

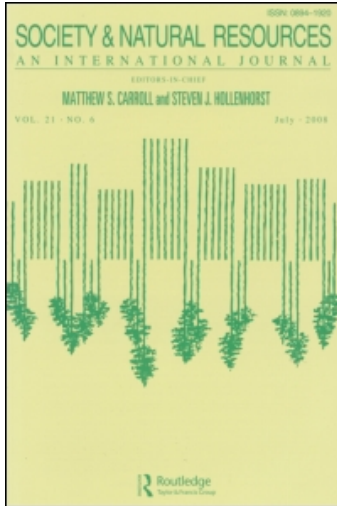
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Is Capacity Building Important in Policy Development for Sustainability? A Case Study Using Action Plans for Sustainable Marine Protected Areas in Belize

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Insights and Applications

Is Capacity Building Important in Policy Development for Sustainability? A Case Study Using Action Plans for Sustainable Marine Protected Areas in Belize

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We undertook a capacity-building exercise around marine protected areas (MPAs) that involved both local nongovernmental organization (NGO) community workers and a government fisheries officer, so that community engagement could be directly interfaced with fisheries operations and policy. Targeting a government worker is a relatively new approach. Our methodology used a modified nominal group technique and Delphi technique to develop personal action plans to facilitate the future of sustainable MPAs in the MesoAmerican Barrier Reef system. The involvement of a fisheries officer resulted in direct transfer of information from the communities to the government department. The personal action plans involve improvements to organization and management, education, support, and policy development. In addition, three NGOs, TASTE (Toledo Association for Sustainable Tourism and Empowerment), TIDE (Toledo Institute for Development and Environment), and Friends of Nature, have been incorporated into a single self-governing organization that spans four MPAs in southern Belize. This is a significant advance, allowing areas that were subject to illegal fishing to be monitored and policed.

Keywords coral, fisheries, hurricanes, ICZM, MesoAmerican Barrier Reef, NGOs, policy development, reef management

Capacity building, the enhancement of the skills of people and the capacity of institutions in resources management through education and training (Wescott 2002), implying a sharing of knowledge and a partnership of trust, is a tool that has received much exposure. Capacity building by engagement has been used in many communities where there are inherent and long-standing challenges to sustainability (Wescott 2002; Crabbe 2006), for example, in marine protected areas (MPAs) (Chircop 1998), indigenous community-based conservation (Tai 2007; Mutandwa and Gadzirayi 2007), waste management (Agamuthu and Hansen 2007), and community health (Raeburn et al. 2006). In this article we refer to sustainability in terms of the reef, the reef inhabitants, and the MPAs, while sustainable development refers to the stakeholder groups and to the participants. Capacity-building programs have been used in the developed world as well as in developing countries (Kaplan et al. 2006; Rogers et al. 2007). While many, if not all, capacity-building programs involve building competencies and empowerment in local communities, few involve policymakers or government officials (Mequanent and Taylor 2007). We therefore undertook a capacity-building exercise around MPAs that involved both local nongovernmental organization (NGO) community workers and a government fisheries officer, so that community engagement could be directly interfaced with fisheries operations and policy. Our methodology involved the development of personal action plans to facilitate the future of sustainable MPAs in the MesoAmerican Barrier Reef system. We used this methodology to personally engage the capacity-building team with the outcomes. Our approach meant that each individual produced plans that reflected not only the individual's own priorities, but were tailored to that person's own abilities. Team discussion meant that personal plans were interlaced throughout the group, so that the whole became greater than the sum of the parts. Individuals then implemented their action plans with the communities that they represented.

Aims and Objectives

The key aims and objectives of the capacity building exercise were:

1. To increase the Belizean participants' capacity to lead, educate and support issues regarding sustainable development in southern Belize.
2. To promote networking throughout organizations managing marine resources, enhancing their power to collectively influence policy decisions in southern Belize.

Field Methodology

Supported by the Earthwatch Institute and the Oak Foundation in the United States, we undertook the capacity-building exercise with respect to two MPAs in southern Belize. Belize is a Central American country with a size of 8,867 square miles and a population of about 275,000, and is bordered to the north by Mexico, to the south and west by Guatemala, and to the east by the Caribbean Sea. Belize claims over 200 cayes (islands), many of which are inhabited.

There are two major coral reef areas in southern Belize: the Sapodilla Cayes Marine Reserve (SCMR, a World Heritage Site), and the Port Honduras Marine Reserve (PHMR) (Figure 1). The SCMR is a 125-km² reserve and has had a collaborative agreement with the Belize Fisheries Department and the Toledo Association for Sustainable Tourism and Empowerment (TASTE) to manage the area since its declaration in 1996. The PHMR is a 414-km² reserve and has been managed by the Toledo Institute for Development and Environment (TIDE) since its declaration in January 2000.

The capacity-building team consisted of one officer from the Belize Fisheries Department, three senior officers from NGOs involved in managing Belize MPAs (TIDE, TASTE, and Friends of Nature), and a facilitator from the United Kingdom. These individuals were chosen because they had direct contact with both NGOs and community-based organizations (CBOs) and the government fisheries department, thus maximizing exposure of capacity building while keeping the numbers of participants within workable limits. This capacity building exercise was linked with scientific underpinning of coral reef monitoring, which resulted in the finding that hurricanes and tropical storms limited the recruitment of massive corals, with consequent implications for reef managers (Crabbe et al. 2008). Daily meetings lasting between 1 and 2 hours took place on Lime Caye in the SCMR, on Abalone Caye in the PHMR, and in Punta Gorda Town, over a 10-day period in August 2007. Discussions, led by the facilitator, employed a modified nominal group technique (Sample 1984) to identify priorities related to personal action plans. Four rounds were employed; round one was based on the Delphi technique, and further rounds were based on the nominal group technique approach (McCance et al. 2007). Specifically, after initial meetings that revolved around frank discussions on the interface between the Fisheries Department and MPA management by NGOs, each participant developed a personal action plan to facilitate and improve the sustainability of the MPAs in southern Belize. There was repeated iteration of these plans between the participants, and the final production of a policy for sustainable management of both the marine reserves in the Sapodilla Cayes and in Port Honduras.



Figure 1. Coral reef marine reserves in southern Belize. The Sapidilla Cayes Marine Reserve (SCMR), in dark gray shading to the left of the figure, comprises the southern end of the MesoAmerican Barrier Reef, and includes Seal Cay, Frank's Cay, Nicholas Cay, Hunting Cay, and Lime Cay. The Port Honduras Marine Reserve (PHMR), in dark gray shading to the right of the figure, is close to the coast near Punta Gorda Town, and includes Frenchman's Cay and the Snake Cayes.

Marine Reserves and Management

Sapodilla Cayes Marine Reserve (SCMR)

The SCMR is 39 miles east of Punta Gorda Town. Currently, the Belize Fisheries Department is responsible for the day-to-day management of the SCMR. However, the Toledo Association for Sustainable Tourism and Empowerment (TASTE) has a collaborative co-management agreement with the Belize Fisheries Department to manage the SCMR. The SCMR is considered a “paper park” due to the fact that the reserve’s management plan has not been passed into law as yet, and comes under the Belize Fisheries Act Chapter 210, revised edition (2000). This prohibits commercial fishing and export without a licence, and prohibits use of poison or explosives. Moreover, zones within the SCMR are still under consultation.

The SCMR has a staff of four: a manager, a biologist, and two park rangers. Duties currently being performed at the SCMR are basically enforcement of the Fisheries Regulations and the collection of biophysical data. Current activities occurring within the reserve include daily patrols and surveillance, entry fee collection, endorsement of the management, management training for community researchers, and research and monitoring. Data collected routinely for the Fisheries Department include coral bleaching, coral resiliency, conch population, water quality monitoring, lobster surveys, fish surveys, turtle monitoring, lobster post larva data and lobster biological data, conch surveys, commercial species surveys, synoptic monitoring program (coral reef health), water quality data collection, catch and effort data collection, bird surveys, and rainfall.

Port Honduras Marine Reserve (PHMR)

The Port Honduras Marine Reserve (PHMR) is an integral part of what is known as the Maya Mountain Marine Corridor, which extends from the Maya Mountains to the barrier reef in the Toledo region of Belize. Current activities for the Fisheries Department include regular surveillance and patrols, management training for staff and community members, research and monitoring, and community outreach and education. Research and monitoring of the biological resources of the Port Honduras Marine Reserve plays an integral role in evaluating the management effectiveness of the reserve. Ongoing research activities concentrate on target biophysical indicators, and include monthly water quality assessment, underwater lobster and conch visual surveys, mangrove and seagrass biomass and composition surveys, and coral and fish surveys.

Outcomes

The key outcome was a six-month personal/professional action plan developed by each Belizean participant, outlining how each will personally and professionally strive to meet the capacity-building objectives just described, and influence policy development. Specifically, these plans involved:

- a. Tactics for leading, educating and supporting issues regarding sustainable development in southern Belize.
- b. Tactics for collaboration with other stakeholders to collectively influence policy decisions in southern Belize.

Action Plans

All participants felt that amalgamation of southern Belize NGOs—including TASTE and Friends of Nature—would be advantageous. Specifically, it would:

- Improve management of MPAs (since currently TASTE does not have full delegated authority over the SCMR).
- Improve enforcement, particularly in areas between reserves during closed season.
- Improve links to increase monitoring of key biomarkers as well as illegal activity across the three parks.
- Improve administration and operations of the two NGOs by merging their procedures and staff.

Personal action plans were written by each individual from the representative groups. Table 1 illustrates a summary action plan of all the participants, with activities, outcomes and impacts.

Discussion among the participants and facilitator as described in the Field Methodology section resulted in the generation of a series of tactics to be adopted around a number of themes. These are enumerated next, in the words of the participants.

Organization and Management

Few organization or management initiatives were taking place in the marine reserves.

Tactic 1. Establish a key leader in the organization/department to effectively manage the marine reserves on a day-to-day basis.

Tactic 2. Have a selected key leader provide general terms of reference of what is expected of staff and immediate/major stakeholders in order to easily facilitate the process of decision making.

Education

Education is vital—both after a decision has been made and for that decision to be implemented. Due to the lack of resources, the marine parks had limited forms of educating stakeholders and buffer communities. Several times vital decisions were made and only a portion of the key stakeholders were informed. Considering this, management in the longer term was not felt to be effective, especially in sustainable development of the communities around the MPAs.

Tactic 1. Financial resources need to be allocated for an education program. The program should focus on both broad and specific issues that may create friction among stakeholders in the process.

Tactic 2. A group consisting of community leaders and key/immediate stakeholders should be established to create ways and methods of educating different levels of stakeholders in the effectiveness of sustainable development in the marine parks.

Tactic 3. Surveys need to be conducted to evaluate level of success and failure. Too often programs have been formed and implemented but end results have not been evaluated. Surveys should be carried back to stakeholders for a presentation to establish further steps. Such programs will be continuous, and members may change from time to time.

Table 1. Summary action plan from the participants

Objective	Activity	Output	Outcome	Impact
a. To improve in the networking among local and international partners.	<ul style="list-style-type: none"> • Conducting meetings with partners and sharing information. 	<ul style="list-style-type: none"> • Develop a database of information that could be useful to all. 	<ul style="list-style-type: none"> • Create and improve relationships among NGOs, CBOs, and governmental agencies. 	<ul style="list-style-type: none"> • Better networking and assistance from NGOs that are more experienced and successful.
b. To educate people in the region and to create awareness among stakeholders and the community.	<ul style="list-style-type: none"> • Develop and implement a guide plan that will enable the public to learn more about marine protected areas and NGOs. 	<ul style="list-style-type: none"> • Incorporate the guide plan in primary and secondary school curriculum. 	<ul style="list-style-type: none"> • Establish a good working relationship with universities, primary schools, secondary schools, and community. 	<ul style="list-style-type: none"> • Communities and schools are aware of the impact they have on the environment and will be more engaged in decision making.
c. To develop a useful method in dissemination of information.	<ul style="list-style-type: none"> • Produce a quarterly newspaper educating the public and partners about the current issues and findings in a marine park. 	<ul style="list-style-type: none"> • Distributing research papers among other researchers and partners. 	<ul style="list-style-type: none"> • Better knowledge about what is found in the different marine parks. 	<ul style="list-style-type: none"> • Will create better awareness and will assist greatly in decision making.

Support

Without support and initiative, no planned goals or objectives can be accomplished. The Belize Fisheries Department has given what support it could with its available resources for the SCMR to accomplish monthly tasks. To enhance sustainable development, support has to come from the general public.

Tactic 1. A well-put-together presentation needs to be developed and be presented to the key authority that will have overall say in the marine parks. This will stress the support needed to accomplish both the mission and vision statements, and will have positive effects in sustainable development.

Tactic 2. Nonmonetary incentives need to be established in order to have full support of those “ignorant” stakeholders who would deter progress in sustainable development at the SCMR.

The tactics developed will require the capacity of all affected persons. However, much is to be done in acquiring financial resources. The biggest setback in development as a whole is the availability of financial resources—hence the reason for effective sustainable development tactics.

Policies

Policies being put in place at any level have a great effect on all stakeholders of a protected area. As part of representation, a protected area is comprised of an advisory board to effectively assist in policy creation and implementation. However, general stakeholder participation has to be actively involved in influencing policy decisions. At the end of the day what is portrayed by stakeholders emphasizes the steps taken in creating and implementing policies for marine parks.

Tactic 1. Establish a set of policies that is considered necessary for proper management of the marine reserves. Such policies will be established by all stakeholders involved.

Tactic 2. Create a program influencing stakeholders to adhere to such policies through an education/retreat program.

Tactic 3. Establish exchanges with other organizations in capacity building in policy creation and effective implementation.

Discussion and Conclusions

Marine reserves are an important tool in sustainable management of the Belizean coral reefs (Cho 2005; Williams and Polunin 2000). The need for case studies in building integrated coastal management capacity has been powerfully made (see, e.g., Jorge 1997; McDuff 2001; Wescott 2002). Normally, representatives of all stakeholders (including fishermen, dive-boat operators, etc.) would be included in such a capacity-building exercise. Our particular process was chosen as it represented key stakeholders in the MPAs of Belize, while being an efficient way of engaging a facilitator from abroad. Targeting a government ministry worker and policymaker is a relatively new approach in this area. Our study group members were highly focused and motivated to improve management of the Belize MPAs, and were strongly committed to both short- and long-term acceptance of the study group’s goals for

sustainability and resource management by stakeholder groups. One reason for this was the experience and responsibilities of the individuals concerned; selection as to who was in the group was a key operational factor. However, two groups were missing from the capacity-building exercise: someone from the political arena, and someone from the University of Belize. We think that it will be important in the future to involve both these sectors, the former to ensure that policy development becomes law, and the latter to ensure the sustainable monitoring of the reefs. Political engagement is of particular interest, as unlike the Great Barrier Reef, where management is the responsibility of a single country, Australia, the MesoAmerican Barrier Reef is managed by Mexico, Belize, Guatemala, and Honduras, all countries that have different management policies.

Our capacity-building case study has produced new ideas to improve organization, management, education, support, and policy development in MPAs in southern Belize. In addition, we suggest that MPAs need to share regulation, enforcement, and conservation, underpinned by scientific research. Our study reinforced the idea that cooperative research improves capacity building and encourages innovative approaches to management, as has been found in the northeastern United States and northwestern Europe (Johnson et al. 2007). All participants felt that training and capacity building to key staff members are important, since this enables them to enhance their skills in the field thus raise their standards to a certain level so as to perform better. The participants felt that this has been lacking in staff members throughout all marine parks in Belize. They also felt that networking across all levels was vital for success, as has been found for sustainable waste management in Poland and Egypt (Poulsen 2007). A major challenge for the participants in this exercise will be to maintain iterations among and between their constituent groups to ensure continued sustainability of both the reef and the fishing practices.

The involvement of a Fisheries Department officer in our capacity building has resulted in direct transfer of information from the communities to the government department. The facilitator has also directly communicated the outcomes of our study to the Director of Fisheries. The personal action plans that were produced have been implemented, taken back into their constituent communities, and the NGOs TASTE, TIDE, and Friends of Nature have been incorporated into a single self-governing organization that spans four MPAs in southern Belize. Previously, there were areas between MPAs that were not monitored or policed, resulting in much illegal fishing. The incorporation of two NGOs into one means that the areas between former MPAs, which were subject to illegal fishing activity, will now be monitored and policed. It also means greater efficiency per unit area in terms of MPA management. Our approach is also part of a wider picture in marine resource management in Belize, where, for example, communities and fishermen are being exhorted not to catch parrotfish (Scaridae), as grazing by that species is critical to reef resilience and restoration (Mumby et al. 2007). In summary, our approach is part of a complex relationship (Gray and Hatchard 2008; Crabbe 2009) linking an ecosystem-based approach to fisheries management with comprehensive stakeholder participation.

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