

## EDITORIAL

# Reflecting on the next generation of models for community-based natural resources management

**THEMATIC SECTION**  
Community-based natural  
resource management  
(CBNRM): designing the  
next generation (Part 1)

Community-based natural resource management (CBNRM) has been a pervasive paradigm in conservation circles for three decades. Despite many potentially attractive attributes it has been extensively critiqued from both ecological and sociological perspectives with respect to theory and practice (for example Leach *et al.* 1999; Berkes 2004; Fabricius *et al.* 2004; Blaikie 2006). Nonetheless, many successful examples exist, although an equal number have seemingly not met expectations. Is this because of poor implementation or rather a generally flawed model? If the criteria and conditions for success are so onerous that relatively few projects or situations are likely to qualify, what then is the value of the model? The questions thus become: how and what can we learn from the past theory and practice to develop a new generation of flexible, locally responsive and implementable CBNRM models, and what are likely to be the attributes of such models?

In recognizing the above, the editorial team of *Environmental Conservation* felt the topic was worthy of a themed section of the journal as a means of prompting renewed reflection on CBNRM. The call for the themed issue on CBNRM was advertised in April 2009. Within a matter of weeks we had received dozens of queries asking for more details, notes informing us of the intention of the sender to submit a paper by the due date, or authors sending us an abstract and enquiring whether or not the content would be suitable for the themed issue. In total we received over 60 papers by the due date, and a couple of dozen enquiries after the deadline. There was broad geographic coverage apart from South America. Given this level of submissions, CBNRM research is alive and well, spanning most major biomes of the world, dealing with large multi-million dollar programmes down to small local efforts, and programmes conceived and driven by external agencies through to endogenous initiatives. Thus, despite its imperfections, CBNRM is happening on the ground and researchers are actively engaged in assessing the conditions for success.

In posing the sub-theme ‘designing the next generation of models’, we wished to stimulate debate on (1) what are the essential ingredients of CBNRM (i.e. when is a project or approach CBNRM?), (2) what are the key lessons of the last three decades, and in particular, (3) what is needed to move CBNRM theory and practice forward in a manner that builds upon the successes and limits or eliminates often encountered shortcomings. This editorial serves to reflect upon the response of researchers and practitioners worldwide to the call for papers for the themed issue on CBNRM. It poses questions that prompt reflection on the state of CBNRM

knowledge stemming from the response to the call for papers, especially the state of CBNRM research, the extent to which participatory processes are being equated with management, and the relationship of CBNRM theory and practice to protected area management.

### The community dimension of CBNRM

The vast majority of CBNRM case studies report on programmes that are conceived and designed by agencies external to the local people residing in the target area. Typically these are planning officers in conservation agencies, development planners, or external funders and consultants. It is not surprising therefore, that the planned CBNRM programme allocates significant budget, time and expertise to engage with communities and develop some sort of participatory fora for discussion and perhaps even planning. Engaging communities and engendering participation is frequently a long and arduous process, and is prone to many surprises and setbacks (Sayer & Campbell 2004). However, it is clear from many of the programmes reported upon that such a participation phase is then viewed as the equivalent of community-based management; simply talking to, or with, the community, is construed as the community now managing the natural resources. But actual physical management of the resources remains largely in the hands of conservation or project staff. Thus, in many instances there is a lack of distinction between communication with communities, community participation in objective setting and management by communities.

The conflation of communication with management is because a noteworthy proportion of CBNRM initiatives are actually located around formally declared protected areas. For many such areas, their declaration resulted in loss of ownership or loss of access to land (or waters) and resources by local communities (Brandon & Wells 1992; Brockington & Igoe 2006; Suich *et al.* 2009). Consequently, with the intention of fostering some positive attitudes towards conservation officials and programmes after such losses, the conservation agencies implement outreach programmes, to channel some benefits to local communities (Adams & Hutton 2007). Such programmes often take the guise of job creation or skills development to make neighbouring communities less dependent on the natural resource base in and around the protected area, with mixed success. Is such a model CBNRM? Where is the community involvement in actual management of the natural resources either in or around the protected area? Can the

development of sewing or agricultural self-help groups, or the opening of a back-packers lodge with locally recruited employees, be construed as actual resource management?

In focusing on the word 'management' two issues became apparent. Firstly, in comparison to the numerous papers submitted describing either people and parks programmes, or externally initiated and supported programmes, there is very little research into situations where communities are the management agencies. Why is this so? Examples abound, such as: voluntary landowner conservancies in southern Africa (Downsborough *et al.* 2010); self-organized and functional common-property systems in fisheries and rangelands (for example Ashenafi & Leader-Williams 2005; Ko *et al.* 2010); community protection of forests for resources and watershed services in Kalimantan (Sidiyasa *et al.* 2006); harvesting restrictions and taboos in sacred forest by communities in India and southern Africa (for example Byers *et al.* 2001; Laloo *et al.* 2006); community protection and management of swamp forest in Uganda (Lepp & Holland 2006); and community initiatives to manage inland and coastal fisheries around the world (for example Leal 1998). Analysis of such examples may provide useful pointers for the externally designed programmes, yet there appears to be a dearth of research, or, if that is incorrect, then these endogenous, largely unassisted initiatives are not being labelled as CBNRM.

Secondly, even in externally designed and implemented programmes there is limited analysis of when the resources can be deemed to be managed by the community. Is some representation on a management board of a protected area sufficient to be deemed as management and hence labelled as CBNRM? Does a policy of favouring local people for employment in a protected area or programme make it a CBNRM programme? Are regular meetings with community fora to hear their concerns and needs the same as community management? Must community hold the power and set the objectives and management decisions for the land and resources in question? Must community have the rights that go with the responsibilities for managing 'their' resources? Is it all of these? There is no answer as yet, but a cursory scan of the papers submitted indicates that there are wide interpretations of what is meant by community management and as yet little reflective analysis and debate of how this may shape the outcomes achieved. A programme that devolves or moves to recognize existing community rights and responsibilities can be expected to have different outcomes in terms of resource conservation and local welfare goals from one that sets up participatory fora to discuss and guide the management actions of external agencies.

In promoting community participation and benefits as part of CBNRM theory and practice, most reporting has been about (1) participation in decision-making or planning fora, (2) contributions to household incomes either in cash or kind, and (3) contributions to development of community infrastructure (such as roads, schools, clinics, crèches) and capacity development (such as paying a teacher's salary, training courses, bursaries for further studies). In contrast,

relatively little commentary reflects upon the longer lasting and more pervasive concerns regarding development of trust between the different parties (Stern 2008) and the relative power relations between different stakeholders, their rights, equity and justice (Ribot 1999; Kull 2002). These are particularly pertinent with respect to intra-community dynamics. Thus, the scale of analysis needs to burrow down and examine who gains, who loses and why, and what mechanisms can be developed within CBNRM frameworks to promote greater rights, security of such rights, equity and justice between stakeholders and within geographically delineated communities. This moves the conceptualization from one centred largely around handing over responsibilities to community agencies towards greater recognition and enactment of rights of communities to resources and land (Agrawal & Ostrom 2001; Kull 2002).

### **Achievement of conservation outcomes**

Numerous submissions indicated that many initiatives labelled as CBNRM have an inherent bias towards either conservation outcomes or community development outcomes, and relatively few can convincingly demonstrate achievement in both of these dimensions. This may also reflect the disciplinary perspectives of the researchers, being either from social sciences or the natural sciences. CBNRM has long been advocated and is a darling of funding agencies because it is a model conceived to achieve positive outcomes for both conservation of species or landscapes and livelihoods of neighbouring or participating communities and households (Adams & Hutton 2007). Yet, the number of papers submitted that could credibly and convincingly show where both sides win, were relatively few. That does not insinuate that outcomes benefiting all parties are rarely attained, because it may also be that only one side of the equation has been measured or assessed. It does demand that greater attention is provided to monitoring and assessing both dimensions.

Although CBNRM has been around for three decades, there appears to be insufficient monitoring and longitudinal analysis to verify much of its claims. This relates to both the outcomes as well as the process. On the first, many case studies imply or claim benefits, but lack the data and information to verify those claims, with some noteworthy exceptions, such as Zimbabwe's CAMPFIRE programme (Taylor 2009). This is especially so for the conservation outcomes, which are implied simply because an area of ground or waters is no longer subject to as much land transformation or resource extraction pressures as formerly. In terms of longitudinal analysis, the predominant CBNRM model appears to be one driven largely by agencies external to local communities who are tasked with implementing a CBNRM programme in a prescribed period within a set budget. This is done, and after the prescribed implementation period (3–10 years), the programme is evaluated, declared a success or a failure and the external agency hands over to local players for some level of capacity building (for example see Baral & Stern

2010). However, there is limited assessment through time as the programme evolves, and there is almost no learning assessment at periodic intervals after the external agency has left. Consequently, there is a plethora of one-off assessments and the power of longitudinal analysis is absent for most programmes. This implies two things. Firstly, that adaptive management and social learning are not being integrated into CBNRM programmes, even though they were recognized as essential even in early discourse around CBNRM (Fabricius *et al.* 2004). Secondly, just because a one-off assessment or evaluation judges a particular CBNRM initiative to have failed to reach the planned outcomes, it does not mean the initiative has failed or will not meet some of the criteria sometime in the future. Participation, development or conservation outcomes take time, are complex, and do not advance in a linear fashion; frequently they might not meaningfully attain hoped for levels within a prescribed period of time (Sayer & Campbell 2004; Reed 2008). But longitudinal monitoring and assessment may well show that the process is positive and that the trajectory of change is towards hoped-for outcomes. The assessment question then becomes one not simply of success or failure of the CBNRM initiative, but of the change process itself. If the next generation of CBNRM models is to be designed, it is essential that the evolution of CBNRM programmes in particular be understood, how different contexts and role-players shape the outcomes, and how flexibility and resilience can be built into the CBNRM programmes and their prospective outcomes (Muñoz-Erickson *et al.* 2007).

### Emerging considerations

The successes and failures of CBNRM theory and practice have been extensively debated (Fabricius *et al.* 2004). There is excellent understanding within the academic and research fraternity of the criteria that foster positive outcomes and limit constraining ones. However, this wealth of knowledge and understanding is insufficiently used in planning and implementation of CBNRM programmes on the ground. Why this is so remains unclear. It may be because the understanding in academic and research circles is inadequately communicated to CBNRM consultants, conservation agencies and practitioners; this is a classic research-implementation gap (Bradshaw & Borchers 2000; Briggs 2006). Might it be that principles are unrealistic and therefore extremely difficult to implement on the ground? Or perhaps the principles point to interventions and programmes that would take more time and budget than most agencies are willing or able to commit? It may be because the external agencies retain the locus of control and are consciously or unconsciously unwilling to embrace situations where power and rights are transferred to local communities. The reasons need to be investigated, because it is only then that current knowledge and understanding will be harnessed and implemented towards strengthening CBNRM initiatives on the ground.

CBNRM can trace its widespread recognition back to the World Conservation Strategy of the early 1980s and the

debates and outcomes of the 1982 World Parks Congress (Roe 2008). Consequently, CBNRM design and evaluation criteria predate the discourses associated with the conceptualization and research into complex socioecological systems that have accelerated over the last decade (Berkes *et al.* 2003). Although there is only limited evidence of these debates in the recent CBNRM literature, it is growing, and we have little doubt that these new discourses have relevance for CBNRM debates and the design principles for CBNRM programmes. Key contributions relate to (1) the necessity and value of viewing ecological and social systems as intimately linked, rather than separate entities that need to be brought together, (2) the benefits of systems analysis, (3) a renewed emphasis on the merits of iterative and social learning processes, and (4) emphasis on the need to develop adaptive capacity within each and across both the ecological and social dimensions.

### Concluding comments

The intention of this editorial is to stimulate greater reflection about what CBNRM is and what it could be. At the moment CBNRM is applied to a wide array of circumstances and models. A typology is required of the different sorts of 'community-based' interventions to lend clarity to the debates regarding criteria for success or failure. This would not be with the intention of isolating or idolizing one or another model of CBNRM over others, but rather, by classifying the attributes of different forms, researchers and practitioners will be better able to predict potential barriers and outcomes. With the current confusing array, the ability to identify general and practical guidelines is hindered. The development of such predictive typologies is however compromised by the fact that CBNRM is a dynamic process, and so the nature of the benefits, outcomes, participation and power relations change through time. Nonetheless, key axes within such a typology would need to relate to (1) who has the power, who is driving the process, (2) who 'owns' the resources and has broadly recognized discretion to use them, and how they are used or disposed, what the rights of the different actors are and how these rights are negotiated, (3) who receives the benefit streams from the resources, how equitably they are distributed, (4) what the nature of the management is, whether it is fences and fines with some compensatory outreach, or maintains the status quo, whether it is active, if adaptive, whether it incorporates local knowledge, and (5) who implements and monitors the agreed management strategies and practices. In tying these together, the next generation of a suite of CBNRM models will be more applicable to local context and dynamics.

### References

- Adams, W.M. & Hutton, J. (2007) People, parks and poverty: political ecology and biodiversity conservation. *Conservation and Society* 5: 147–183.

- Agrawal, A. & Ostrom, E. (2001) Collective action, property rights, and decentralization in resource use in India and Nepal. *Politics and Society* 29: 485–514.
- Ashenafi, Z.T. & Leader-Williams, N. (2005) Indigenous common property resource management in the Central Highlands of Ethiopia. *Human Ecology* 33: 539–563.
- Baral, N. & Stern, M.J. (2010) Looking back and looking ahead: local empowerment and governance in the Annapurna Conservation Area, Nepal. *Environmental Conservation* DOI: 10.1017/S0376892909990269.
- Berkes, F. (2004) Re-thinking community-based conservation. *Conservation Biology* 18: 621–630.
- Berkes, F., Colding, J. & Folke, C., eds (2003) *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change*. New York, NY, USA: Cambridge University Press: 393 pp.
- Blaikie, P.M. (2006) Is small really beautiful? Community-based natural resources management in Malawi and Botswana. *World Development* 34: 1942–1957.
- Bradshaw, G.A. & Borchers, J.G. (2000) Uncertainty as information: narrowing the science-policy gap. *Ecology and Society* 14: online [www document]. URL <http://www.ecologyandsociety.org/vol14/iss1/art7/>
- Brandon, K.E. & Wells, M. (1992) Planning for people and parks: design dilemmas. *World Development* 20: 557–570.
- Briggs, S.V. (2006) Integrating policy and science in natural resources: why so difficult. *Ecological Management and Restoration* 7: 37–39.
- Brockington, D. & Igoe, J. (2006) Eviction for conservation: a global overview. *Conservation and Society* 4: 424–470.
- Byers, B.A., Cunliffe, R.A. & Hudak, A.T. (2001) Linking the conservation of culture and nature: a case study of sacred forests in Zimbabwe. *Human Ecology* 29: 187–218.
- Downsborough, L., Shackleton, C.M. & Knight, A.T. (2010) The potential for conservancies to achieve conservation planning goals in South Africa. *Biological Conservation* (in press).
- Fabricius, C., Koch, E., Turner, S. & Magome, H., eds (2004) *Rights Resources and Rural Development: Community-Based Natural Resource Management in Southern Africa*. London, UK: Earthscan: 304 pp.
- Ko, J.Y., Jones, A.G., Heo, M.S., Kang, Y.S. & Kang, S.H. (2010) A fifty-year production and economic assessment of common property-based management of marine living common resources: a case study for the women divers communities in Jeju, South Korea. *Marine Policy* (in press).
- Kull, C.A. (2002) Empowering pyromaniacs in Madagascar: ideology and legitimacy in community-based natural resource management. *Development and Change* 33: 57–78.
- Laloo, R.C., Kharlukhi, L., Jeeva, S. & Mishra, B.P. (2006) Status of medicinal plants in the disturbed and the undisturbed sacred forests of Meghalaya, northeast India: population structure and regeneration efficacy of some important species. *Current Science* 90: 225–231.
- Leach, M., Mearns, R. & Scoones, I. (1999) Environmental entitlements: dynamics and institutions in community-based natural resource management. *World Development* 27: 225–247.
- Leal, D.R. (1998) Community-run fisheries: avoiding the ‘tragedy of the commons’. *Population and Environment* 19: 225–245.
- Lepp, A. & Holland, S. (2006) A comparison of attitudes toward state-led conservation and community-based conservation in the village of Bigodi, Uganda. *Society and Natural Resources* 19: 609–623.
- Muñoz-Erickson, T.A., Aguilar-González, B. & Sisk, T.D. (2007) Linking ecosystem health indicators and collaborative management: a systematic framework to evaluate ecological and social outcomes. *Ecology and Society* 12: online [www document]. URL <http://www.ecologyandsociety.org/vol12/iss2/art6/>
- Reed, M.S. (2008) Stakeholder participation for environmental management: a literature review. *Biological Conservation* 141: 2417–2431.
- Ribot, J.C. (1999) Decentralisation, participation, and accountability in Sahelian forestry: legal instruments of political-administrative control. *Africa* 69: 23–65.
- Roe, D. (2008) The origins and evolution of the conservation poverty debate: a review of key literature, events and policy processes. *Oryx* 42: 491–503.
- Sayer, J. & Campbell, B. (2004) *The Science of Sustainable Development: Local Livelihoods and the Global Environment*. Cambridge, UK: Cambridge University Press: 268 pp.
- Sidiyasa, K., Iwan, Z. & Iwan, R. (2006) The forests of Setulang and Sengayan in Malinau, East Kalimantan: their potential and the identification of steps for their protection and sustainable management. CIFOR, Bogor, Indonesia: 142 pp.
- Stern, M.J. (2008) Coercion, voluntary compliance and protest: the role of trust and legitimacy in combating local opposition to protected areas. *Environmental Conservation* 35: 200–210.
- Suich, H., Child, B. & Spenceley, A., eds (2009) *Evolution and Innovation in Wildlife Conservation: Parks And Game Ranches To Transfrontier Conservation Areas*. London, UK: Earthscan: 432 pp.
- Taylor, R. (2009) Community based natural resource management in Zimbabwe: the experience of CAMPFIRE. *Biodiversity and Conservation* 18: 2563–2583.

C.M. SHACKLETON, T.J. WILLIS, K. BROWN AND  
N.V.C. POLUNIN