Reforming marine resource governance: Can we cope with co-management?

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ABSTRACT

Since 2002 the Centre for Resource Management and Environmental Studies (CERMES) of the University of the West Indies has been engaged in projects investigating the co-management of coastal resources in the Caribbean. The three countries most involved in the latest research were Barbados, Belize and Nicaragua. Special attention was paid to marine protected areas and small-scale fisheries. Research was done in partnership with community-based groups, non-governmental organisations and government agencies. Results and preliminary findings were presented at previous meetings of the Institute. In this paper the research alliance provides its conclusions and outlook in the context of reforming governance. The main themes addressed are strategic planning, capacity building, stakeholders and power, organising and leadership, and the role of government. Co-management is still a relatively new and not fully understood approach to marine resource governance in the Caribbean. Stakeholders may gain a clearer, shared understanding of co-management through participatory strategic planning. However, critical issues are the inadequate capacities of most stakeholders, and disparities in their power. Improving organising and leadership are key components in building capacity. Governments have roles to play in enhancing conditions that favour successful co-management, even though their management authorities are often weak and unable to effectively guide the establishment of co-management. While we encourage future co-management initiatives, especially practical pilot projects, it is not clear that stakeholders are currently able to cope with this approach to marine resource governance. Emphasis must first be placed on addressing deficiencies in the general areas above and site-specific circumstances. Enabling policies for self-organisation and adaptive management are urgently required especially if marine resource governance is approached from a complex adaptive social-ecological systems perspective.

KEY WORDS: Caribbean, co-management, complex systems, governance

Reformando la Gobernabilidad de Recursos Marinos: Podemos hacer Frente con Co-MANEJO?

Desde 2002 el Centro para el Manejo de Recursos y Estudios Ambientales (CERMES) de la Universidad de West Indies ha estado colaborando en proyectos de investigación sobre co-manejo de recursos pesqueros en el Caribe. Los tres países mayormente involucrados en las más recientes investigaciones son Barbados, Belice y Nicaragua. Se presto especial atención a áreas marinas protegidas y pesca a pequeña escala. Se realizaron investigaciones en conjunto con grupos comunitarios de base, organizaciones no gubernamentales y agencias gubernamentales. Los resultados y conclusiones preliminares fueron presentados en reunión previa del Instituto. En este documento los aliados en la investigación proveen sus conclusiones y puntos de vista dentro del contexto de reforma de gobernabilidad. Los principales temas desarrollados son planificación estratégica, desarrollo de capacidades, partes interesadas y poder, organización y liderazgo, y el rol del gobierno. Comanejo es un enfoque de gobernabilidad de recursos marinos en el Caribe aun relativamente nuevo y no totalmente comprendido. Las partes interesadas pueden obtener una comprensión compartida mas clara de co-manejo a través de la planificación estratégica participativa. Sin embargo, aspectos críticos sobresalientes son las capacidades inadecuadas de la mayoría de las partes interesadas, y disparidad en su poder. Mejoramiento organizativo y liderazgo son componentes claves en el desarrollo de capacidades. Los gobiernos tienen roles que jugar en impulsar condiciones que favorezcan un co-manejo exitoso, aunque sus autoridades de dirección generalmente son débiles e incapaces de guiar efectivamente el establecimiento de co-manejo. Mientras promovemos futuras iniciativas de co-manejo, especialmente proyectos pilotos prácticos, no esta claro que las partes interesadas actualmente son capaces de hacer frente a este enfoque de gobernabilidad de recursos marinos. Debe hacerse énfasis primeramente en hacer frente a las deficiencias en las áreas generales arriba mencionadas y circunstancias especificas del lugar. Habilitar políticas para auto-organización y manejo adaptado son requerimientos urgentes especialmente si la gobernabilidad de recursos marinos es enfocada desde una perspectiva de sistema socio-ecológico complejo adaptado.

PALABRAS CLAVES: Caribe, co-manejo, sistemas complejos, gobernabilidad

INTRODUCTION

The need to reform coastal resource governance in the countries of Central America and the Caribbean (CAC) is urgent. This applies particularly to the social-ecological systems of small-scale fisheries (SSF) and marine protected areas (MPAs) (Chakalall *et al.* 1998). The fisheries of the CAC region include a wide variety of types, ranges, vessels, gears, problems and approaches to management and development. Many fisheries are fully exploited or overexploited, especially those for the coral reef fishes, conch, lobster, sea urchins and pelagics upon which many fishers in the region depend for their livelihoods. Livelihoods are threatened by resource overexploitation and environmental degradation. Tourism and coastal development have increased conflict among various coastal and marine resource users. The result of these conflicts is that the sustainability of fishery and other marine resources are being systematically undermined and socio-economic benefits reduced.

Coastal resource policies in the CAC region have primarily emphasized development without concomitant conservation and management measures. Only a few countries in the region have active integrated coastal management and fisheries management programmes. Most countries have weak legislation and no active fisheries management plans. Regulatory monitoring and surveillance systems have been inadequately instituted and have not been effective in managing resources. Typically, resource users have not been much involved in planning and implementing such systems, and insufficient capacity has been built for management (Brown and Pomeroy 1999).

Centralized, top-down management has been widely criticized as a primary reason for the overexploitation of fisheries and other coastal resources globally (Pomeroy and Rivera-Guieb 2005; Mahon *et al.* 2005) and in the CAC region (Pomeroy *et al.* 2004). Resource users have contributed by doing little to monitor and police themselves. Bureaucrats and professionals are the main managers as resource users are marginalised by technical and scientific approaches to management. A centralized management approach involves little effective consultation with resource users and is often not suited to the conditions of small developing countries in the region. Many of the countries have limited financial means or technical capacities to manage coastal resources using conventional approaches. Command-and-control approaches (relying on various technical, input and output control regulations), which have conventionally been used to manage fisheries, are being seen by an increasing number of stakeholders to be outdated and inadequate for resolving the increasingly people-centred problems in fisheries (Berkes *et al.* 2001; Mahon and McConney 2004)).

Co-management, as a process of participation, empowerment, power sharing, dialogue, conflict management and knowledge generation, holds potential for the region as an alternative coastal resource management strategy and as a solution to these problems (McConney *et al.* 2003). Co-management will, however, involve the establishment of new organisations, institutional arrangements, laws and policies to support decentralization of governance, partnerships for management and stakeholder participation in management (Borrini-Feyerabend *et al.* 2004). This paper reports on the lessons learned from a project to develop information, strategies and policies for coastal resources governance reform in the Central American and Caribbean region through co-management. The project aimed to demonstrate co-management as a viable alternative management strategy under varying conditions in the CAC region using a "learning portfolio" approach. While co-management may not be a viable alternative management strategy for all countries and communities, the project sought to establish under which conditions it can be a sustainable, equitable and efficient management strategy, and to recommend how it can be successfully implemented. Policy-level frameworks, strategies and processes for implementing co-management from national to community levels were developed for consideration in the region. Under the project, stakeholders in several countries took action at national and community levels to implement co-management strategies (McConney and Pomeroy 2006).

METHODS

There can be no single (one-size-fits-all) model of co-management for the region. Each situation is unique and requires the development of plans, institutions and organisational arrangements that meet the conditions of that site and that country. Within Central America and the Caribbean, focus countries for project fieldwork were Belize, Barbados and Nicaragua. This selection helped to determine if co-management can be a viable management strategy under varying conditions (e.g. political, social, economic, cultural, biophysical and technological). Implementation of co-management has four main integrated components: 1) resource management, 2) community and economic development, 3) capacity building, and 4) institutional support. It emphasises giving people the skills and power to solve their own problems and meet their own needs from both individual and collective perspectives. The amount of responsibility and authority that the state-level and various local levels have in a co-management arrangement will differ, depending upon country and site-specific conditions.

The modes of implementation differed by location and were tailored to meet the needs of project partners (see next section). In summary, workshops were held to plan the country activities and to implement various aspects of capacity building and institutional strengthening. They included strategic planning, a variety of technical topics and reviews of situations for institutional learning. The pilot projects included fieldwork such as surveys and the establishment of groups. Studies were undertaken and participants attended regional conferences, particularly the annual

meetings of the Gulf and Caribbean Fisheries Institute (GCFI). The latter provided regular forums for information exchange among participants and with the rest of the region. Project communications also included a new series of policy briefs, *CERMES Policy Perspectives*, which conveyed findings and recommendations on policy, strategies and processes (McConney and Pomeroy 2006). The project was conducted in partnership with non-governmental organisations (NGOs), research institutions, government agencies, resource user groups and individuals in each country. Partnership was a key implementation strategy of this project. The principal investigators provided leadership, coordination and technical assistance in the project, but national-level and community-level activities were conducted by and with the partners. The partnership arrangement ensured that the capacity of the partners was increased; that local conditions were recognized and included in all aspects of the project's activities; that project results were owned from the start of the project by the national partners; and that policy recommendations were developed with input from local organisations (McConney and Pomeroy 2006).

RESULTS

Along with our partners, we learned a lot from the project. Insights were shared to help make changes for improvement. This is the essence of institutionalizing adaptive management as the iterative process of learning-by-doing (by experimenting), using the shared key lessons to make changes in (co-)management (adapting), and experimenting again to learn more about how to improve. Project observations and results are set out below under some of the more important areas of concern.

Strategic planning

Strategic planning is the process of defining objectives and developing strategies to achieve them. When a plan is "strategic" it operates on a scale large enough to take in "the big picture". Going beyond a normal operational plan it facilitates a more desirable future by influencing external conditions or adapting current plans to have more favorable outcomes under the same external conditions, often by the identification and removal of blocks or constraints. Participatory implies that a group of people, such as co-management stakeholders, plan strategically together.

If people and organizations are brought together to plan, and they find that it is an effective and rewarding experience, chances are that they will be willing to accept the objectives or strategies developed, and to collaborate in management. When planning is not participatory, or has been separated from management, strong partnerships among the co-management stakeholders are less likely. Co-management is more likely to be successful, and objectives-driven, when it incorporates a participatory planning process. Learning by doing things together successfully builds capacity, trust, respect and legitimacy of both content (the plan) and process (the planning).

Most individuals affected by co-management arrangements are included in the group that makes decisions about, and can change, the arrangements. In Belize, Friends of Nature is led by a team of individuals that almost all come from the local communities it serves (Goetze and Pomeroy 2003). The strength of the organization is based on the great support that it has received from its local communities. However, participation in co-management in the Caribbean is often constrained because in many cases, resource users and other non-governmental stakeholders expect government to have the capacity and will to do things for them and they are reluctant to get involved in management and management planning.

The nature of the participation in planning needs to be decided early on since bottom-up is not always feasible or affordable. If stakeholders are not well informed, or do not have the capacity or time, it is not always appropriate to start at the bottom. This usually means that resource users will make their input after there is a first draft or at least an outline of plan contents. However, the process must genuinely consider and use the input of stakeholders in order to be credible. The plan should be endorsed at a political or legal level in preparation for implementation. Prior to implementation the plan should be widely publicized and disseminated for it to be actively adopted. Even though stakeholders should have bought into the plan, it may be ignored unless it is well known and becomes standard operating procedure. This helps to institutionalize the plan.

Although strategic planning for resource management is often thought of as a government exercise, NGOs and other stakeholders can take the initiative to invite government to plan with them for a particular area or resource. This is important in MPAs for which co-management agreements have been signed, such as in Belize. For all stakeholders, but especially organizations that take on significant management responsibilities, it is very useful to have a strategic plan. The strategic planning process is embedded within the formulation and revision stages of the fisheries or MPA planning process.

The participation of fishers in decision-making is not without its problems as illustrated by fisheries management planning (Fisheries Division 2004) and sea egg fishery co-management (McConney and Pena 2004, 2005; Parker and Pena 2004) in Barbados. In the Holetown case (Pena and Mahon 2005), also in Barbados, although stakeholders were engaged at the beginning of the project and they were keen to monitor its progress and development and provide their inputs, there was difficulty keeping them engaged due to long time delays with inputs, such as survey maps and coastal engineering plans for the area. Participation comes with a price.

There is a need for the formation of community organizations and/or the strengthening of existing organizations to support engagement in planning and co-management. In some places there tends to be a low degree

of social integration at the community level. The absence of community cohesion and cooperative institutions at the community level is prevalent and reduces the capacity for collective action for mutual support and self-sufficiency. There is an apparent need for cooperative institutions and collective action at the local level, but cultural conditions are such that local initiatives for institutionalizing collaboration are unlikely to occur. Co-management is not possible in the absence of community organizations (core management groups) and models of cooperative behaviour. Fishers need to be organized into viable organizations and exiting organizations strengthened and sustained.

The ongoing establishment of a regional intergovernmental fisheries mechanism (the Caribbean Regional Fisheries Mechanism or CRFM) is of considerable interest, but it needs to be paralleled at the community level among fisherfolk organizations. The design and implementation of co-management in the region will be hindered by having few known formal traditions of community-based coastal resource management and the limited number and organizational weakness of fisher organizations. Future efforts in strategic participatory planning and management in the region can be guided by having effective local organizations which can require changes in both the behaviour and the organizational structures of the organizations involved.

Capacity building

Organisational capacity building is multi-faceted and much more than staff training. Its aim is to make organisations more efficient and effective within a well-defined vision or model of what they hope to be and do. Building capacity is often a long-term process with different types of interventions tailored to bridge the gap between what the organisation can do at the moment and what it intends to do in the future. Several skills and disciplines are drawn upon to do this. Capacity building goes far beyond just training.

The Barbados Programme of Action (BPOA) for Small Island Developing States (SIDS) developed at the 1994 global conference on SIDS identifies capacity building as a key requirement. Building stakeholder capacity for co-management is essential in the Caribbean, and a critical first step in many cases. In addition to the areas in which stakeholder organisations generally need capacity, coastal co-management stakeholders need to understand resource system and human system relationships. During the project we found that there were knowledge deficiencies in these areas that applied to all categories of stakeholder. In many cases capacity could be built fairly simply if the various stakeholders engaged in collaborative activities in which skills transfer was undertaken. Learning by doing within partnerships is an approach well suited to strengthening co-management institutions, and one that is usually cost-effective.

Co-management is usually negotiated between government and organised stakeholders. It is not usually a practicable arrangement between governments and large numbers of unorganised individuals. When there are more than a few individuals, the need to organise representative stakeholder bodies becomes apparent, even if only for logistic reasons. In community-based co-management the arrangements are normally with a local governance body or institution such as a village council. If the number of organisations becomes large, then umbrella or secondary organisations (e.g. Barbados National Union of Fisherfolk Organisations or BARNUFO) are formed to represent the primary groups.

Organisations should set priorities and schedules for building capacity, with testing, monitoring and evaluation incorporated to measure success. This rigorous approach helps to ensure that there is minimal sidetracking. Capacity that is required only temporarily is usually not of as high priority as core functions. It is important also to set realistic goals and limits for capacity in various areas in order to achieve an overall balance that reduces vulnerability. For example, a fisherfolk organisation would not normally include a fisheries scientist, but some members could be trained to understand the principles of marine science sufficient for the organisation to effectively communicate with scientists and vice versa.

Organisations build capacity through the efforts of individuals. The correct individuals must be selected to build the capacity of organisations. These people should be, or be placed, in positions where they can use newly acquired skills. Governments in the region are renowned for not making rational use of human resources due to various constraints in the civil services and public administration. Transfers of critical skills should also be planned and implemented at every opportunity. In very small organisations it is common for the same person to take on all types of training and be expected to perform in many different roles. The entire co-management arrangement should be organised so as to make best use of both individual and organisational talents.

Requirements for building capacity to effectively engage in co-management and community-based management in the region include designing new approaches to training and education to benefit community institutions and users, multidisciplinary approaches, incorporation of field-based learning and dissemination of specific skills. The majority of fisherfolk associations and cooperatives are structurally and financially weak and require technical assistance to engage in co-management. For example, it was noted that if fisherfolk organizations in Barbados are to become true partners in co-management, it will be necessary to provide more assistance in the areas of leadership skills, business management and information acquisition for decision-making.

Structural and operational weaknesses of the existing resource user organizations render their capacity to assume the obligations and responsibilities involved in effectively

participating in co-managing the resources highly uncertain. A critical barrier to effective co-management of protected areas in Belize is lack of capacity of community-based organizations to implement their responsibilities related to co-management of protected areas (Goetze and Pomeroy 2003).

Capacity building is not an end in itself, but is one consideration to be factored into the design and implementation of natural resource management approaches that are participatory and sustainable, and that provide economic benefits. To make co-management a cornerstone of the emerging regional efforts towards integrated coastal management there is a need to build appropriate social capital amongst local organizations and groups. There is an imbalance in individual and community organization capacity and level of power that will need to be addressed. Based on experience of the role of co-management in developing the Folkstone Marine Park and Reserve in Barbados, there is a need to pay attention to imbalances in stakeholder capacity to participate in multi-stakeholder processes, e.g. fishers versus tourism.

Stakeholders and power

In some instances fisheries and coastal management authorities have enormous power and must be willing to share that power with resource users and stakeholders. In other cases the authorities may face more powerful opponents and will need the support of resource users and stakeholders to back them up. Participation requires changes in attitude towards power and authority. More powerful stakeholders will circumvent participatory processes when it serves their interests to do so. Even when stakeholders are properly identified, and when their interests are properly taken into account, there are many forces which act against the fair and equitable distribution of rights, responsibilities and benefits. Access to power, and perceptions of power and influence, directly affect stakeholders' interest and willingness to come to the negotiating table.

Many existing community organizations are highly dependent on government for their existence and will need to become more independent. Based on experience with organizing fisherfolk in Barbados, although the incremental approach to fisherfolk organization development employed in recent times places most of the decision-making responsibility in the hands of the fisherfolk, the directional influence of government is strong. A greater degree of independence and initiative must be attained by fisherfolk organizations in order to avoid the tendency to become co-opted into government's management agenda without meaningful participation in decision-making. While government needs to retain its provision of information and tangible benefits, implementation of legal frameworks, and otherwise create an environment suitable for organization development, it needs, if possible, to step back from the task of intimately directing their development.

The marine resource use in the region involves multiple stakeholders and multiple conflicts that will need to be addressed through dialogue and consultation with stakeholders. There is a need to consult and promote dialogue with the multiple resource user groups in order to find ways of accommodating all, while reducing conflict. There is a need to promote the consultation process with fishing communities in order to enhance their involvement and participation in decision-making and planning processes in fisheries management. Often it is implied that stakeholders are only those outside of the government such as NGOs, CBOs, fishing and other groups in civil society. In the Caribbean, where many co-management initiatives are led by State agencies, the inclusion of government is essential. If co-management initiatives are initiated by non-government organizations then these organizations should exercise their power and make all efforts to draw government in as a partner, even if in the context of conflict management. Where the government shows little initial interest in co-management, it will eventually need to become involved at some stage.

Both fishers and the state are deficient in fishery resource information, and their deficiencies differ in ways that could make information exchange mutually beneficial. Information is a source of power. Trust and cooperation within the fishing industry, and between it and the state, could be improved through information exchange. The uncertainty surrounding the fishery, and the weakness of the state, provide a strong incentive for the harvest sector and government to introduce co-management starting with the relatively simple and straightforward exercise of joint data collection and analysis as activities for introducing and promoting stakeholder participation. This is what was tried, with considerable success, in the Barbados sea egg fishery.

In most countries there is a need for both intensive and extensive use of consultation with the resource stakeholders, use of participatory approaches to decision-making processes, and establishment of more local resource management bodies representing all stakeholder groups. Future efforts in participatory planning and management in the region will work when participants are provided with the information required to make decisions, when all relevant stakeholders are incorporated from the outset, and it is appreciated that data collection on stakeholder groups does not equal participation. There is a need for transparent, negotiated processes for determining priorities in the face of inadequate resources. There is a need for types of consultation between government and fishers that create and build trust and respect.

As much as possible, all stakeholders should be identified and included in the co-management arrangements. In the case of Friends of Nature in Belize, it was the stakeholders themselves, essentially fishing and tourism stakeholders, who pushed hard for the declaration of the protected areas. One of the greatest threats to the success and

effectiveness of participatory management processes and institutions is the accidental or deliberate exclusion of one or more groups of stakeholders from the planning and negotiating stages. In Belize, TASTE has stated that they have had stakeholder issues that have required conflict resolution, but not too many. As ever, participation is hard to create but they found that new stakeholders (youth) offer stronger participation and more goodwill. Management authorities and other participants often have clear views on the composition of partnerships in existing and potential co-management arrangements.

Within co-management arrangements there may be stronger partnerships and alliances among certain stakeholders whose interests are closer to each other or who have an umbrella, or secondary, organization to represent them. An example could be tourism interests (hotels, guest houses, dive shop operators) forming an alliance that does not include other stakeholders such as water taxis and fishers. These types of temporary or permanent partnerships within co-management arrangements can be useful in reducing the number of different parties that are involved in negotiations or conflict management, and they should be encouraged. One potential problem with this is if the allied stakeholders form a power faction that tries to take unfair advantage of the smaller, separate groups such as by forcing their decisions onto the others.

There is need for thorough methods of stakeholder identification, which aim at ensuring that all parties are properly recognized and given a chance to participate in the process. When complete participation is not an option, even limited participation can contribute to improved planning processes. There is a need to recognize the diversity of stakeholders and take into account the full complexity of their interests and relationships with the resource and with one another. Beyond identification, stakeholder analysis examines power and other relationships. The participatory approach to stakeholder identification and analysis takes considerable time and financial resources but can provide valuable insights. It is not always possible or feasible (e.g. due to budget limitations or logistics of travel) to have all stakeholders represented in management, especially not all of the time. In some countries there is a need to recognize and work with indigenous peoples and their territories, bearing in mind the large proportion of the region's natural resources that is under their stewardship and their marginalization to date.

Organising and leadership

Compared to Southeast Asia and the Pacific, the Caribbean has fewer coastal and marine non-governmental and community organisations that are positioned to play roles in co-management. Community organising will be a critical component of introducing or strengthening co-management in the Caribbean. This involves the promotion and support of collective action.

Collective action is group effort to reach and imple-

ment decisions in three steps. First, one has to determine the specific aims and objectives of those in the group. Then agree, preferably by consensus, on the course of action to take. Third, implement the decision or action and monitor results, with feedback. Collective action needs special attention, especially in relation to fisherfolk organisations. The weaknesses of fishery organisations in the Caribbean suggest that much will have to be done to promote sustained collective action to institutionalise co-management. Crisis driven management responses prevail in both government and industry. Crisis responses often feature intense, but only temporary, collective action.

Sustained collective action is necessary to make co-management successful. Two of the most common challenges for collective action are lack of coordination and prevalence of free riders. A free rider seeks to obtain benefits without cost or effort. There are often high expectations in fisherfolk organisations that, as with a boat crew, everyone will pull their weight. In Barbados, organisational leaders see free riding as a serious indictment of the membership, ignoring the rule of thumb in most organisations that 10% of the members do 90% of the work. Problems of apparent free riding must be distinguished from the genuine lack of capacity to contribute, the need to focus on survival as a priority (consider poor members), the mistrust of leaders, the expectation of free patronage benefits based on political experience and other factors that cause group members not to actively contribute. This could be due to choice, their inability or the lure of more attractive options. Sometimes the problem is lack of skills in mobilisation, causing the initial momentum of group activity to die down as the crisis passes and people tire of organisational ineffectiveness. Collective action requires constant attention to mobilisation and keeping the group together through difficult periods.

Political fear of collective action, in the form of organised opposition, may prompt interventions that seek to stifle it. Separating popular movements from party politics can be a challenge in the Caribbean. In co-management there is a need to reassure partners of shared goals and willingness to work together. This causes collective action and organising stakeholder groups to be directed towards a common goal rather than be dissipated in internal struggles. Where the social myth that fishers cannot act collectively is deeply embedded, such as in places where cooperatives and associations have often failed, it is important to learn lessons and build models of success from other group efforts. In Gouyave, Grenada, the successful social and cultural groups serve as examples that fishers can emulate.

Most countries have formally organised, even if quite weak, cooperatives and fisherfolk associations. However, these groups will not automatically be suitable as representative organisations in co-management. Authorities should be prepared to support and strengthen the organisation as a whole rather than just steer it towards management roles.

This serves the purpose of more comprehensively looking after the interests of members and may help to address issues such as of livelihoods and poverty. It is likely that cooperatives were established with objectives that relate more to expanding exploitation, improving marketing and increasing the incomes of members. Changes in outlook will be necessary for these groups to play major roles in resource management. These changes may be difficult and lengthy, especially if the organisation is still struggling to achieve its original development mandate. Putting more focus on management may strain the internal cohesion of the organisation. To prevent this requires strong leadership.

Without good leadership it is unlikely that any organisation will survive and prosper. There is an abundance of good leaders in government and stakeholder organisations for technical matters. Boat captains are leaders of fishing enterprises and many are exceptionally knowledgeable about their working environment. Crews follow the captain's instructions at sea, but the captain may be out of his depth on land when leading the fisherfolk organisation in negotiations with the fisheries authority or tourism interests. For this activity, the fisher organisation needs a leader with different skills. It is a common mistake to take leaders out of their element and expect them to do equally well in another environment. A few people are "born leaders" wherever you put them, but most people acquire leadership skills with strengths in what they know best. To this they add learned skills such as group facilitation, meeting planning and conduct, making presentations, documentation etc.

Style of leadership is also very relevant to co-management. There are three main styles, and clearly the participative or democratic style is fundamentally most compatible. However, authoritarian or delegating approaches may be more appropriate at times. Leadership style may determine the chances of successfully negotiating agreements, reaching consensus and encouraging buy-in to support compromise outcomes. A leader does not have to be charismatic or a micro-manager in order to be effective. Recommendations for effective leadership are tending towards individuals or teams that can bring out the group's vision for the future and mobilise group members in working towards achieving that vision. The leader of a co-management institution must command the trust and respect of a diverse array of stakeholders.

Among Caribbean fishers there is often a strong spirit of egalitarianism, or peer group equality. In Barbados this has worked against the sustainability of organisational leadership since no one wants to appear superior. Emerging leaders have unrealistic expectations of group input, and are often dismayed at the high proportions of free riders. Leaders are often suspected of personal aggrandisement and power seeking. In the Caribbean there is often a close link between power and party politics. Politicians who fear leaders or co-opt them for political gain can endanger the integrity of co-management processes. The same goes for stakeholder leaders who seek political alliances that weaken their allegiance to the organisation and the members that they were selected or elected to represent.

In non-Caribbean countries it is not unusual for women to play major roles in leading fisheries-related organisations. Often they are related to the men who fish, and they use their presence on land during office working hours to look after the affairs of the fishers at sea by going to important meetings and otherwise being the representatives of the workers at sea. While women in the Caribbean play important roles in fishery and other occupations, particularly in marketing, they are usually not in the forefront of fisherfolk organisational leadership. Given the strong roles played by women in Caribbean society and economies, their potential as fisherfolk leaders should be encouraged. BARNUFO in Barbados offered a role model for this during the project.

Role of government

Increasingly, government policies and programs stress the need for greater resource user participation and the development of local organizations to handle some aspect of resource management. Policies favouring co-management are a necessary but not sufficient condition for successful co-management. This suggests that it may be insufficient for governments simply to call for more community involvement and fisher participation; they must also establish commensurate legal rights and authorities and devolve some of their powers. The delegation of authority and power sharing to manage the fisheries may be one of the most difficult tasks in establishing co-management. Government must not only foster conditions for fisher participation but sustain it. In Nicaragua, for example, the political culture is a major obstacle to a co-management process. Governmental cooperation towards a community based project may very well depend on whether the party in power views them as supporters. If they are not considered supporters their efforts can be undermined.

As a first step, government must recognize local institutions as legitimate actors in the governance of fisheries resources. In the Pearl Lagoon of Nicaragua, Government tends to make decisions and then notify the communities (Simmons 2003; Joseph 2003). There are token consultation gestures on subjects that are practically already decided unless the communities make an issue of it. At a minimum, government must not challenge fishers' rights to hold meetings to discuss problems and solutions and to develop organizations and institutional arrangements (rights and rules) for management. Fishers must feel safe to openly meet at their own initiative and discuss problems and solutions in public forums. They must not feel threatened if they criticize existing government policies and management methods. As a second step, fishers must be given access to government and government officials to express their concerns and ideas. Fishers should feel that government officials will listen to them. As a third step,

fishers should be given the right to develop their own organizations and to form networks and coalitions for cooperation and coordination. Too often there has been the formation of government-sponsored organizations which are officially recognized but ineffective since they do not represent the fishers, but these may be the only type of organization a government may allow. Fishers must be free to develop organizations on their own initiative that meet their needs.

The cooperation of the local government and the local political elite is important to co-management. In the Pearl Lagoon of Nicaragua, after much negotiation and lobbying with the municipal government they finally decided to accept the community based natural resource management plan and gave it an "aval municipal" (municipal endorsement). There must be an incentive for the local politicians to support co-management. There must be political willingness to share the benefits, costs, responsibility, and authority for co-management with the community members. Co-management will not flourish if the local political "power structure" is opposed in any way to the co-management arrangements. In addition to the political elite, local government staff must endorse and actively participate in the co-management process. Local government can provide a variety of technical and financial services and assistance to support local co-management arrangements such as police, conflict management, appeal mechanism, and approval of local ordinances (Joseph 2004).

Fishers often develop their own rules for management in addition to those created by government. For example, fishers may establish rules defining who has access to a fishing ground and what fishing gear can be used. The fishers may be able to enforce the rules as long as there is at least a minimal recognition of the legitimacy of these rules by the government. This can be formal, as through a municipal ordinance, or informal, as through police patrols to back-stop the local enforcement arrangements. If government does not recognize the legitimacy of the rules, then it will be difficult for the fishers to maintain the rules in the long run. Thus, the role of government in establishing conditions for co-management is the creation of legitimacy and accountability for the local organization and institutional arrangements. The government, through legislative and policy instruments, defines power sharing and decision-making arrangements. Only government can legally establish and defend user rights and security of tenure. One means of establishing these conditions is through decentralization.

Decentralization refers to the systematic and rational dispersal of power, authority and responsibility from the central government to lower or local level institutions—to states or provinces in the case of federal countries, for example, and then further down to regional and local governments, or even to community associations. The approach of decentralization is for the centre to delegate some measure of its power to the lower levels or smaller units in the government system. Increasing local autonomy is a focal point in the decentralization process. Generally, power and authority are transferred or withdrawn by laws enacted in the centre.

In many countries, government programmes and projects stress the development of local organizations and autonomy to handle some aspect of fisheries management. Seldom, however, is adequate attention given to the establishment of administrative and policy structures that define the legal status, rights and authorities essential for the effective performance of local organizations. Many attempts at decentralization have not delivered a real sharing of resource management power.

In the Caribbean region, there has been very little decentralization or delegation, and no devolution, of significant responsibility and authority by government authorities to fishers, except in Belize (Goetze and Pomeroy 2003). Governments have relinquished more power in MPAs, especially in Belize, but also in other places like St. Lucia and Dominica. The reason for stakeholders having more power in MPAs stems in part from the expectation that managing an MPA should be a profit-making business-like operation that needs little government intervention except regulation and policy support. In Nicaragua, the Regional Government was not willing to assist a process that was spearheaded by the communities and facilitated by a local CBO (Simmons 2003).

If new fisheries co-management initiatives are to be successful, these basic issues of government policy to establish supportive legislation, rights and authority structures must be recognized. The devolution of fishery management authority from the central government to local level governments and organizations is an issue that is not easily resolved. Legislation and policy for co-management are embedded in a broader network of laws, policies and administrative procedures, at both national and local government levels. Consequently they will be difficult to change. Government administrative and institutional structures, and fisheries laws and policies will, in most cases, require restructuring to support these initiatives. In Barbados, BARNUFO still feels that some of the scientists and managers are not ready to relinquish some responsibilities.

There may be limitations in stakeholder and state agency capacity, and legal framework that are barriers to decentralization. For example, in Barbados the fisheries regulations need to be amended to provide for delegation of authority to fisherfolk organizations and to promote collaborative co-management through the Fisheries Advisory Committee. These provisions may then be used as leverage to strengthen the organizations, provided that there is willingness and leadership to respond. Without strengthening they would not have the capacity to successfully discharge the additional responsibility. The re-distribution of power from government to other stakeholders is usually an incremental and gradual process based on good performance assessed through monitoring and evaluation. The extent of

redistribution parallels the three main types of co-management, with government relinquishing more power as you go from consultative, through collaborative, to delegated co-management.

Although most stakeholders accept additional authority and responsibility, refusal may be warranted where it is clear that the government is only interested in passing on the costs and logistic difficulties of resource management without providing much or any support. Even with the potential profitability of MPAs there is usually a critical initial period that requires State support. Giving responsibility without authority or real power has been a criticism of the co-management thrust in Belize. While it is important not to foster dependency, it is essential to provide sufficient support to ensure that the co-management arrangement is on a sound footing. If stakeholders are ready to assume more responsibility than the government has offered to share through negotiation, then lobbying and pressure group tactics may become necessary. If these are used, the stakeholders should ensure that a viable plan exists to implement the tasks and additional activities that will result from a successful re-distribution of power.

In detailing the specifics of the decentralization strategy, questions of implementation become crucial points of debate. What powers and functions, for instance, can be properly entrusted to local institutions and which institutions—local government or user group? What are those that should be left to the central government? How is the sharing of resources to be administered? What should be the role of non-government organizations and people's organizations (an organized group of individuals with similar interests)? What is the proper and appropriate mix of government and private sector participation? Will decentralization occur only for the fisheries bureaucracy, or will it be a government-wide initiative? This collection of issues impinges on decentralization strategies and drives the political debate associated with decentralization.

CONCLUSIONS

In conclusion we summarize the key lessons learned from the project and suggest directions for new research on coastal resource co-management in the region. Some of the lessons learned with our partners in the process of executing this project are of particular significance to the region, while many others are more site and situation-specific. The former are the key lessons learned as briefly reiterated in summary below.

Government enabling policies and legislation from the top-down are needed to support co-management initiatives from the bottom-up.

Government authorities need to change their attitudes and behaviour in order to share power with community and stakeholder organizations.

Strategic participatory planning can be one of the main tools for encouraging information exchange and building trust among stakeholders in new arrangements.

Government authorities and other non-governmental stakeholders will need to build their capacity to effectively engage in co-management.

Leadership is an area in which capacity must be built as a matter of urgency in order to manage change and sustain collective action.

Marine resource use in the region involves multiple stakeholders and multiple conflicts which can be addressed through co-management.

All stakeholders should be identified and, if possible, included to the extent of their ability in the co-management arrangements.

Creation of new stakeholder organizations and/or the strengthening of existing organizations to engage in co-management are often necessary.

Imbalances in individual and organizational capacity and power amongst stakeholders will need to be addressed in pursuit of equitable outcomes.

Many existing stakeholder organizations are highly dependent on government for their existence and will need to become more independent and self-organising.

Incentive structures (economic, social) related to the shared recognition of problems and solutions are necessary for individuals and groups to actively engage in co-management.

Restricting user access, especially to marine resources, will be difficult due to existing property rights arrangements and philosophies that favour open access.

Strong non-governmental organizations are needed to serve as change agents and mentors in support of the co-management process throughout all of its phases.

Establishing coastal resources (especially small-scale fisheries and marine protected area) co-management in English-speaking Central America and the Caribbean will be a long-term process and cannot be achieved unless the partners are well prepared to take on the added responsibilities this entails. Additional research is needed to support the preparation of the partners to engage and advance in co-management. Much of this can be participatory action research. Pilot projects should be initiated in which all partners can gain practical experience with co-management and test and demonstrate to each other their commitment to the process, developing trust and credibility. The pilot projects can further serve to identify needed legal and policy changes to support co-management.

Co-management in the Caribbean region will differ in some respects from that in other regions of the world. There are a number of research topics related to the process of co-management and co-management systems that may be useful for directing new research in this region:

Organizational forms: most appropriate and effective for different stakeholder groups

Scale: of institutional and organizational arrangements, ecosystems, users

Adaptation: process of institutional and organizational evolution over time

Governance: structure and content of co-management agreements, enabling policy

Monitoring: measurement of short- and long-term changes and impacts

Networks: linkages and flows among co-management participants and others

Capacity: how to build and sustain it for and through self-organisation

Resilience: making successful co-management arrangements more durable

An important point to note is that much of this research can be done fairly simply by the people of the region who stand to benefit most from successful co-management. So we encourage donor agencies, applied academic researchers and potential co-management partners to boldly seek new opportunities for advancement.

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