

Building bridges: lessons from the Arnavon Management Committee, Solomon Islands

Sango Mahanty, School of Ecology and Environment, Deakin University

Introduction

Organisational arrangements to coordinate and facilitate community action can be crucial to the functioning of equitable and sustainable resource management systems. This point has been well established in over a decade of research on common property resource management (Berkes and Farvar 1989, Alcorn 1995, Berkes and Folke 1998, Ostrom 1998, Ostrom 1999) and social capital (summarised by Flora et al 2000). Organisational arrangements intersect other crucial facets of sustainable community-based natural resource management, including opportunities for ecologically and economically sustainable development and capacity building (see Keen and Lal, this issue).

The question of how organisational arrangements for community-based natural resource management may deal with wider scale issues is starting to receive attention (see Ostrom 1999). This is an important area for further reflection and research, because in many cases coordination beyond a specific settlement or user group may be needed to secure the sustainable management of resources.

The social capital of a community refers broadly to the resources embedded in social structures and processes that can be tapped for purposeful actions. These resources can be channelled towards sustainable resource management, and they include the rules and norms that guide and motivate individuals, and the organisational arrangements that facilitate community cohesion, interaction and joint action (Lin 2001). When resource management issues involve a number of different user communities and non-resident stakeholders (such as government and other interest groups), the capacity to build networks between the various communities also becomes important. Coordination between various resource-using communities may be necessary to avoid resource depletion. Government agencies and other stakeholders can support local initiatives through policy and legislation, as well as by mobilising additional resources to deal with the issues at hand. These links and relationships between various participants have been referred to as 'bridging capital' (Flora et al 2000).

This article examines the case of a 'bridging institution', the Arnavon Marine Conservation Area Management Committee (AMC). The AMC oversees the management of the Arnavon Islands Marine Conservation Area in Isabel province, Solomon Islands. The discussion is based on field research undertaken over 1998 and 1999. During this trip, interviews were conducted with individual AMC members, observations were made during an AMC meeting, and a workshop was held as part of the meeting to explore the functioning of the AMC with its members.

The marine conservation area and the formation of the AMC

The Arnavon Islands lie between the islands of Isabel and Choiseul in the north-west Solomon Islands. Surveys by the government since the 1970s have established that the Arnavon Islands was a regionally significant hawk's-bill turtle rookery (AMC 1994). In 1981, the government attempted to protect the rookery from the increasing trade in turtle shell (bekko) by declaring the area a wildlife sanctuary, but this effort failed because of community resistance to the sanctuary.

The Arnavon Islands are officially government land, but the Sisiga and Volaikana tribes from the neighbouring villages of Kia (Santa Isabel) and Posarae (Choiseul) continue to claim customary rights over the area. Members of the Gilbertese community, who settled on nearby Waghena Island (Choiseul) in the 1960s, became the main users of marine resources from the area. Informal discussion between government, The Nature Conservancy (an advisory and donor organisation) and these three communities in the early 1990s found the Kia and Posarae people willing to support a conservation project, provided their rights to use the resources of the area were recognised and they were involved in managing the project. Village workshops in all three communities established that some mechanism was needed to coordinate resource management with the other groups that used and claimed rights over the Arnavons area.

The Arnavon Management Committee was established at a meeting of the three communities and government in Honiara in December 1993. Each of the communities selected representatives to travel to Honiara and meet with representatives from key government ministries and the provincial government. This meeting was a landmark in the partnership that was to evolve between these groups. The committee that emerged from the meeting included one representative each from the Ministry of Forests, Environment and Conservation, The Nature Conservancy (TNC), and provincial fisheries officers from Isabel and Choiseul, and two representatives from each of the Kia, Waghena and Posarae communities.

The committee has formal terms of reference that include:

- periodically reviewing management rules as needed, with a major review at least every three years, and an annual review of the management plan (originally agreed in 1994);
- enforcing management rules through supervision of wardens' activities;

- acting as a channel of communication between communities, provinces and project coordinators;
- advising national and provincial government on the Arnavons area; and
- deciding on conservation and research activities in the conservation area and supporting the work of project researchers (AMC 1994).

The AMC: roles and issues

Networking across scales

The AMC enabled the development of networks between resource-using communities, national and provincial governments and a key donor agency, The Nature Conservancy. This cross-scale interaction between interested parties had a number of benefits.

First, the involvement of national and provincial governments engaged policy and legislative institutions in supportive ways. The *National Fisheries Act 1972*, for instance, supported conservation of specific species such as turtles, blacklip and goldlip pearl oysters, and certain species of bêche-de-mer. Local implementation of such restriction was often constrained by limited resources. Nevertheless, such institutions were there to be harnessed in developing resource management strategies for the area.

Second, provincial governments had a key role in supporting fisheries development in the area, for instance, in Kia, an enterprise funded through a different project promoted deep-sea fishing as an income-generating venture. Isabel province also played an important role in supporting management arrangements for the Arnavons area, by formalising its management plan under provincial law.

Third, the involvement of international bodies such as TNC, as well as the national government, enabled the AMC to access international funding for various project activities. For instance, assistance was gained from the Biodiversity Conservation Network, the South Pacific Regional Environment Program and the Japanese government. Government and international members of the AMC were also able to access technical advice on various aspects of resource management and development, which supported the work of the AMC in various ways.

While such links are beneficial to a community, they have to be carefully managed to ensure that the community does not become captive to outside agendas or development processes. For example, in 1995, the AMC decided, on the advice of a consultant from the Biodiversity Conservation Network, to pursue a fisheries enterprise in the three communities to provide an alternative income stream to fishers excluded from fishing in the Arnavons area. An existing fisheries centre in the Posarae area was expanded, and a new centre was established at Waghena. Kia fisheries centre was already receiving support from a countrywide fisheries development project of the European Union. The centres purchased fish from local fishermen, particularly targeting deep-sea species, such as snapper, to be sold to the international market through a distributor in Honiara.

This program raised important issues for the AMC regarding the suitability of the enterprise and the need to work with the project cycles and management systems of donor agencies. Because of the complexity of these requirements, much of the liaison with external donor agencies occurred through the members of international and national bodies represented on the AMC. These staff had the capacity to work with donor project cycles, and therefore inevitably had a strong role in the management of specific donor-funded initiatives such as the fisheries enterprise. The benefits of accessing external resources also therefore brought with them the challenge of fitting into the frameworks and models of external parties, and had consequences for the internal dynamics of the committee.

Representation and constituencies

The link between the AMC, a representative body, and the constituencies it represented was very important. Two key challenges for the AMC were how to balance recognition of traditional leadership with breadth and equity in representation, and how to ensure communications between representatives and the diverse groups that comprised their communities.

Most community representatives on the AMC were chiefs, elders and leaders in their communities, and there were no female members. This reflected traditional patterns, where leadership is based on position in the community or clan, and men primarily enjoy formal power. While the original management plan envisaged a three-year term for community representatives, in reality there was little turnover in community membership.

The continued involvement of original AMC members made for a reasonably cohesive organisation, where members worked well together. Change in community membership could have diminished this cohesion in the short term, but could have permitted different groups in the community to be involved, and introduced new ideas and debate to the AMC. The system of selection and representation privileged traditional systems of leadership and existing power relations over broad participation. This, in turn, had important implications for the functioning of the AMC in its resource management and coordination roles.

There were also weaknesses in the degree and breadth of communication between committee members and sections of their communities. For instance, in the Posarae area, there was thought to be poor communication between the AMC and women and youth. In Waghena, groups such as subsistence fishers and farmers, church groups and youth were not fully involved with the work of the AMC. In Kia, participation links were stronger with two sub villages, because of lineage and their traditional ties to the Arnavons area. Some community representatives acknowledged that these weaknesses needed to be addressed by more regular discussions with groups in their communities.

Formalising relationships with communities

When it came to the development of a fisheries enterprise, the AMC formalised its relationship with the participating

communities through a memorandum of understanding (MOU) between the AMC and the Posarae and Waghena communities. The MOU clarified community responsibilities in relation to the conservation area in exchange for the establishment of fisheries centres, and delineated management responsibilities and obligations. This was important, because a lack of clarity in roles and responsibilities has been found elsewhere to increase the risk of conflict between parties and hinder collaborative relationships in conservation and development projects (Mahanty and Russell 2002).

The MOU did not, however, guarantee good communication between the fishing committees — established to manage the fishing enterprise — and the AMC. Interviews in Waghena highlighted a weak link between its fishing committee and AMC members there, and the two were seen as having different realms of responsibility. Such factors weakened the link between the enterprise and conservation arms of the Arnavons project. The economic and financial feasibility of the enterprise was further weakened by economic factors such as transport difficulties and the low selling prices of products (Biodiversity Conservation Network 1999a).

The above discussion indicates that, while formalising agreements can be important in defining the roles and responsibilities of parties, it is not a substitute for, nor does it reduce the need for, strong communication links and networks across the diverse range of groups involved. Indeed, given some of the shortcomings in community-level communication noted earlier, it may have been useful to formalise both expectations and communication strategies with AMC members.

Managing resource depletion

A key achievement of the AMC was the development of a management system for an area that was previously open access. The committee gained agreement from representatives of diverse communities to a set of rules regulating resource use that are embodied in the management plan for the area. The results of monitoring surveys indicated that the hawks-bill turtle population was recovering, which was a key resource management objective driving the reservation of the Arnavons area (see Biodiversity Conservation Network 1999b). At the same time, finding a resource management regime that had the support of all the resource-using groups was a difficult task, as a core of people disagreed with the management rules, or were so significantly affected that they were motivated to poach in the core conservation area.

The question of how to engage such dissident groups towards shared management objectives and rules is a complex one. Should enforcement be used to ensure compliance? Should resource use restrictions be weakened to take account of these groups' views? What kinds of incentives and alternatives might persuade dissident groups to comply with rules voluntarily? These issues cannot be explored in detail within the scope of this article, but are key questions for bodies such as the AMC. Strategies such as awareness

and education, community consultation and creating fisheries enterprises were expected to diminish the reliance on enforcement. However, weaknesses in these program areas may have contributed to an ongoing reliance on enforcement instead of voluntary compliance.

Learning by doing

The AMC, with guidance from researchers in partner organisations, established monitoring systems to gain feedback on the social and ecological effects of project activities. This is an important facet of the adaptive management approach which has gained favor in the resource management arena, where ecological systems and the societies that interact with them are complex and changing (Holling et al 1998, Borrini-Feyerabend et al 2000). These systems could have allowed the AMC to assess the impacts and effectiveness of activities, and modify these. In this respect, the project was innovative for its time, and some important lessons have emerged for a 'learning by doing' approach.

Communication between technical experts and local representatives and participants was a key issue. The AMC was involved in approving the monitoring program, and conservation officers were trained to assist in monitoring activities. Survey teams also held community meetings following survey activities in the area to outline the main issues and findings. However, committee members commented during interviews that the survey findings were expressed in quite 'technical' terms, and had not yet been used in their decision making.

The Arnavons project also incorporated a socioeconomic monitoring program, which started with surveys in 1993 to establish the extent of use of the Arnavons area and its significance to neighbouring villages. This was followed up with a baseline study in 1995 based on group discussions and workshops in the Kia, Waghena and Posarae areas. An outside adviser wrote up the baseline data, and there was little local involvement in data collection or analysis (Mahanty 1995).

The next phase involved training for community monitoring teams, who were to monitor social and economic issues associated with the project, including community views and the degree of participation by groups such as women. On the face of it, this socioeconomic monitoring program faltered because of logistical and support issues, but below the surface lay deeper questions regarding the incentives for local participation in monitoring activities, and whether local participants should receive remuneration for work undertaken for community, rather than individual, benefit.

The critical task of bridging scientific and traditional knowledge systems as a basis for resource management is particularly important in the move towards learning systems (Liddle and Young 2001). This is not an easy process, and in the Arnavons case it raised questions about incentives for local participation in monitoring, and the need for planning and methods to take account of local needs and knowledge.

Conclusion: lessons from the AMC

The experiences of the AMC hold a number of important lessons about building bridges in community-based natural resource management. The research found that the AMC played a key role in coordinating the activities of diverse stakeholders in resource management. In particular, it enabled networking between diverse and, at times, conflicting groups of stakeholders that contributed to the development of a resource management system for an area that was previously openly accessible. It also provided access to financial and technical resources to support local initiatives. In fulfilling this role, the AMC also faced a number of challenges.

There was a fine balance to be struck between maintaining links between members and their constituent groups and building a cohesive and vital management body. While the internal cohesiveness of the AMC was relatively strong, which was important when there was conflict between communities, the links to diverse groups within the communities were weak. Improving this situation would have required better communication between representatives and the diverse groups that comprised their communities, and possibly a greater sharing of representation opportunities within communities. Formalising relationships between the AMC and communities was important in clarifying roles and responsibilities, but the lack of effective communication diminished the effectiveness of formal agreements.

The Arnavons case indicates that the process of creating a resource management system where none is in existence is a long-term task involving many challenges. A key problem for the AMC was how to engage the wider resource-using community in the management regime for the area. When this research was done, the system relied strongly on costly enforcement to achieve resource management objectives. Weaknesses in incentives for change, community awareness and education, and networks between the AMC and communities may have contributed to this reliance on enforcement.

Finally, the research found that the AMC was innovative in its emphasis on monitoring systems that fed into decision making. However, its experience also indicates that it is important that such systems engage the full range of stakeholders, and bridge local and technical knowledge systems. The mechanics of doing this may involve issues of recompense for those community members who give up their time and resources for community-oriented objectives.

As recognition of the value of community-based approaches to natural resource management has grown, the challenge now facing rural communities and supportive organisations is how best to organise collaboration between the various communities of interest. The AMC case highlights both the value of such collaboration, and the challenge of making it socially, economically and ecologically workable.

Acknowledgements

This research was undertaken in 1998 and 1999 under a grant from the Biodiversity Conservation Network, part of the Biodiversity Support Program, a consortium of the World Wildlife Fund (US), The Nature Conservancy and the World Resources Institute, and financed by the United States Agency for International Development.

References

- Alcorn, JB 1995, 'Indigenous peoples and conservation', in Ehrenfeld, D (ed), *Readings in Conservation Biology*, Blackwell Science and the Society for Conservation Biology, Cambridge, Massachusetts.
- AMC (Arnavon Marine Conservation Area Management Committee) 1994, *Arnavon Marine Conservation Area Management Plan*, The Nature Conservancy, Honiara.
- Berkes, F and MT Farvar 1989, 'Introduction and overview', in Berkes, F (ed), *Common Property Resources: Ecology and Community-based Sustainable Development*, Belhaven Press, London.
- Berkes, F and C Folke 1998, 'Linking social and ecological systems for resilience and sustainability', in Berkes, F and C Folke (eds), *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*, Cambridge University Press, Cambridge.
- Biodiversity Conservation Network 1999a, *Evaluating Linkages between Business, the Environment and Local Communities*, World Wildlife Fund (US), Washington DC.
- Biodiversity Conservation Network 1999b, *Synopsis of the BCN Results Dissemination Workshop, February 4 1999*, Environmental Education Center, Miriam College, Manila, Philippines, Biodiversity Conservation Network, Manila.
- Borrini-Feyerabend, G, MT Farvar, JC Nguingiri and VA Ndangang 2000, *Co-management of Natural Resources: Organising, Negotiating and Learning-by-Doing*, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), the World Conservation Union (IUCN), Kasperek Verlag, Heidelberg.
- Flora, CB, S Gasteyer, E Fernandez-Baca, D Banerji, S Bastian and S Aleman 2000, 'Local participation in research and extension for conservation and development of natural resources: a summary of approaches', paper presented at the sixteenth meeting of the International Farming Systems Association, Santiago, Chile, 30 November.
- Holling, CS, F Berkes and C Folke 1998, 'Science, sustainability and resource management', in Berkes, F and C Folke (eds), *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*, Cambridge University Press, Cambridge, UK.
- Liddle, L and E Young 2001, 'Bridging the communication gap', in Baker, R, J Davies and E Young (eds), *Working on Country: Contemporary Indigenous Management of Australia's Lands and Coastal Regions*, Oxford University Press, Melbourne.
- Lin, N 2001, *Social Capital: A Theory of Social Structure and Action*, Cambridge University Press, Cambridge.

Mahanty, S 1995, Arnavon Islands Marine Conservation Project: Community baseline study for the socioeconomic monitoring program, Unpublished report to the South Pacific Regional Environment Programme and the Arnavon Marine Conservation Area Management Committee.

Mahanty, S and D Russell 2002, 'High stakes: working with stakeholders in the biodiversity conservation network', *Society and Natural Resources*, 15, 179–88.

Ostrom, E 1998, 'Coping with tragedies of the commons', Unpublished paper presented to the 1998 annual meeting of the Association for Politics and the Life Sciences, Boston, Massachusetts, 3–6 September.

Ostrom, E 1999, *Self-governance and Forest Resources*, Center for International Forestry Research, Bogor, Indonesia.