

Insights and Applications

From Collaboration to Conservation: Insights From the Okavango Delta, Botswana

JOSEPH E. MBAIWA

Okavango Research Institute, University of Botswana,
Maun, Botswana

AMANDA STRONZA

Department of Recreation, Park, and Tourism Sciences,
Texas A&M University, College Station, Texas, USA

URS KREUTER

Department of Ecosystem Sciences, Texas A&M University,
College Station, Texas, USA

This article summarizes 10 years of ethnographic research in the Okavango Delta and describes how local communities are collaborating with government, tour operators, and conservationists to manage wildlife through the Community-Based Natural Resource Management (CBNRM) program. CBNRM channels social and economic benefits to communities in exchange for their participation in wildlife conservation. Benefits include secured access to land, institutional support, employment, and share of profits from wildlife tourism. By some accounts, CBNRM has effectively achieved co-management and wildlife conservation; by others, the program has achieved only rhetorical success. We highlight collaboration between social actors at various levels—community, government, tourism industry, international nongovernmental organizations (NGOs)—as one indicator of success. We then consider the steps that need to be followed to ensure that collaboration leads to long-term conservation. Experiences from this case may provide insights for co-management and conservation in other places where the fate of biodiversity and local livelihoods are entwined.

Keywords co-management, collaboration, community-based natural resource management, tourism, wildlife

Biodiversity loss is a concern of global proportions. Areas that are rich in biodiversity and also face threats of significant degradation have been designated “hotspots” by some conservationists (Mittermeier et al. 2000; Jepson and Canney 2001; Orme et al. 2005). For at least two decades, international conservation organizations

Received 5 November 2007; accepted 19 January 2010.

Address correspondence to Joseph E. Mbaiwa, Okavango Research Institute, University of Botswana, Private Bag 285, Maun, Botswana. E-mail: JMbaiwa@orc.ub.bw

and development agencies have collaborated with communities to co-manage and protect biodiversity (Stevens 1997). Many scholars argue that indigenous and local peoples can and should play a significant role in biodiversity conservation (Berkes 1999; Colchester 2004; Sayer and Campbell 2004; Folke 2006). More pointedly, some argue that ignoring the knowledge and practices of local people and restricting their participation ensures failure for conservation (Wilshusen et al. 2002).

Collaborative efforts have generally followed the paradigms of sustainable development (Daly 1991), integrated conservation and development (Newmark and Hough 2000), and community-based conservation (Gibson and Marks 1995; Western and Wright 1994). Collectively, these represent people-centered approaches to conserving biodiversity (Hackel 1999). They begin with a consideration of the needs and incentives of local people, and then establish economically, culturally, and socially appropriate strategies for conservation (Wells 1992).

A number of scholars have questioned the effectiveness of people-centered approaches to conservation (Oates 1999; Terborgh 1999). Locke and Dearden (2005) argue that a focus on people comes at the expense of "wild biodiversity," thus undermining the purpose of strictly protected reserves. This and similar critiques have led to a resurgence of the park model for conservation, which returns decision-making authority to policymakers and national governments (Redford et al. 1998; Bruner et al. 2001). However, many social scientists and indigenous rights advocates insist that a return to the park model is problematic for several reasons. For one, people-centered conservation emerged in response to the fact that "Yellowstone models" had failed in the first place to conserve biodiversity, especially in the developing world where human needs are particularly acute (Steelman 2002; Sirua 2006). Second, parks have historically been associated with the removal of traditional peoples from their native lands, making them "conservation refugees" (Ghimire and Pimbert 1997; Dowie 2009). Parks also hinder subsistence peoples from providing for their own livelihoods, thus engendering poverty and dependency and, ironically, increasing border pressures on parks (Colchester 2004; West and Brockington 2006).

While increasing numbers of park and resource managers have turned to co-management as a strategy for reconciling the social and economic needs of people and biodiversity conservation (Phillips 2003), such collaboration is fraught with challenges (Brockington 2004). Indigenous peoples still tend to be marginalized in conventional land use planning and natural resource management (Brechin et al. 2002) and excluded from discussions about conservation policy (Brosius 2004). Moreover, indigenous peoples are often still characterized as perpetrators of environmental degradation, at worst (Holt 2005), or as not "naturally" conservationists, at best (Flores 2007; Krech 2007). Communities bring their own challenges to co-management. These include finding consensus among diverse opinions, ensuring the fair distribution of benefits, and balancing communal interests with those of external partners (park managers, nongovernmental organizations [NGOs], and others) (Berkes 2008).

Despite hopes for a harmonious blending of indigenous and scientific knowledge, many obstacles to effective collaboration between government park managers, environmental scientists, and residents of local communities remain. Blaikie (2006) perceives a "confrontation" between formal science and local knowledge, rather than some optimal blending. While science is based on independence between the observer and the observed, traditional knowledge is embedded in particular environmental and social histories. As a result, he further proposes, there are many instances where local knowledge is not on equal ground and instead is "shaped by what is

offered by outsiders who make strategic choices about which ‘local knowledge’ is heard and conformable to their scientifically given environmental goals, and then ventriloquised as the voice of the community” (1944). Similarly, Dove (2006) warns that the effort to connect scientific and indigenous knowledge “obscures existing linkages... between the two and may privilege political, bureaucratic authorities with a vested interest in the distinction” (196; see also Agrawal 1995).

The Community-Based Natural Resource Management (CBNRM) program is an example of government authorities and local communities seeking to collaborate. Blaikie (2006) calls it an established policy goal of rural development in Africa that has been promoted by most major international funding institutions since the early 1990s. Our objective here is to describe how local communities in the Okavango Delta (Figure 1) are collaborating with the government and the private sector to manage wildlife. Collaboration is a step toward effective co-management, for without basic communication and agreement on larger goals, people cannot work

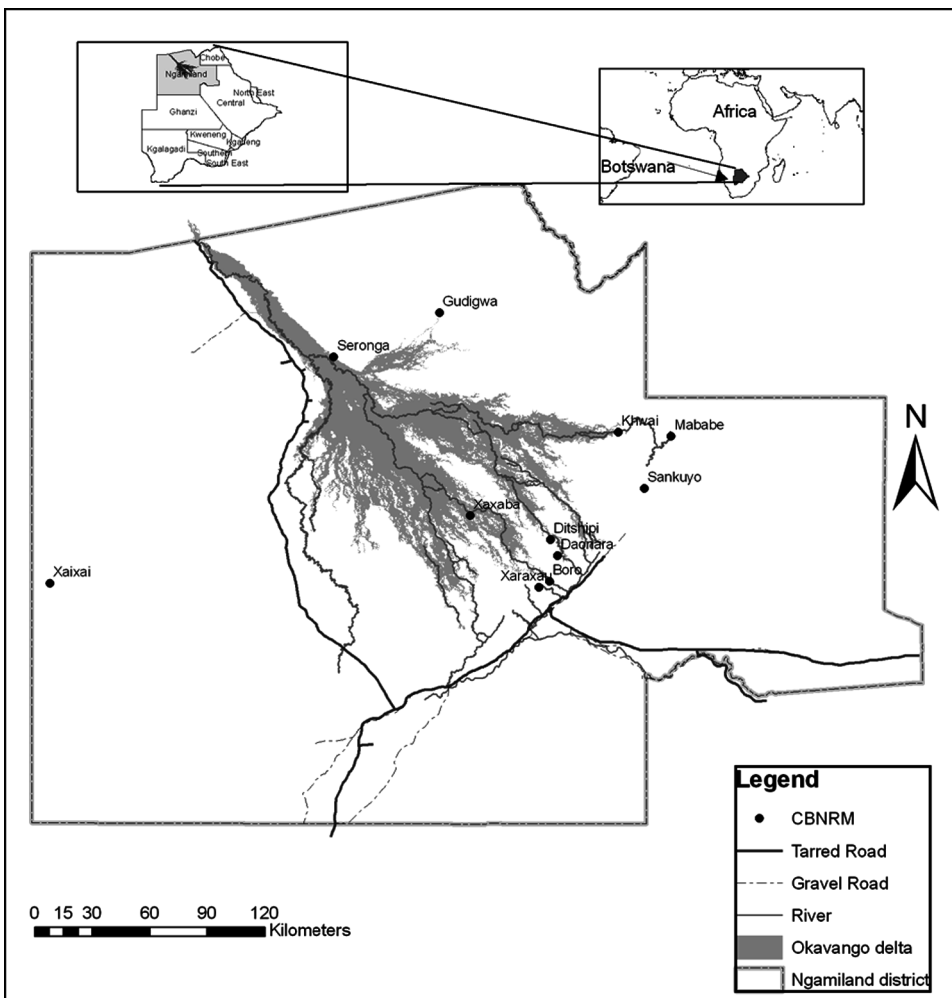


Figure 1. Map of the Okavango Delta (Botswana) showing some of the CBNRM sites.

together to achieve conservation. We identify three factors that have served as foundations for such collaboration: (1) policies designating certain lands for local management and control; (2) the presence and strength of local institutions to manage wildlife tourism; and (3) the generation of locally significant benefits. We close with recommendations for improving these foundations of collaboration for conservation action. First, we present theoretical and practical components of CBNRM.

Community-Based Natural Resource Management

The CBNRM program is both a paradigm and a series of conservation efforts throughout various parts of Southern Africa. It is a paradigm in the sense that it is a reform of conventional preservationist strategies to biodiversity conservation. It assumes that decentralizing natural resource management to local communities will strengthen local institutions while also improving resident attitudes toward conservation (Boggs 2000). Eight countries in southern Africa participate in a network of CBNRM programs. Though institutional arrangements vary, in all cases the government confers rights to rural communities to oversee the use and management of resources.

CBNRM is based on common property theory, which posits that the degradation of resources can be overcome by granting resource use rights to local communities and thereby restricting open access (Kgathi et al. 2004). Common property theorists argue that resources can be used sustainably provided certain principles are applied, including autonomy and recognition of local resources users; tenure rights for local institutions, including rights to establish and enforce rules; and incentives in the form of benefits that exceed costs for managing resources (Ostrom 1990; Bromley 1992). Combined, these principles represent a redistribution of power and responsibilities from the central government to rural communities. The devolution of decision-making authority to communal institutions must be accompanied by real benefits for local resources users as well as secure rights to land and livelihood, and capacity building for management skills (Ipara et al. 2005). The ultimate success of many CBNRM initiatives depends on the additional support of private foundations, bilateral aid agencies, and international conservation organizations. Funds go toward training and local capacity building for rural communities to balance conservation and development (Thakadu 2005). In many wildlife areas private tourism operators provide capital, expertise, and market access.

In the late 1980s, the government of Botswana initiated decentralization of powers to manage wildlife and other natural resources. Official steps included the Wildlife Conservation Policy in 1986 and the Tourism Policy in 1990 (Mbaiwa 2004). Both called for participation of local people in wildlife management and tourism. By the 1990s, CBNRM became a guiding policy and program, attracting international funds. Most efforts to co-manage resources have occurred in the Okavango Delta, an area declared a World Heritage Site in 1997 to be conserved for the benefit of indigenous communities, citizens of Botswana, and the international community (Kgathi et al. 2004). The Okavango Delta features large expanses of open water, grasslands, and savannas, and it is home to more than 122,000 people who live within and around it (CSO 2002; Tlou 1985). The rich flora and fauna of the delta have made it a popular tourism destination.

Residents of 11 settlements and one village have been engaged in wildlife tourism through the CBNRM program since the mid-1990s. According to the Botswana

National Settlement Policy of 1992 (revised in 2002), villages have more than 500 people and settlements have fewer. Villages qualify for services, such as a primary school, clinic, tribal administration with headman/chief representative, and local police officers. Such services are conditionally offered to settlements as well, if they are composed of Basarwa or San people. Sankoyo Village was the first to participate in 1995 (Mbaiwa 2005). Community trusts were established as local institutions charged with managing wildlife (Arntzen et al. 2003; Thakadu 2005). Villages with community trusts either have a village trust committee (VTC) or a board of trustees or both. Community trusts that comprise one village have only a board of trustees. Those with more than one village (i.e., multi-village trusts) have a VTC in each village. The VTC reports to the board of trustees. The board of trustees is the supreme decision-making body in community trusts and for multi-village trusts, and it is composed of two members from each VTC. These governing bodies have the authority to make rules, approve developments, enter into partnerships with the private sector, receive revenues, and decide on benefit allocations (Campbell and Shackleton 2001).

Blaikie (2006) argues that CBNRM has largely failed to deliver the predicted benefits to local communities. One problem lies in project facilitators' notions of communities as homogeneous and living in relative harmony with their environment (Brosius et al. 2005). This view can engender unfounded confidence that local people will manifest CBNRM's visions of sustainability, even though such visions have seldom been community-constructed. A second critique stems from a relatively narrow focus on conservation rather than on broader concerns for human livelihoods. Promises of development are made to communities even while donors and project facilitators acknowledge that conservation is the "real aim" (Blaikie 2006, 1945). One result of this myopia is little emphasis on capacity building. Though some CBNRM projects have generated significant streams of income for local communities, relatively few have enabled local leaders to assume full management and control.

Some assessments of CBNRM have been more positive. In an analysis of Zimbabwe's CAMPFIRE Program, Child (2003) argues that tourism lodges in communal areas have generated substantial development benefits for communities. These have not come at the expense of environmental goals, as the project is also credited for protecting 50,000 square kilometers of land and increasing wildlife populations (Child et al. 2003). Others have argued that the program has strengthened local resource management institutions (Hulme and Murphree 2001) and boosted local people's skills at negotiating control over resources (Frost and Bond 2008).

Methods

Our insights on CBNRM are derived from past and ongoing research in the Okavango Delta. The aim of the research has been to evaluate the social, economic, and environmental effects of wildlife tourism. The first author lived and worked in the Okavango for more than 10 years while also carrying out longitudinal research in several villages in the outskirts of the Okavango Delta. Between 1998 and 2007, four series of interviews were carried out in a total of 12 villages where people were involved in co-managing CBNRM projects in wildlife tourism. The interviews focused on community benefits from tourism and attitudes toward wildlife conservation. They were conducted both before and after the CBNRM program

was established. In 1998, 90 households were randomly sampled; in 2001, 124 households; in 2004, 223 households; and in 2007, 90 households. In all interviews, adult male and female heads of households responded to open and closed questions. The interviews were conducted in person, and the information gathered from them was combined with regular and ongoing informal conversations, group discussions, and participant observations. The first author used an ethnographic approach to field research, which entailed establishing trust and rapport before, during, and after interviews. These measures help ensure a relatively high level of validity. The rapport between the first author and the interviewees ensured the reporting of not only positive comments about the CBNRM program, but also concerns and complaints.

The perspectives in this article are also derived from years of ongoing informal and ethnographic conversations and discussions with tourism operators and government officials in the Department of Wildlife and National Parks (DWNP), and with community-based tourism leaders and village elders. All of the ethnographic data have been aimed at understanding both the benefits and challenges of co-managing wildlife. Indeed one of the values of long-term ethnographic research (as opposed to one-time surveys) is the ability to discern negative issues and gain the trust of informants and interviewees. Finally, we have gathered policy documents and project reports to glean historical information on the CBNRM program and to contextualize interviewee perspectives.

Co-Managing Wildlife in the Okavango

The CBNRM program established foundations of collaboration between communities, the government, and the tourism industry to co-manage wildlife. Illegal hunting and overharvesting of wildlife comprise one of the main problems that the CBNRM program was designed to address (Mbaiwa 2004). Species most affected by illegal hunting include elephant, kudu, gemsbok, eland, springbok, and impala (CSO 2005). The government is particularly concerned about elephants. As a signatory to the Convention on International Trade in Endangered Species, Botswana must reduce illegal hunting of elephants.

Almost 17 years after the first CBNRM project began, the DWNP's records indicate that illegal hunting has decreased throughout the Okavango. Recorded incidents of illegal hunting declined from a high of 23 in 1998 to 5 in 2006. Interviews with DWNP officials in 2007 confirmed that illegal hunting in areas with CBNRM projects is substantially lower. While CBNRM has not stopped the decline of species such as buffalo, lechwe, hippo, and sitatunga, populations of other species are stable, and some (steenbok, impala, and elephant) have increased (Arntzen et al. 2003).

Many community members agree with government officials on this point, and have confirmed low levels of illegal hunting in their areas. Among the 223 household representative interviewed in 2004, 83% noted that hunting had decreased during the last 10 years. A great majority (93%) said it is important to conserve wildlife around their villages. Comments included "Wildlife is a tourist attraction that creates employment opportunities for us" and "Wildlife is a source of income."

Today, the economic benefits have helped foster positive attitudes about conservation. By contrast, the 1998 survey revealed widespread antipathy toward wildlife and tourism (Mbaiwa 1999). Among 90 respondents, 94% reported they played no role in wildlife policy and felt no obligation to conserve. Seventy-two percent said they derived no income, employment, or support from tourism, and many indicated

that only safari operators and government agencies benefitted (Mbaiwa 1999). However, by the 2001 survey, two years after wildlife tourism, benefits had begun accruing to the community and attitudes toward conservation began to change. Among the 124 households surveyed, 61% said they supported the continued existence of wildlife in their vicinity, noting that through CBNRM they could now participate in wildlife management. Another 84% reported support for tourism development, saying they derived benefits in the form of meat, income, or employment. In the 2007 survey, people made more specific recommendations to curb hunting of sable antelope and giraffe, as these species were in decline. Among 90 household respondents, 72% called for suspending hunting of sable until the species could regenerate and 94% said restrictions should be placed on giraffe hunting.

Foundations for Co-Management

The CBNRM program has fostered positive attitudes among local communities and thus enabled long-term co-management of wildlife in the Okavango Delta in three ways: It has helped secure local land tenure; it has fostered recognition and support for local institutions; and, through wildlife tourism, it has generated material benefits for people.

Local Land Tenure

Approximately 39% of Botswana's land surface area is set aside as protected areas where wildlife conservation and tourism are the main activities (Mbaiwa 2005). Between 1885 and 1996, these lands were under British colonial rule, and rural communities were displaced to make way to wildlife sanctuaries. Furthermore, rural communities living adjacent to national parks and game reserves are still denied access to their former lands today. As a result, the establishment of national parks, game reserves, and wildlife management areas marked the beginning of land use conflicts between wildlife managers, especially the DWNP and rural communities.

Because of these conflicts, the Wildlife Conservation Policy of 1986 and the Tourism Policy of 1990 were enacted to facilitate community participation in co-management of natural resources in Botswana. In the Okavango region, these two policies together with various district use plans (e.g., the Land Use and Development Plan: Kwando and Okavango Wildlife Management Areas of 1992) led to the subdivision of land into wildlife management areas (WMAs) and smaller units, known as controlled hunting areas (CHAs). The Okavango area is divided into 28 WMAs and 49 CHAs. The Tawana Land Board leases CHAs to communities, and DWNP allocates wildlife harvest rights, given as quotas to community trusts. Community trusts then sell the animals to safari hunting companies at a profit. Several communities (Sankoyo, Mababe, Khwai, and Seronga) have established lodges and campsites, and some have formed partnerships with tourism companies to undertake both hunting and photographic safaris in community CHAs. The communities expect economic benefits from wildlife through tourism, while the government expects wildlife conservation and tourism revenue, and the tourism industry expects profits from wildlife-based tourism. The three-way mutual interest is bound by tourism revenues, which, in turn, depend on effective wildlife conservation (Brightsmith et al. 2008).

The establishment of community CHAs has made land and wildlife once again accessible to local communities and thus provided a foundation for collaborating with government agencies to co-manage the resources. In the past, local residents resented top-down wildlife management mandates and engaged in illegal hunting. With CHAs in place, hunting is regulated by local communities in collaboration with government. For example, the first author observed community escort guides of the Sankoyo Village have arrested and handed over to police for prosecution poachers in the community CHA. These escort guides regularly patrol the community CHAs and have the authority to question visitors and trespassers. By recognizing local rights to land, the CBNRM program is enabling local communities to police their own resources and thereby enhancing wildlife conservation.

Support for Resource Management Institutions

Communities allocated CHAs have formed local institutions, known as community-based organizations (CBOs), which are registered as trusts subject to Botswana laws (Kgathi et al. 2004). The operations of a trust are guided by the deed of trust and the elected board of trustees that oversees management of land and wildlife on behalf of the CHA members (Mbaiwa 2004). The trusts have become intermediaries between government agencies, NGOs, safari companies, and communities (Kgathi et al. 2004). The CBOs ensure that their communities are included in wildlife management in their respective CHAs. The number of CBOs in the Okavango Delta has increased rapidly since 1995 when the first project was established at Sankoyo Village. Currently, 16 CBOs manage numerous CBNRM projects. In many cases, international organizations have supported the CBOs to develop constitutions and prepare management plans.

Benefits From Wildlife Tourism

Tourism has generated material benefits for CBOs. These include ownership and profits from tourism facilities, employment in safari hunting and photographic tourism, and community income from the sale of wildlife quotas and land rentals. Arntzen et al. (2003) noted that by 2002 revenues from community-based tourism reached about USD 1.7 million, which represents average annual revenue of over USD 140,000 per community. Given that more than 50% of Botswana's population lived on less than USD 2 per day (UNDP 2006), with many of the poorest people living in rural areas, the income from tourism is substantial for villages of 150 to 5,000 inhabitants. Additionally, CBNRM projects have generated between 1,000 and 1,500 jobs, averaging 21 employees per project. In Sankoyo Village, for example, CBNRM employees have used new income to improve the quality of their housing, pay for school fees, and buy food and clothes for their families.

A relatively new challenge to these benefits is a CBNRM Policy of 2007, which notes that 65% of the funds a community trust generates should be deposited to the government conservation fund. Also, the government has begun phasing out safari hunting in areas adjacent to national parks and game reserves. This will reduce revenue generated by trusts and may result in the loss of employment opportunities and needed revenue for other social services in villages. Mbaiwa (2004) notes that safari hunting is more profitable to communities than photographic tourism.

From Collaboration to Conservation

State-led “park models” that exclude local and indigenous peoples are largely inadequate for ensuring wildlife conservation in the Okavango Delta. The CBNRM program provides one example of how state and local actors can collaborate to manage wildlife. It recognizes the relevance of local knowledge, support, and institutions for conservation by transferring at least some management responsibility and benefits to communities. As a result, the program lays the foundation for co-managing wildlife between government resource managers and local peoples. This is exemplified by current collaborations to establish and monitor hunting quotas.

Though the foundations for co-management are in place in the Okavango, a number of challenges remain. These include a lack of management capacity, relatively little attention to disparities within communities, and a narrow focus on conservation. Here we offer three recommendations for advancing from collaboration to co-management. First, we recommend the CBNRM program place more emphasis on capacity building for communities so that they can run their own enterprises. This will require a greater infusion of capital as well as skill building. Currently, it is too easy for foreigners to pay license fees to communities and make relatively few efforts to employ people in either entry-level or decision-making positions. Without building these managerial skills, Blaikie (2006) has argued, local communities become “little more than rentiers with no opportunity for widening livelihood options and associated skills” (1952).

A second recommendation is to build CBNRM projects on more realistic and representative understandings of local communities and the peoples who live in them. Rather than gauging the success of CBNRM based solely on what scientists, international funders, or government wildlife workers perceive as viable or sustainable, we need to incorporate the views of local residents. These perspectives will not be unified or foolproof; indeed, they will likely be as diverse as the individuals who comprise the community. Nevertheless, more than lip service must be given to the process of sharing knowledge and co-managing resources. This means that we should ensure that natural resource management goals and objectives are truly community designed, rather than simply labeled as such.

Third, we recommend expanding the range of benefits to focus not solely on conservation, but also on community development more broadly. This acknowledges real connections between livelihoods and conservation. Beyond offering financial incentives that may be short-lived, a focus on enhancing all aspects of quality of life will lead to greater chances of sustained collaboration over time.

References

- Agrawal, A. 1995. Dismantling the divide between indigenous and scientific knowledge. *Dev. Change* 26(1995):413–439.
- Arntzen, J., K. Molokomme, O. Tshosa, N. Moleele, D. Mazambani, and B. Terry. 2003. *Final Report of the Review of Community-Based Natural Resource Management in Botswana*. Gaborone, Botswana: Centre for Applied Research for the National CBNRM Forum.
- Berkes, F. 1999. *Sacred ecology: Traditional ecological knowledge and resource managements*. Philadelphia, PA: Taylor & Francis.
- Berkes, F. 2008. Commons in a multilevel world. *Int. J. Commons* 2(1):1–6.

- Blaikie, P. 2006. Is small really beautiful? Community-based natural resource management in Malawi and Botswana. *World Dev.* 34(11):1942–1957.
- Boggs, L. P. 2000. *Community power, participation, conflict and development choice: Community wildlife conservation in the Okavango Region of northern Botswana*. Discussion paper no. 17. Maun, Botswana: IIED.
- Brechin, S., P. Wilshusen, C. Fortwangler, and P. West. 2002. Beyond the square wheel: Toward a more comprehensive understanding of biodiversity conservation as social and political process. *Society Nat. Resources* 15:41–64.
- Brightsmith, D., A. Stronza, and K. Holle. 2008. Ecotourism, conservation biology, and volunteer tourism: A mutually beneficial triumvirate. *Biol. Conserv.* 141(2008): 2832–2842.
- Brockington, D. 2004. Community conservation, inequality and injustice: Myths of power in protected area management. *Conserv. Society* 2(2):411–432.
- Brosius, P. 2004. Indigenous peoples and protected areas at the World Parks Congress. *Conserv. Biol.* 18(3):609–612.
- Brosius, J. P., A. L. Tsing, and C. Zerner, eds. 2005. *Communities and conservation: History and politics of community-based natural resource management*. Walnut Creek, CA: AltaMira Press.
- Bromley, D. 1992. *Making the commons work*. San Francisco, CA: Institute for Contemporary Studies.
- Bruner, A. G., R. E. Gullison, R. E. Rice, and G. A. B. Fonesca. 2001. Effectiveness of parks in protecting tropical biodiversity. *Science* 291:125–128.
- Campbell, B., and S. Shackleton. 2001. The organizational structures for community-based natural resources management in Southern Africa. *Afr. Stud. Q. Online J. Afr. Stud.* 5(3):np. <http://web.africa.ufl.edu/asq/v5/v5i3.htm> (accessed 17 February 2010).
- Central Statistic Office. 2002. *National population and housing census*. Gaborone, Botswana: Ministry of Finance and Development Planning.
- Central Statistic Office. 2005. *Wildlife statistics 2004*. Gaborone, Botswana: Ministry of Finance and Development Planning.
- Child, B. 2003. Origins and efficacy of modern community based natural resources management (CBNRM) practices in the Southern African region. IUCN Publication. http://cmsdata.iucn.org/downloads/cca_bchild.pdf (accessed 5 December 2010).
- Child, B., B. Jones, D. Mazambani, A. Mlalazi, and H. Moinuddin. 2003. *Final evaluation report: Zimbabwe Natural Resources Management Program—USAID/Zimbabwe strategic objective no. 1*. Washington, DC: USAID.
- Colchester, M. 2004. Conservation policy and indigenous peoples. *Environ. Sci. Policy* 7: 145–153.
- Daly, H. 1991. Operational principles for sustainable development. *Earth Ethics* Summer: 6–7.
- Dove, M. 2006. Indigenous people and environmental politics. *Annu. Rev. Anthropol.* 35: 191–208.
- Dowie, M. 2009. *Conservation refugees: The hundred year conflict between global conservation and native peoples*. Boston: MIT Press.
- Flores, D. 2007. Wars over buffalo. In *Native Americans and the environment: Perspectives on the ecological Indian*, ed. M. Harkin and D. Lewis, 153–172. Lincoln: University of Nebraska Press.
- Frost, P., and I. Bond. 2008. The CAMPFIRE programme in Zimbabwe: Payments for wildlife services. *Ecol. Econ.* 65:778–787.
- Folke, C. 2006. The economic perspective: Conservation against development versus conservation for development. *Conserv. Biol.* 20(3):686–688.
- Ghimire, K., and M. Pimbert, eds. 1997. *Social change and conservation: Environmental politics and impacts of national parks and protected areas*. London: Earthscan.

- Gibson, C. C., and S. A. Marks. 1995. Transforming rural hunters into conservationists: An assessment of community-based wildlife management programs in Africa. *World Dev.* 23(6):340–350.
- Hackel, J. 1999. Community conservation and the future of Africa's wildlife. *Conserv. Biol.* 13(4):726–734.
- Holt, F. 2005. The catch-22 of conservation: Indigenous peoples, biologists and culture change. *Hum. Ecol.* 33(2):199–215.
- Hulme, D., and M. Murphree. 2001. *African wildlife & livelihoods: The promise and performance of community conservation*. Portsmouth, NH: Heinemann.
- Ipara, H. I., J. J. Akonga, and J. S. Akama. 2005. The tenure factor in wildlife conservation. *Int. J. Environ. Stud.* 62(6):643–653.
- Jepson, P., and S. Canney. 2001. Biodiversity hotspots: Hot for what? *Global Ecol. Biogeogr.* 10:225–227.
- Kgathi, D. L., H. Bendsen, P. Blaikie, J. E. Mbaiwa, B. Ngwenya, and J. Wilk. 2004. *Rural livelihoods, indigenous knowledge systems, and political economy of access to natural resources in the Okavango Delta, Botswana*. Maun, Botswana: Harry Oppenheimer Okavango Research Center, University of Botswana.
- Krech, S. 2007. Afterword. In *Native Americans and the environment: Perspectives on the Ecological Indian*, ed. M. Harkin and D. Lewis, 343–354. Lincoln: University of Nebraska Press.
- Locke, H., and P. Dearden. 2005. Rethinking protected area categories and the new paradigm. *Environ. Conserv.* 32(1):1–10.
- Mbaiwa, J. E. 1999. Prospects for sustainable wildlife resource utilization and management in Botswana: A case study of east Ngamiland District, MSc thesis, Department of Environmental Science, University of Botswana.
- Mbaiwa, J. E. 2004. The socio-economic impacts and challenges of a community-based safari hunting tourism in the Okavango Delta, Botswana. *J. Tourism Stud.* 15(2):37–50.
- Mbaiwa, J. E. 2005. Wildlife resource utilization at Moremi Game Reserve and Khwai Community Area in the Okavango Delta, Botswana. *J. Environ. Manage.* 77:144–156.
- Mittermeier, R., N. Myers, and C. G. Mittermeier. 2000. *Hotspots: Earth's biologically richest and most endangered terrestrial ecoregions*. Washington, DC: Conservation International.
- Newmark, W., and J. Hough. 2000. Conserving wildlife in Africa: Integrated conservation and development projects and beyond. *BioScience* 50(7):585–592.
- Oates, J. 1999. *Myth and reality in the rainforest: How conservation strategies are failing West Africa*. Berkeley: University of California Press.
- Orme, C. D. L., R. G. Davies, M. Burgess, F. Eigenbrod, N. Pickup, V. A. Olson, A. J. Webster, T. Ding, P. C. Rasmussen, R. S. Ridgely, A. J. Stattersfield, P. M. Bennet, T. M. Blackburn, K. J. Gaston, and P. F. Owens. 2005. Global hotspots of species richness are not congruent with endemism or threat. *Nature* 436:1016–1019.
- Ostrom, E. 1990. *Governing the commons: The evolution of institutions for collective action*. New York: Cambridge University Press.
- Phillips, A. 2003. Turning ideas on their heads: A new paradigm for protected areas. *George Wright Forum* 20:8–32.
- Redford, K., K. Brandon, and S. Sanderson. 1998. Holding ground. In *Parks in peril: People, politics and protected areas*, ed. K. Brandon, K. H. Redford and S. E. Sanderson, 455–463. Washington, DC: Island Press.
- Sayer, J., and B. Campbell. 2004. *The science of sustainable development: Local livelihoods and the global environment*. Cambridge, UK: Cambridge University Press.
- Sirua, H. 2006. Nature above people: Rolston and 'fortress' conservation in the South. *Ethics Environ.* 11(1):71–96.
- Steelman, T. A. 2002. Community-based involvement in biodiversity protection in the United States. In *Biodiversity, sustainability and human communities*, ed. T. O'Riordan and S. Stoll-Kleeman, 142–167. Cambridge, UK: Cambridge University Press.

- Stevens, S. 1997. *Conservation through cultural survival: Indigenous peoples and protected areas*. Washington, DC: Island Press.
- Terborgh, J. 1999. *Requiem for nature*. Washington, DC: Island Press.
- Thakadu, O. T. 2005. Success factors in community-based natural resources management in northern Botswana: Lessons from practice. *Nat. Resources Forum* 29:199–212.
- Tlou, T. 1985. *History of Ngamiland: 1750–1906: The formation of an African state*. Gaborone, Botswana: Macmillan.
- United Nations Development Program. 2006. *Human development report 2005*. New York: United Nations Development Program.
- Wells, B. K. 1992. *People and parks: Linking protected area management with local communities*. Washington, DC: The World Bank.
- West, P., and D. Brockington. 2006. An anthropological perspective on some unexpected consequences of protected areas. *Conserv. Biol.* 20(3):609–616.
- Western, D., and M. Wright, eds. 1994. *Natural connections: Perspectives in community-based conservation*. Washington, DC: Island Press.
- Wilshusen, P. R., S. R. Brechin, C. L. Fortwangler, and P. C. West. 2002. Reinventing a square wheel: Critique of a resurgent ‘protection paradigm’ in international biodiversity conservation. *Society Nat. Resources* 15:17–40.