. This could be through improving access to existing opportunities or by providing new ones. Local benefits of this might include improved infrastructure or recreational areas or improved health and safety.

The research highlights many good practical examples where MPAs have involved local people to the benefit of both. Local knowledge and skills are harnessed, rules are better adapted to local socio-economic conditions, monitoring and enforcement costs are reduced and management responsibilities shared. Examples include employing fishers as researchers, a fishing gear exchange programme to improve catches, helping fishers to gain access to Irish Moss farming, the water sports industry, tourist guiding and setting up water taxis.

The way an MPA works could serve to empower local communities. Education is one aspect of this, others include 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.

## A demand for guidelines

The participatory approach combined with a series of facilitated workshops brought researchers and stakeholders together to address key issues and explore solutions. The highlight of this was the hosting of a session at an international fisheries conference where the link between poverty and MPA management was made explicit and discussed. A strong request from key environmental agencies in the Caribbean for the collaborative development of guidelines for MPA management was received, which was then followed up as part of the project.

### Guidelines were produced with sections on:

- **Local communities and how they can help or hinder.** This concentrates on the impacts that local people can have on MPA management and vice-versa and suggests areas in which local people can become more actively and positively involved.
- **They will help you if you help them** looks at the benefits that an MPA can provide to local people, particularly poorer groups, and the factors that constrain or facilitate the realisation of these benefits.

- **Creating an environment for effective collaboration** focuses on how local individuals and groups can be engaged and encouraged to become more actively involved in MPA management.
- **Resource and reference guide** fully references the case study material, the literature available and other sources of information.

The guidelines also include a wealth of practical case studies, some successful and some less so, describing the issues, challenges and solutions that MPAs have developed from which others can learn.

It is hoped that this will lead to good regional ownership and ultimately their adoption, particularly the pro-poor elements.

## The outcome

The project increased understanding among regional stakeholders of the key institutional, social and biophysical characteristics of MPAs in the Caribbean. The impacts of successfully implemented MPAs on poor people's livelihoods were determined and the structures and processes leading to either beneficial or harmful outcomes appreciated.

Guidelines have been published and are available from NRSP and from website [www.mragltd.com](http://www.mragltd.com) They outline ways by which MPA management can explicitly benefit poorer stakeholder groups and promote effective management of MPAs. There are plans for these to be adopted by the International Union for the Conservation of Nature and Natural Resources (IUCN) and the United Nations Environment Programme (UNEP).

R7976 Institutional evaluation of Caribbean marine protected areas (MPAs)

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