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**Lessons from the Equator Initiative:  
Common Property Perspectives for  
Community-Based Conservation  
in Southern Africa and Namibia**

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## Introduction

Global biodiversity is seriously threatened by widespread habitat loss, over-exploitation of species, invasive species, pollution and climate change. The loss of biodiversity is especially acute in the equatorial belt, where the world's greatest biodiversity is concentrated (Western & Pearl 1989). Protected area networks, notably national parks with strict protection regimes, are widely considered a principal means for conserving global biodiversity. However, there is growing recognition that protected areas, as islands in seas of multiple land use and resource extraction, cannot effectively achieve the needed conservation of biodiversity at broader landscape levels beyond the protected areas.

This paper examines community-based conservation in Southern Africa, with particular attention to Namibia's community-based natural resource management (CBNRM) program and common property resource institutions called conservancies recently established in Namibia and growing exponentially since 1998. A premise of this research is that community-based conservation institutions might effectively complement or serve as alternatives to state established protected areas to conserve biodiversity. This has been largely unacknowledged as a need and opportunity in Southern Africa to date, notwithstanding that a shift has been described in protected areas management that increasingly recognizes needed conservation partnerships and cooperation between local and indigenous communities and protected areas (Borrini-Feyerabend *et.al.* 2004; Phillips 2003).

Protected areas have been established and managed in Southern Africa with little or no regard for local community resource access and use. In fact, local and indigenous communities have been displaced and disenfranchised from traditional areas of occupancy and resource use, with severe consequences for community livelihoods and socio-cultural survival (Owen-Smith 1987; Timberlake 1991; Western 2002). A fortress approach to conservation in national parks has excluded local and indigenous use and management of water, wildlife, forests and grasslands (Adams & Hulme 2004). Such 'fences and fines' measures have produced adversarial relationships between local and indigenous communities, wildlife and protected areas. This polarization, it has been shown, can contribute to further loss of biodiversity (Western 2002).

Scholars have recently postulated a new paradigm that increasingly acknowledges systems approaches in natural resources management and conservation, and humans as integral parts of ecosystems (Berkes 2004). The de-coupling of long established local and indigenous social-ecological systems in and surrounding Namibian national parks, and needs and prospects for re-coupling these systems to better conserve biodiversity is the subject of a broader doctoral research study.

Initial fieldwork was completed in Namibia in 2006 comprising a Rapid Rural Appraisal and participatory action research (Chambers 1997) in a case study area of the Kunene region of northern Namibia. Key informant, semi-structured interviews were conducted with government officials, conservation NGO representatives, community conservancy members and Namibian scholars to learn about the institutional development of Namibia's CBNRM program. The remote study area was travelled extensively by 4x4

truck to understand the ecological and social characteristics of the Torra Conservancy, other adjacent conservancies and protected areas. Conservancy quarterly planning workshops were attended in the study area to participate in discussions with community members and learn about current conservancy plans and conservation activities. The findings from this fieldwork form the basis for those parts of this paper dealing with Namibia's Torra Conservancy and the CBNRM program.

The purpose of this paper is to consider institutional arrangements for community-based conservation by local and indigenous communities in Southern Africa, particularly for Namibia, through the lens of common property principles. The robustness of Namibia's conservancy model is important to assess in terms of the premise that such institutions can be positively linked and complement protected areas management for biodiversity conservation.

Community-based conservation is based on the idea that if conservation and development are simultaneously achieved, the interests of both can be served (Berkes 2004). In the African context, community conservation has been defined as principles and practices stressing conservation goals that emphasize natural resource decision-making by local residents (Adams & Hulme 2001). In fact, community-based conservation has been practiced in many forms, but in the broadest sense includes natural resources or biodiversity conservation by, for, and with the local community. The co-existence of people and nature, as distinct from protectionism and the segregation of people and nature, is its central characteristic (Western & Wright 1994). Community-based conservation is employed here as an overarching concept, inclusive of and interchangeable with community-based natural resource management or CBNRM (Adams & Hulme 2001). The conservancy model and CBNRM in Namibia is given particular attention, as a potential institutional opportunity for social-ecological linkages with Namibian protected areas management.

There are several other noteworthy terms and concepts from common property and related scholarship that are applied in this research. Common property resources are considered to possess two defining characteristics: excludability or the control of access, and subtractability, wherein each user can subtract from the welfare of others (Feeny *et.al.* 1990). In fact, common property resources are defined as resources for which exclusion is difficult and collective use involves subtractability (Ostrom 1990; Feeny *et.al.* 1990).

The community-based conservation cases dealt with all occur on communal lands in Southern Africa. Communal property involves resources that are held by an identifiable community of interdependent users. These users exclude outsiders and regulate their own use for collective benefits. In rural Africa, communal land tenure is the dominant property regime, featuring a variety of local and traditional institutional arrangements, but complicated by communal property being considered as state property by both colonial and succeeding black majority-rule governments. State property vests rights to land and resources exclusively in governments or states, which set the rules of access to resources and the levels and types of use. National parks in Southern Africa are classic examples of state property regimes.

The consideration of national parks and local indigenous community relationships invokes both state property and communal property regimes, further complicated by private property-like situations such as leased safari lands and de facto open access, such as unregulated wildlife, grasslands and forest use. Open access is akin to Hardin's tragedy of the commons, which postulated that individuals act in their own self-interest and in so doing, destroy the commons and the resources upon which they ultimately depend (Hardin 1968). Property rights in open access situations are not well defined and resource access is unregulated, free and open to all.

Institutional interplay involving cross-level linkages will be shown to be an important feature of community-based conservation in Namibia. Horizontal linkages are those operating across space, and vertical linkages are those operating across levels of organization (Young 2002). Both are relevant and evident in the governance arrangements for Namibian community-based conservation.

Resilience is a characteristic of both social and ecological systems. The roles of institutions or norms, rules and behaviours, learning and knowledge (eg. local and traditional knowledge), and the capacity to recognize and respond to both environmental and social feedbacks are critical for social resilience (Berkes & Folke 1998; Levin 1999). For ecological systems, the capabilities and capacities to absorb disturbance and stress such as drought, fire, grazing, and predation, adapting to new functional states represents resilience (Walker *et.al.* 2004). Social-ecological systems are highly complex and the interface between these systems especially so. They possess features and processes that are non-linear, inherently uncertain and full of surprises. They operate at various scales and are self-organizing (Berkes *et.al.* 2003).

Two further properties or characteristics of resource systems are relevant in this research. Stationarity refers to whether a resource is mobile and storage refers to the extent to which it is possible to collect and hold resources. Resources like wildlife are mobile and cannot be stored (Agrawal 2002).

## Counter Arguments for Community-Based Conservation and Protected Areas

While it is a premise that community-based conservation institutions such as Namibia's conservancies present opportunities to complement and bolster the biodiversity conservation agenda associated with protected areas, this is somewhat controversial. There has been some backlash in bringing indigenous peoples and protected areas together in conservation programs. There is growing concern among some conservationists that the accelerating rates of biodiversity loss require a reinforcement of strictly controlled protected areas by national and international conservation authorities (Chapin 2004; Terborgh 2000; Wilshusen *et.al.* 2002). Questions have been posed about communities and their abilities to conserve biodiversity. What is an acceptable loss of biodiversity? At what point do local communities cease to contribute to conservation and become net exploiters? Will local people, even if empowered, be able to manage their own resources? Who should define the overall goals of a community and who should manage its affairs to meet these goals (Robinson & Redford 1994:316)? Protected area networks are viewed as a last bastion for protecting biodiversity in the face of relentless industrialization, habitat loss, pollution, and the over-exploitation of species. Community-based conservation, from this perspective, has often been regarded as a failed experiment in voluntary compliance with conservation imperatives. Rather, a scientific and authority-based approach to biodiversity protection is called for.

Counter arguments suggest that the needs and complexities of politics, history and the social and biophysical landscapes in and surrounding protected areas must be accounted for, to successfully sustain protected area conservation and broaden the constituencies to support and achieve biodiversity conservation. This school of thought calls for strengthened institutional and organizational arrangements, such as those developing under community-based conservation, and wide area landscape conservation and sustainable livelihood programs in and surrounding protected areas. Such approaches can better address the complexities of politics, history, culture and rights that are inherent in the trajectories of protected areas (Wilshusen *et.al.* 2002). Failures in integrated conservation and development programs are not because they are inherently wrong, but are more related to how these programs have conceptualised community, participation, empowerment and sustainability. Attention is drawn to the need to consider multiple interests and actors within and among communities, in terms of how they influence decision-making, and what internal and external institutions shape decision-making processes. It should not be assumed that conservation norms and ethics are inherently absolute in indigenous communities, or even if they are, that they have not been overtaken by decision-making and politics at other organizational levels (Agrawal & Gibson 1999). Such factors are institutional in focus and cross-scale in effect (Berkes 2004). The meaning of community can vary with the context, just as perceptions of nature vary around the world (Western & Wright 1994). Rights, responsibilities and capabilities which were once internalized within traditional communities or imposed by resource limitations may be blurred or broken down once communities enter the constellation of other communities and nation states (Western & Wright 1994). The institutionalization of conservation as a discrete set of concerns and actions is a product of governments, interest groups and scholarship. However, community perspectives on

conservation are usually more holistic and integrative and more likely to view conservation as a means rather than an end (Murphree 1994:404). Community-based conservation can be viable if communities themselves set the priorities. Communities can use external institutional actors for their own integrated conservation and community economic development ends, rather than as means for an external institution's ends (Murphree 1994:405).

Community complexity necessitates identifying key actors and adopting an analytical approach featuring attention to stakeholder interests and impacts, and employing participatory rural appraisal techniques to confirm different priorities for decision-making, building consensus for conservation action (Brown 2002). New institutions and restructuring of decision-making processes are called for that promote partnerships between and among organizations, from local to national, "if we believe that the dual objectives of conserving biological diversity and enhancing human welfare can be complimentary rather than in conflict" (Brown 2002:16). Community-based conservation programs have typically focussed on economic benefits and livelihoods. Cultural relationships and access to resources, such as community access and use of culturally or spiritually significant vegetation and wildlife in protected areas have been largely ignored (Infield 2001). Sensitivity for and local access to cultural values could foster more positive conservation relationships between local communities and protected areas.

### **Community-Based Conservation in Southern Africa**

Centrally and internationally conceived approaches in community-based conservation of wildlife emerged in the 1980s in Southern Africa to further protect national parks as wildlife reservoirs, and better conserve wildlife as an economic development alternative to dry land agriculture (Adams & Hulme 2001). These have typically been termed CBNRM. CBNRM has featured devolution of bundles of certain rights in the use of wildlife to local communities, premised on making wildlife pay, with the intent of attaining local benefits that exceed the costs of living with wildlife. The central notion is that economic incentives will promote wildlife conservation by local and indigenous peoples. These approaches, while achieving some conservation, have often been more co-opting than empowering. There are few examples where local access, use or empowerment in the management of wildlife, water, forests and grasslands within national parks has resulted. Equally scarce has been the recognition and support for traditional and indigenous resource management institutions or an indigenous conservation ethic (Callicott 1994).

CBNRM was led by Zimbabwe and Namibia in Southern Africa and was a direct outgrowth of wildlife management on private land estates in both countries preceding independence (Jones & Murphree 2004). In the 1970s, Zimbabwean legislation was passed that conferred strong proprietor rights over wildlife to private, white landowners. This same type of legislation was passed in Namibia in 1975 under South African administration.

There was political demand at independence in both Zimbabwe and Namibia to transfer the economic success of wildlife management and proprietorship of wildlife on

private lands to communal lands. Another factor was the inability of national wildlife agencies to cope with the growing problems of poaching and an international illicit trade in wildlife parts and products.

Two cases of CBNRM in Southern Africa are now elaborated because they were reportedly influential in the design of Namibia's CBNRM program (Jones & Murphree 2001) to which the balance of the paper is devoted.

### ***Zimbabwe's Communal Areas Program for Indigenous Resources***

Zimbabwe's *National Parks and Wildlife Act (1975)* was amended in 1982 to give "appropriate authority" over wildlife to Rural District Councils for communal areas (Murombedzi 2001). This laid the groundwork for The Communal Areas Program for Indigenous Resources (CAMPFIRE). The program was a direct outgrowth of Zimbabwe's new found independence from Great Britain in 1980 and had the intent of extending to communal lands what was considered successful wildlife conservation on private lands. Most of the productive districts for wildlife in Zimbabwe coincide with drought prone, marginal agricultural lands, bordering on state protected wildlife areas and featuring lower densities of human population (Bond 2001).

Central to CAMPFIRE, and what became commonplace in wildlife management projects in Southern Africa, were economic incentives for institutional change to conserve wildlife (Bond 2001). CAMPFIRE was ultimately diffused to many Rural District Councils. Varying accounts have been made of its successes and failures (Bond 2001; Jones & Murphree 2001; Murombedzi 2001; Sangarwe 1998). Strong tenurial communal property regimes were not acceptable to district councils. They did not want communal lands removed from their authority, along with the wildlife revenue potentials of these lands. A compromise was reached for sharing of some revenue to the ward and village levels. The rejection of *de jure* tenure status for wildlife production in communal lands became an enduring feature and shortcoming of CAMPFIRE. It created a persistent uncertainty for local communities regarding security of investments in wildlife management and undermined a conceptual pillar of the program; that communal residents would have access rights to wildlife similar to those of private commercial farmers. Wide variation in CAMPFIRE's operation and performance arose from the wide discretion for regional devolution assigned to the Rural District Councils. As the assigned legal proprietors of wildlife, they signed private lease arrangements for wildlife sales and received revenues from safari hunting concessionaires. The Government of Zimbabwe set guidelines that permitted the Rural District Councils to retain up to 50 percent of the revenue in district levies and management costs, allocating the balance to producer communities. Wildlife revenue devolved to sub-district ward and village levels was intended as incentive for individuals to participate in the conservation of wildlife (Bond 2001).

Challenges were noted with community complexities and the fact that rural district ward boundaries in Zimbabwe were used to define areas for collective action, when in fact there were differing and competing community groups and interests in such bounded areas (Jones & Murphree 2004). The institutional forms adopted in CAMPFIRE



tended to be outgrowths of higher-level government agencies and did not originate within or reflect traditional, customary and less formal institutions at the community level. This has been suggested as a significant problem for CAMPFIRE (Murombedzi 2001). The “hard” boundaries created by formal park designations, land use, and zoning plans are at odds with the “soft” boundaries that communities use to enable overlapping and negotiated rights of access.

CAMPFIRE drew international donor attention and participation, especially from USAID. This has been noted as a mixed blessing. Donor funding promoted the rapid spread of the program and capacity building in the Rural District Councils and NGO community. On the other hand, there was some sacrifice of the self-direction and self-sufficiency that CAMPFIRE had originally envisioned (Jones & Murphree 2001). CAMPFIRE produced significant revenues for Rural District Councils and led to institutional changes for wildlife conservation at this level. However, below this level, and especially at the individual household level, financial benefits were more modest to non-existent (Bond 2001). In the exceptional cases where wildlife income matched or exceeded gross agricultural income, there was institutional change to manage wildlife and wildlife habitat, define community membership, invest in monitoring wildlife abundance, hunting and illegal activities, apply graduated sanctions for violations, and increase organizational capacity. More commonly, the absence of well-defined property rights and rights to manage wildlife at community level resulted in limited incentive to conserve. Bond (2001) concluded that the legislation for CBNRM programs must aim to achieve a much higher level of proprietorship at the community level. Another researcher echoes this theme, noting that communities did not have the right to use wildlife, only to share some of the benefits from its use by others (Murombedzi 2001). There was little use of local and traditional institutions for land and resource management. It was also observed that CAMPFIRE needed to support the participation of communities in the management of protected areas that they were located next to and more directly benefit from these areas (Murombezi 2001).

CAMPFIRE’s intent to produce wildlife benefits for the rural community in the same way that benefits had accrued to private landowners was laudable in terms of social justice and sustainable livelihoods. Community benefits were realized in many Rural District Councils. While economic incentives proved important, so too did other benefits such meat supply, and social projects like schools, clinics and grinding mills (Sangwarwe 1998). However, limited wildlife revenues found their way to individual households. The costs of living with wildlife represented by crop damage, loss of livestock, destruction of built property like granaries or personal injury and death were rarely offset at household level by benefits flowing from wildlife conservation. Wildlife revenues rarely exceeded agricultural returns and gained most significance as supplementary income at ward and village levels (Sangarwe 1998).

CAMPFIRE has been a top-down program that has not effectively devolved authority to manage wildlife below the district level. It did not uphold the subsidiary principle that postulates as much local solution as possible and only so much government regulation as necessary (Berkes 2004). There has been little empowerment of local communities to apply their cultural and traditional practices for using wildlife. There have been weak to non-existent linkages to national parks and protected areas

management, notwithstanding that most Rural District Councils participating in CAMPFIRE share wildlife ranges with protected areas. There have been no rights of access assigned to local communities to resume any use of or relationships with wildlife that may have prevailed prior to national park designation. Therefore, there has been limited to no institutional change to conserve wildlife at community level. To the contrary, local communities have tended to ignore centrally imposed rules for access and use of wildlife in protected areas, especially as local people have observed most benefits accruing to safari operators and tourist elites from beyond their country, while they continue to bear the costs in terms of crop damage, loss of livestock and threats to life and limb.

### *Zambia's Administrative Management Design for Game Management Areas Program*

The Administrative Management Design for Game Management Areas program (ADMADE) in Zambia's Luangwa Valley was initiated by Zambia's National Parks and Wildlife Service in 1987, with financial assistance from World Wildlife Fund (US) and USAID (Gibson 1999). ADMADE explicitly tried to create a shift from the 'command and control' style of colonial administration to a more community-based approach to wildlife management. Revenue from safari concession fees, hunting licenses, donor contributions and profits from activities like wildlife culls were to be shared at community level, to promote wildlife conservation and curtail poaching. The Zambian government held revenues in a revolving fund, with 35 percent going to communities for community development. ADMADE employed over 300 village scouts by 1990 and had strong ties to chiefs, identifying the chiefs as the key link to the rural communities (Gibson & Marks 1995).

ADMADE was initiated by the Zambia National Parks and Wildlife Service, mainly as an offset to the perceived conservation program power being concentrated under another Zambian CBNRM initiative, the Luangwa Integrated Rural Development Project (LIRDP), funded by another international donor (Gibson 1999). Both projects were implemented in a region shared with the South Luangwa National Park and North Luangwa National Park. Zambian hunters had decimated wildlife in the 1970s and 1980s. The costs of living with wildlife had greatly exceeded the benefits for local communities. ADMADE and LIRDP aimed to transform would-be poachers and create a sense of local proprietorship in wildlife.

ADMADE ended up adding another layer of bureaucracy onto local communities, alienating them with increased enforcement (Gibson & Marks 1995). ADMADE attempted to change individual behaviour by offering incentives that mimicked public goods, such as schools and clinics. However, the program did not fully appreciate the social significance of hunting and hunters continued to poach. Increased enforcement simply altered tactics and prey selection. The pay and jobs for game scouts were positive incentives to enforce, but the public goods nature of incentives to hunters led to free-riding (Gibson 1999). Game scouts were also under considerable social resistance from neighbours who were often their friends and relatives. Chiefs oversaw the community projects resulting from the communities' share of wildlife revenue, and they selected the

individuals to be trained and employed as village game scouts. These features produced predictable problems of benefits distribution, nepotism and the alienation of the game scouts from their communities (Gibson & Marks 2005).

ADMADE tried to replace direct community access to wildlife for survival in marginal environments with limited access to community-level infrastructure and minimal participation in wildlife management. Rural residents found this exchange unappealing (Gibson & Marks 1995:952). The ADMADE program was carried out in designated Game Management Areas on communal lands. It did not provide direct access and voice to communities in managing wildlife on the communal lands and in adjacent national parks. The conservation agenda was defined and driven, top down. There was little to no recognition of local institutions for collective action related to wildlife conservation or local participation in defining objectives. Incentives flowed through committee structures of the central bureaucracy and centred upon the chiefs, village game scouts and enforcement activity. The rules of access to wildlife were centrally imposed; the framework of what constituted legal and illegal use of wildlife remained unchanged. The boundaries of the ADMADE program reflected nationally defined Game Management Areas, not any locally negotiated boundaries of access and use reflecting local traditions and cultural practices. The distribution of benefits reinforced the power of chiefs and enforcement by game scouts, recruited from local communities. The complexities of community cultural norms and values, especially regarding wildlife use, living with wildlife and the role and status of community hunters were overlooked in program design. ADMADE was community-based in name only. It did not uphold the subsidiary principle and it achieved only limited success in curtailing some poaching, with no evident overall conservation of biodiversity.

### *Torra Conservancy and CBNRM in Namibia*

The Torra Conservancy in NW Namibia and Namibia's CBNRM program have received international recognition as a successful approach to CBC (World Resources Institute 2005; UNDP 2004a) and are given particular attention here on the premise that this model may offer prospects for cooperative linkages and partnerships in biodiversity conservation with neighbouring protected areas. The NW Namibia region has been selected as the case study area for the aforementioned doctoral work (Figure 1).

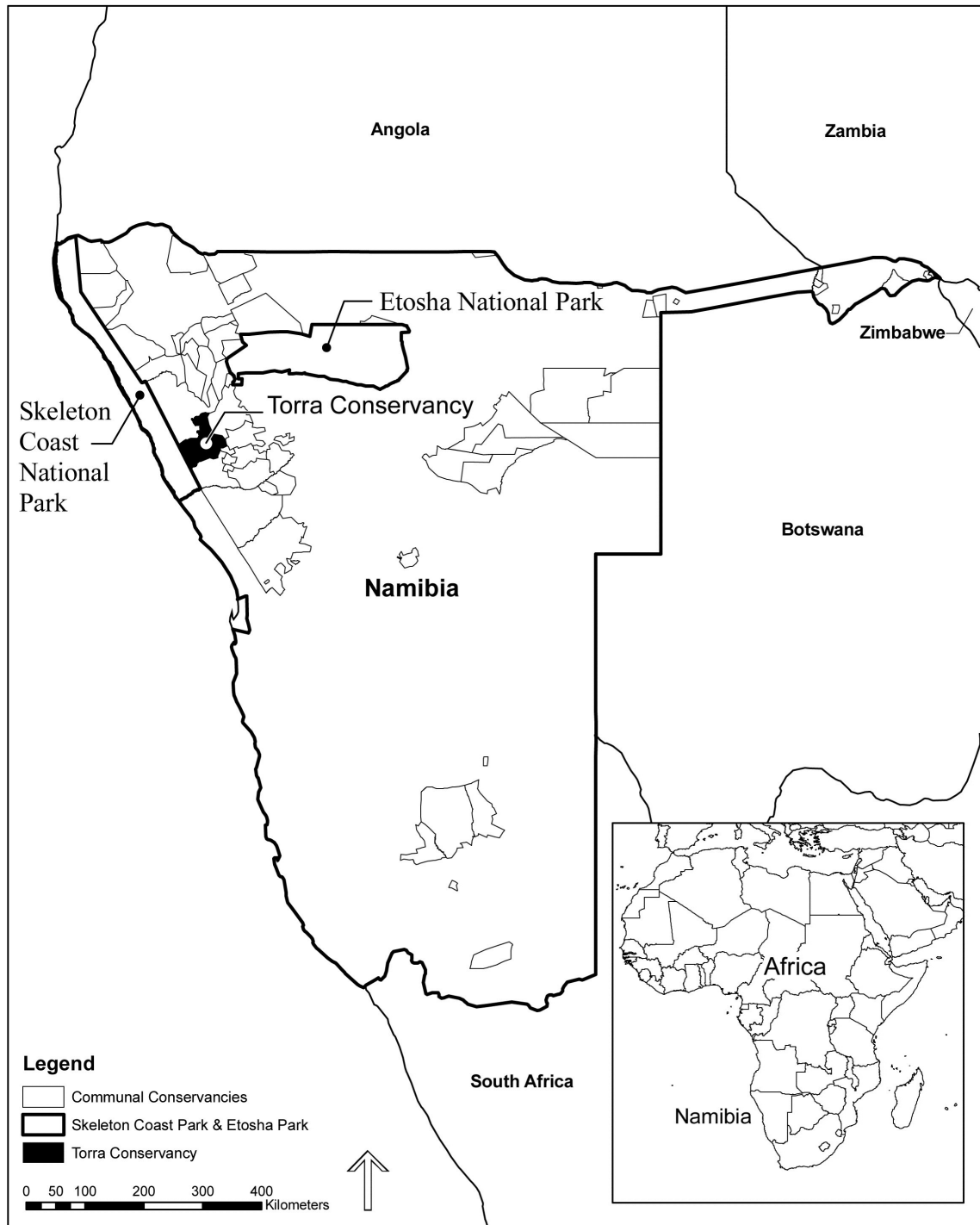


Figure 1: Study area in northern Namibia

The United Nations Development Program (UNDP) Equator Initiative (EI) champions and supports community-level projects that link community economic improvement with the conservation and sustainable use of biodiversity (UNDP 2004a:1). An Equator Prize is awarded biennially to recognize outstanding communities from developing countries in the tropics demonstrating practical efforts to conserve biodiversity and reduce poverty. The Torra Conservancy is a 2004 UNDP Equator Prize winner (UNDP 2004b) and is located on communal lands in the Kunene region of NW Namibia. It encompasses 352,200 hectares of semi-desert and sparse savanna, with an annual rainfall of less 100mm/year. The small population of 1200 includes Damara and Riemvasmaaker tribal groups, with fewer Herero and Ovambo people, dispersed in small pastoral villages. Principal livelihood activities include small and large stock farming (goats, sheep, cattle) small-scale vegetable gardens, wage labour, and some absentee wage earners. The conservancy is premised on conserving an impressive wildlife assemblage endemic to the spectacular and remote arid wildlands of the Kunene region. The wildlife includes elephant, black rhino, springbok, mountain zebra, giraffe, oryx, kudu, black-face impala, lion, cheetah and leopard and other endemic species. Many of these species move seasonally through the wider Kunene region that Torra Conservancy occupies with other established conservancies and two large protected areas, the Skelton Coast Park and the Etosha National Park.

Major declines in the wildlife of this region occurred in the 1970s due to proliferation of firearms in a liberation war for Namibia, commercial demand for ivory, rhino horn, cheetah, leopard and zebra skins, and subsistence meat during a period of severe drought. Poaching was widespread and originated from South African Defence Forces, refugees from Angola and local residents acting as middlemen, or hunting for the pot. By 1982, the elephant population had been reduced to 250 from an estimated 1200 in 1970 and Black Rhino from 300 in 1970 to 65. Other populations were estimated to have been reduced by 60 percent to 90 percent (Jones 2001). Today, the elephant, rhino, giraffe, zebra and other species have recovered impressively (Gibson 2001). For instance, the region now boasts the largest black rhino population in the world (Nott *et.al.* 2004).

Torra Conservancy has 450 registered adult members (UNDP 2004b) and was established as one of Namibia's first communal land conservancies in June 1998, following promulgation of the Nature Conservation Amendment Act of 1996. This legislation enabled a national Community-Based Natural Resource Management Program (CBNRM) that devolved certain rights of use and management of wildlife to communal area communities. Torra Conservancy is a part of the national CBNRM program and is one of 44 registered communal conservancies today. It is recognized as one of the most successful, achieving operational self-sufficiency in 2002, following initial support from international donors and national ngos. Torra Conservancy has a management committee of five men and one woman and employs five (5) community game guards, a field officer, community activist and receptionist operating out of a conservancy office. It conducts annual wildlife counts and monitoring and earns wildlife-based revenues from a joint venture lodge, trophy hunting, live sales of springbok, as well as providing for own use hunting of conservancy community members. The joint venture ecotourism lodge, the Damaraland Camp, operated by Wilderness Safaris, a South African tour company, under a partnership agreement with Torra Conservancy, is the dominant revenue-generating enterprise, providing annual land rent revenue, monthly bed levy revenue and twenty-two

(22) full-time jobs for Torra Conservancy members (Long 2004; Manager, Damaraland Camp, July 2006, Torra Conservancy). A key feature of the joint venture is the land tenure arrangement for the ecotourism lodge. The Torra Conservancy received authority from central government to issue a Permission to Occupy (PTO) with the private company. Thus, the private enterprise receives the right to occupy its land base from the Torra Conservancy and pays an annual land rent to the conservancy. The partnership in the ecotourism enterprise is the principal reason for the self-sufficiency of the Torra Conservancy (NACSO 2005). The partnership with an international tour company provides the Torra Conservancy with access to an international, upscale tourist market that it would otherwise not have the capacity to attract to the Damaraland Camp.

Beyond direct employment and cash benefits from tourism enterprises, other benefits are recognized as part of Torra's success. These include livelihood benefits such as fencing to protect livestock and crops from wildlife predation and foraging. Secure community water boreholes, supply of diesel fuel for community water pumps, secure access to grazing areas and water for livestock are all funded by the conservancy. Other community benefits include the ability to live and work in one's home area and keep families together, the ability to continue to raise livestock for livelihood security and cultural purposes, and the receipt of highly valued wild meat from community hunts (Long 2002). There are opportunity costs of living with tourism enterprises like Damaraland Camp, such as tourist traffic through communities and grazing areas. However, the benefits are reported to have offset such costs (Long 2002). Indirect benefits arising from the development and operations of the conservancy such as capacity building in natural resources and financial management have also been realized by the Torra Conservancy membership (Long 2002; Senior Manager, WWF (US), August 2006, Windhoek).

### *Early History of Namibia's CBNRM Program*

In 1982, a national NGO, the Namibian Wildlife Trust, acting out of concern for severely depleted elephant, black rhino and other wildlife in NW Namibia due to drought, armed conflict and poaching, appointed a conservator, Garth Owen-Smith, with long experience in the region. He engaged local headmen, who shared concern about the loss of wildlife. The headmen appointed their own auxiliary game guards, later to be known as community game guards. These men were all respected hunters from local communities. The aim was to stop poaching (Director, IRDNC, July 2006, Wereldsend) and the game guards monitored wildlife, reporting suspicious activities and poaching incidents to the headmen, who in turn informed government wildlife enforcement personnel. By the late 1980s, regional wildlife populations had noticeably recovered. The cessation of military operations and improved rainfalls are recognized as contributing factors to wildlife recoveries in this period. However, the community game program was a major factor in stopping poaching and allowing wildlife to recover. Increasing demands for the programme led to the formation of a new Namibian NGO, Integrated Rural Development and Nature Conservation (IRDNC) which has facilitated and supported further development of CBNRM in the Kunene and Caprivi regions of northern Namibia to the present day.

Namibia gained independence in 1990 and the black majority government extended rights in wildlife to communal area residents that had previously only been granted to white farmers on private lands by the South African administration. During this same period, senior officials in the Ministry of Wildlife, Conservation, and Tourism were formulating proposed national policy and program responses to the United Nations Conference on Environment and Development (UNCED) 1992, the signing of the Convention on Biodiversity in 1992 (UNEP 1992) and an emerging sustainable development discourse in Namibia (Jones 2000; Senior Manager, Namibian Nature Foundation, June 2006, Windhoek). IRDNC Directors Garth Owen-Smith and Dr. Margaret Jacobsohn, based on their knowledge and experience in conservation and social science gained from successful experiences working with local communities in the community game guard program, were requested by ministry officials (now the Ministry of Environment and Tourism) to help design and conduct community surveys that eventually led to drafting the policies and legislation for a national CBNRM program (Jones 1996; Consulting Environmental Specialist, July 2006, Windhoek; Director, IRDNC, July 2006, Wereldsend). USAID provided donor assistance under its 'Living in a Finite Environment (LIFE) Program,' through an executing agency, the World Wildlife Fund WWF (US). USAID and WWF (US) have remained main international donor agents in Namibian CBNRM, although other international donors have come in. The resultant legislation, the *Nature Conservation Amendment Act 1996*, provided for the devolution of certain rights and uses of wildlife to communal area residents. These included rights to hunt, capture, cull and sale 'hunnable game' such as springbok, oryx, and kudu under quotas established by the Ministry of Environment and Tourism (MET), as well as the right to use quotas of protected game such as elephant for trophy hunting (World Resources Institute 2005). Communal area residents are required to form a common property resource institution called a conservancy to participate in the CBNRM program and enjoy the rights in wildlife and related tourism development devolved under the legislation. Conservancies must be approved by and registered with the Ministry of Environment and Tourism. Registration requires a defined conservancy boundary, a defined membership, a representative conservancy committee, a constitution recognized by government and a commitment to producing a benefits distribution plan (Long 2004; World Resources Institute 2005). Common property resource design principles including external recognition, defined boundaries and membership were explicitly considered in the formulation of conservancy registration requirements. Torra Conservancy was one of the first to meet these registration criteria and was established with substantial technical assistance from IRDNC. The wildlife conservation and tourism development activity of Torra Conservancy was focussed especially upon the partnership with Wilderness Safaris to develop and operate the Damaraland Camp ecotourism enterprise (Salole 2003).

Key linkages and partnerships have evolved in Namibian CBNRM, from a few simple ones between local communities, a national conservation NGO and the national government wildlife agency during the initial community game guard program of the 1980s, to multiple cross-level linkages, involving several international donors, multiple national NGO's, the University of Namibia, private enterprises, and the Ministry of Environment and Tourism. USAID remains a major international donor, although the WWF LIFE project is in its third phase, and activities are expected to wind down with the strengthening of national and local institutions. National NGOs such as IRDNC, the Namibian Association of CBNRM Support Organizations (NACSO), the Namibia Nature

Foundation, and the Namibia Community Based Tourism Organization provide various technical support and capacity-building services to conservancies.

NACSO is an umbrella organization for some thirteen different national NGOs and the University of Namibia supporting CBNRM. Its activities are organized under three working groups: institutional development; natural resources management and; business enterprises and livelihoods (Senior Manager, NACSO Secretariat, June 2006, Windhoek). The Ministry of Environment and Tourism is as an observer on all NACSO working groups, reflecting its overarching approval and registration role for conservancies. A CBNRM unit was created in the Ministry of Environment and Tourism in 2002 to help facilitate the development of CBNRM as a national program (Long 2004). Most recently, the Global Environment Facility (GEF), through the World Bank, has funded the five year Integrated Community-Based Ecosystem Management Project (ICEMA), to help the ministry further develop its own capacities to support and broaden the application of CBNRM (Ministry of Environment and Tourism 2006). The rapid scaling up of conservancies in Namibia, from an initial four (4) registered in 1998, to forty-four (44) in 2006, the institutionalizing of legislation, government and NGO programs to support conservancies, and an evident evolution from a wildlife conservation and tourism focus to broader enterprise development and integrated resources development approaches has not yet been well researched.

### *Evolution of Community-Based Conservation in Namibia*

Reflection on Namibia's experience with CBNRM and the Torra Conservancy reveals an evolution of community-based conservation institutions covering 25 years. Attention will now be given to identifying salient factors for success, challenges faced and lessons offered by Namibia's conservancies and CBNRM system.

Community economic benefits from ecotourism and trophy hunting based upon wildlife and wilderness attractions, backed by enabling government policy and legislation, are at the core of community-based conservation in the Torra Conservancy case. However, the precursor community game guard program was built as much on the intrinsic cultural and religious values of local communities related to wildlife (Jones 2001). For instance, one of the headmen involved in starting the community game guard program is quoted to have said, "we must keep the game because God makes rain for the animals and we humans only have rain because the animals receive rain from God" (Director, IRDNC, July 2006, Wereldsend). At that point in the evolution of Namibian CBNRM, it was very much a bottom-up approach, as opposed to a top down attitude suggesting that local people needed to be taught about conservation. The early efforts in the Kunene region recognized and built on a local ethic of wildlife conservation. Traditional leaders shared the concern about the disappearance of wildlife and wanted to do something about it (Director, IRDNC, July 2006, Wereldsend). The first local conservation actions in Kunene region in the 1980s reflect a willingness to conserve, before any economic incentives or benefits were received. Indeed, leadership and a shared vision for wildlife recovery were factors that prompted the early success of the community game guards as precursor to the national CBNRM program in Namibia. Consistent involvement of those who were there from the beginning of the game guard



program, the conduct of community surveys, development of national policy and legislation, and successive formation of supportive NGOs and private partnerships all ensued. Respectful reciprocities and partnerships have been featured throughout. Unlike the village game scouts of Zambia's ADMADE program, the community game guards in Namibia were never enforcement personnel acting on behalf of local traditional authorities or the central government. Rather, they have served as wildlife monitors, providing knowledge and information that management authorities external to the communities use to curtail poaching and support other wildlife management activities. Wildlife monitoring has evolved to include regular and systematic game counts, facilitated by donor and NGO support, as well as development of an 'Event Book System' of environmental monitoring. The Event Book System features communities deciding what needs to be monitored, deriving its name from monitoring stochastic events like veld fires, poaching incidents, problem animal incidents, and wildlife mortality (Hill *et.al.* 2005). This system is reportedly proving to be an effective catalyst for information sharing and cooperative wildlife management between the communities involved, technical support staff in NGOs providing data handling and analyses, and park management authorities in protected areas adjacent to conservancies implementing the Event Book System.

A variety of design principles for long-enduring common property institutions at local levels have been recognized (Ostrom 1990; Agrawal 2002), many of which are evident in Namibia's CBNRM program, others of which are not. Such design principles are all aspects of local institutions, or the norms and rules determining who is excluded from a particular resource use or area, and how participants deal with subtractability in ways that sustain collective agreement and mutually shared benefits. Table 1 summarizes comparative features in the CAMPFIRE, ADMADE and Namibian cases.

The design of the Namibia CBNRM program and conservancies explicitly considered and applied many of these recognized design features and principles, including defined conservancy boundaries, a defined conservancy membership and external legal recognition of conservancies and rights to organize by Government of Namibia. Experience from the CAMPFIRE and ADMADE programs reportedly informed these design decisions in Namibia. There was a deliberate effort to avoid pre-determined boundaries such as CAMPFIRE's use of rural district ward boundaries and ADMADE's use of nationally defined Game Management Area boundaries. Rather, communities were required to self-organize and negotiate their boundaries, to help ensure devolution of wildlife use rights and benefits to the community level.

Table 1: Institutional comparisons in Southern African community-based conservation

Design Principles for Enduring Common Property Resource Institutions (Ostrom 1990)	Zimbabwe's CAMPFIRE Program	Zambia's ADMARE Program	Namibia's CBNRM Program and Conservancies
Clearly Defined Boundaries for Resources Used or Managed	Wildlife are migratory and distributions do not conform to boundaries of rural district wards and protected areas	Wildlife are migratory and distributions do not conform to Game Management Areas and protected areas	Wildlife are migratory and distributions do not conform to conservancy boundaries and protected areas
Clearly Defined Boundaries for Social Groups Involved	Established rural district ward boundaries applied; no local community definition	Established Game Management Area boundaries applied; no definition by local community	Local communities negotiate and self-define conservancy boundaries
Agreed Rules for Resource Access and Use	Wildlife laws and quotas set by central government; certain wildlife management and benefits devolved to rural district councils; revenues shared between rural district councils and ward/village levels	Wildlife laws and quotas set by central government; benefits & revenues shared between central government and community chiefs	Central government assigns wildlife quotas to conservancies; all revenues & benefits accrue to conservancies
Collective Choice Arrangements	Rural district management; limited to no local community institutions for wildlife	Chiefs and headmen make decisions re. community	Conservancy committees elected to represent community members
Provisions for Monitoring Resource and Use	Central government monitors the state of wildlife and use	Central government monitors state of wildlife and use	Community game guards recruited by conservancies; report state of wildlife and violations to central government; do not enforce
Graduated Sanctions for Violations	Central government wildlife laws applied; central government penalties, enforcement & prosecution of violations	Village game scouts appointed by chiefs enforce wildlife laws on behalf of central government that sets penalties and prosecutes violations	Central government applies wildlife laws, provides enforcement and prosecutes violations
Provisions for Conflict Resolution	Central government and rural district councils	Central government; chiefs and headmen	Conservancy committees prepare management and benefits distribution plans; annual meetings of members
External Recognition of Local Institutions	Program defined top-down, with recognition of rural district council level	Top-down program; community chiefs recognized by central government	Conservancies legally recognized by central government; boundaries and members legally registered
Nested Enterprises for Appropriation and Governance	Vertical linkages dominant; NGO support, central government and rural district councils	Central government, NGO support, Chiefs recognized; vertical linkages dominate	Central government, multiple NGOs, national CBNRM organization, multiple conservancies, networks

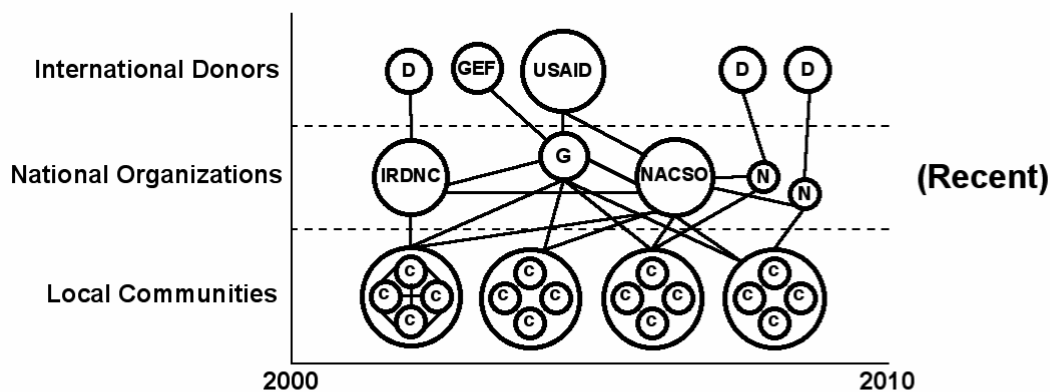
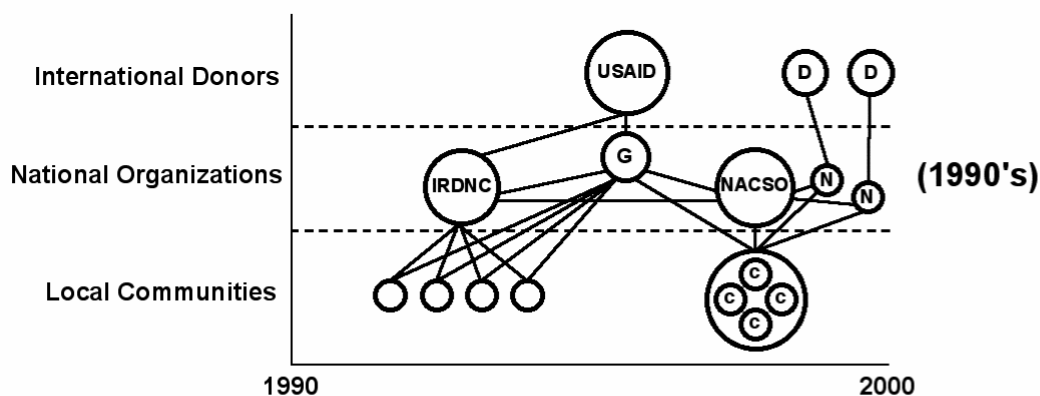
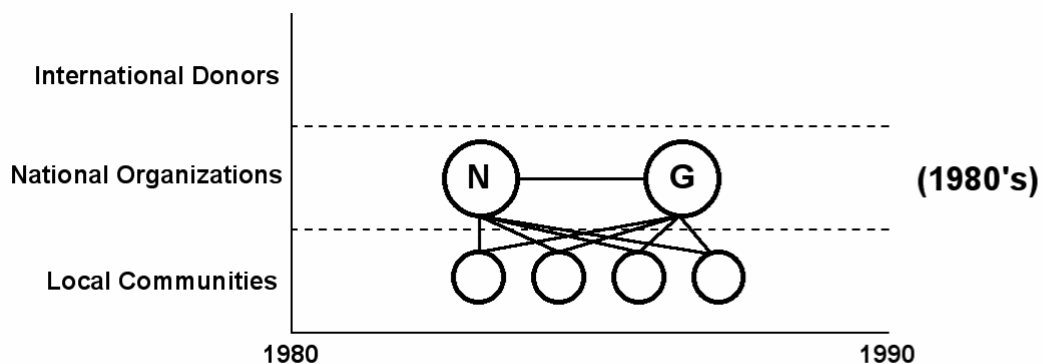
The formal registration of conservancy members was another self-organizing feature. Formal registration and gazetting of conservancies reinforced the external recognition principle for community level institutions, again a significant departure from both CAMPFIRE and ADMADE. As well, the revenues and other benefits under conservancies accrue to the conservancy committees and are not shared with central government or regional level authorities, as they were under CAMPFIRE and ADMADE. The advantages of devolving rights to manage wildlife and benefits to the community level were learned from CAMPFIRE, but so too was a lesson to retain all revenue from wildlife at the community level (Jones, 2000).

As registered conservancies in Namibia have proliferated exponentially over the relatively short period from 1998 to 2006, there are emerging new challenges. Conservancy boundaries have been defined based on protracted consultations and negotiations with neighbouring communities. The boundaries of various conservancies, including the Torra Conservancy, took several years to achieve community agreement on and disputed territories among neighbouring conservancies remain. Boundary disputes have reflected complexities of tribal groups, resource use practices, early tendencies to favour smaller, more manageable management units, and changing power relationships with and among traditional authorities (Corbett & Jones 2000). However, the wildlife upon which conservation benefits are based range widely beyond the boundaries of individual conservancies, as animals move seasonally in response to changes in available water and range conditions. Conflicts have arisen over access to wildlife for viewing and harvesting among neighbouring conservancies, as well as among other resource uses such as cattle grazing and water access from neighbouring areas that are not controlled (Corbett & Jones, 2000). More disputes are predictable as conservancies seek to develop more wildlife-based tourism enterprises that will effectively compete with each another. This will likely necessitate new institutional arrangements in resource sharing among neighbouring conservancies and their member communities. Also, some conservancies have been established in parts of the country that are relatively devoid of wildlife, notwithstanding that the enabling legislation and CBNRM program were expressly designed for devolving rights and use of wildlife to communal residents. These are impoverished areas, which are desperate for rural economic development, but they will not realize wildlife-related community development benefits because the wildlife resource base does not exist (Research Officer, Legal Assistance Centre, July 2006, Windhoek; Program Coordinator, Ministry of Environment and Tourism, July 2006, Windhoek). Therefore, prospects appear high for the conservancy model as originally designed to be misapplied by local communities and politicians alike, leading to unrealistic and unfulfilled poverty alleviation and community development expectations (Research Officer, Legal Assistance Centre, July 2006, Windhoek; Program Coordinator, Ministry of Environment and Tourism, July 2006, Windhoek). CBNRM and conservancies have been the only programs since Namibian independence that have given legal recognition to local access and use of communal land resources. The wider need for land tenure reform in Namibia that addresses inequities in land distribution and use between private lands and communal lands is evidently creating unrealistic economic development and poverty alleviation expectations for the conservancies that the originating legislation and its focus on wildlife rights and benefits is not well suited to address (World Resources Institute 2005). As well, the constitutions that conservancies are required to draw up as part of their registration process are a standard template that

have not been understood by some conservancy committees, including provisions for annual general meeting and quorum requirements that some conservancies have not had the capacity to achieve (Research Officer, Legal Assistance Centre, July 2006, Windhoek).

The recognition of local rights to organize by institutions and authorities beyond the local level implies that there are needed relationships with other institutions at different scales, beyond local institutions. Nested enterprises mean different levels or scales of collective action that are mutually reinforcing (Ostrom 1990). Clearly, external recognition of conservancies as provided for in Namibia's legislation, the omnipresence of international donor assistance, the evolution of multiple national NGOs facilitating and supporting community-based conservation, and conservancy partnerships with private enterprises are all evidence of such principles. Cross-level linkages among international, national and local agents are all evident. Several key informants stressed that international donors came into support the program only after it had been 'made in Namibia' and the donors received program design direction, rather than the reverse.

The evolution of cross-scale linkages, both horizontal and vertical, in Namibian community-based conservation is summarized in Figure 2. This is not a literal representation of all the institutions at the different levels of organization (for example, there are 44 registered conservancies in 2006, at least 13 national NGOs active in CBNRM and several other international donors funding different national ngos). What is evident, even at this schematic level, is the evolution of institutions and networks. As well, there is an evident emergence of networks of knowledge sharing among maturing conservancies. This is depicted in Figure 2 by suggesting a clustering effect of stronger linkages among the first established conservancies, while new conservancies are being quickly registered that are still individual entities, with nascent institutional capacities. Other noteworthy features are: the prominence of IDRNC as the longest serving and only NGO dedicated entirely to facilitating CBNRM; a central and consistent role played to date by USAID as an international donor; the presence of other international donors supporting single NGOs; the regionalization of NGO support for conservancies, with lead NGOs working with groups of conservancies on a regional basis and; the central place of the Government of Namibia, through its Ministry of Environment and Tourism, in the legal recognition of conservancies and devolution of rights in wildlife use and management.



#### SYMBOL LEGEND

(N) National NGO	(C) Conservancy	(USAID) USAID & WWF (U.S.)	(NACSO) Namibian Association of CBNRM Support Organizations
(G) Ministry of Environment & Tourism or Predecessor	(D) Other International Donors	(IRDNC) Integrated Rural Development and Nature Conservation	
(O) Local Community	(GEF) Global Environment Facility		

1/10/07

Figure 2: Evolution of community-based conservation in Namibia

Small group size, the location of users close to the resource, homogeneity among group members, and past experiences of social cooperation have been suggested as other features of enduring common property resources (Ostrom 1990; Agrawal 2002). These conditions are not as well represented in the Namibia conservancies like Torra. Participating group sizes, while relatively small, are widely dispersed. The aridity and wide ranging wildlife combine to demand large-scale ecological units for management as noted. Distinct and varying tribal groups comprise conservancy membership and some community members are not registered conservancy members. Moreover, there is a national history of social upheaval and segregation under intertribal and colonial conflicts and apartheid-imposed homelands that has militated against long histories of social cooperation. Hence, the resilience and adaptability of conservancies to emerging expectations being placed on them following their exponential growth is uncertain. Some research has argued that conservancies are a very limiting model, reflecting male-dominated traditions of power and decision-making, focussed solely on managing charismatic mega-fauna for tourism benefits (Sullivan 2001). These biases are argued to have denied the recognition and use of traditional ecological knowledge of both men and women for the diverse resources that form traditional cultural uses and practices: eg. the use of smaller animals, medicinal plants, wild fruits and vegetables, graze and water for cattle. While this is valid critique, it does not preclude the potential adaptability of the conservancy model to accommodate participation by both women and men and the application of deeper bodies of traditional knowledge. For instance, it was observed during participation of this researcher at quarterly planning workshops for conservancy programs in 2006 that both IRDNC and the conservancies it facilitates are engaging women as community activists, conservancy committee members and program spokespersons. Women are clearly taking up leadership functions in conservancy decision-making, notwithstanding their reported exclusion in earlier days of conservancy formation (Sullivan 2001). The Torra Conservancy, through its partnership with Wilderness Safaris, has secured jobs for both men and women from its community membership. Indeed, the manager of the Damaraland Camp is a woman from the local community. As well, conservancies are now being employed as local institutions to provide HIV/AIDS awareness and education critical to sustaining life, livelihoods and natural resource management in the face of the HIV/AIDS pandemic in Namibia. During a recent polio outbreak in 2006, conservancies were being used as functional and effective local institutions to promote and support an immunization program in rural Namibia. Such activities are critical for community health and livelihoods and suggest that conservancies can evolve and adapt successfully to emerging conservation and community development challenges, as well as provide for wider community participation and more open, inclusive governance, evidenced by the growing opportunities for women.

Researchers, donors, NGOs and government have expressed several other concerns about the achievements of conservancies in conservation and community development. Only a few of the conservancies beyond Torra have produced enough income from wildlife to be self-sufficient (Program Coordinator, Ministry of Environment and Tourism, July 2006, Windhoek; NACSO 2004). Their viability as sustainable community institutions when donor funding ceases has been questioned. Distribution of wildlife benefits beyond the community level to the poorest households

has also been limited (Long 2004; World Resources Institute 2005). The situation of both registered members and non-members living within the conservancies is related to the benefits distribution issue. Benefits are to be distributed only to members, yet different conservancies have handled this differently, some distributing benefits like meat from community hunts or dividends from tourism revenues to all member households, while other conservancies confine benefits distribution to member households only. Equitable distribution of benefits to farming households who do not share in employment income from conservancy tourism enterprises yet bear the costs of living with predation of livestock by wildlife, damage to water points, crop damage, and injury and death from wildlife has yet to be achieved (Long 2004; World Resources Institute 2005). This situation is exacerbated by increasing human-wildlife conflicts in conservancies like Torra where wildlife population increases from conservation effort have resulted in increased losses and damage caused by wildlife. Moreover, the transparency and accountability of conservancy committees in their management of revenue received from wildlife and tourism projects, the representativeness of conservancy committees, and the participation and voice of community members in conservancy governance are all emerging issues over the short period that conservancies have been established (Senior Manager, NACSO Secretariat, June 2006, Windhoek; Research Officer, Legal Assistance Centre, July 2006, Windhoek; Program Coordinator, Ministry of Environment and Tourism, July 2006, Windhoek).

The importance of scale is underscored by the fugitive nature of wildlife. Issues such as matching scales in biogeographical systems or institutional fit, evaluating and avoiding scale discordance in management, and evaluating the place and role of mediating institutions between actors operating at different scales, or so-called boundary organizations (Cash & Moser 2000), are all relevant to evaluating the robustness of Namibia's conservancy model to broader ecosystems-based management for biodiversity conservation, including potential linkages to protected areas management. The Kunene region in NW Namibia, with its multiple conservancies and ephemeral river corridors used by wildlife moving all the way from Etosha National Park to the Atlantic coast in the Skeleton Coast Park (Ministry of Environment and Tourism 1997) presents ecological and social characteristics invoking the need for varying scale perspectives in conservation and natural resources management. The wildlife that are the basis of community conservation and benefits move well beyond the boundaries of individual conservancies in search of graze, browse or prey. Opportunities for tourist viewing of wildlife, for example, may be confined to a sub-area within one conservancy. However, the animals that are being viewed are dependent on much larger areas of habitat for survival. Thus, the management scale for sustainable habitat management is regional, while the management scale for tourist use and enjoyment may be much more localized within a conservancy area.

## Conclusions

Several conclusions may be drawn concerning features for enduring community-based conservation institutions that may contribute to the overall conservation of biodiversity. As well, some insights are offered for the robustness of Namibia's conservancy model and its application in biodiversity conservation related to protected areas management. These will be explored further in the wider doctoral research investigation of protected areas and community-based conservation linkages in NW Namibia.

Namibia's experience with CBNRM and the formation of conservancies as exemplified by Torra Conservancy represents an evolution in institutional development and change spanning over 25 years. This dimension of time in the institutional development of community-based conservation is noteworthy. It takes time for self-organization to occur, for enabling policies and legislation to be formulated and for institutional networks of governance to be formed. Noteworthy too are what might be termed critical convergences of events, persons and visions that evidently trigger collective action at the local levels and across levels of organization. Such critical convergences in the Namibia case included:

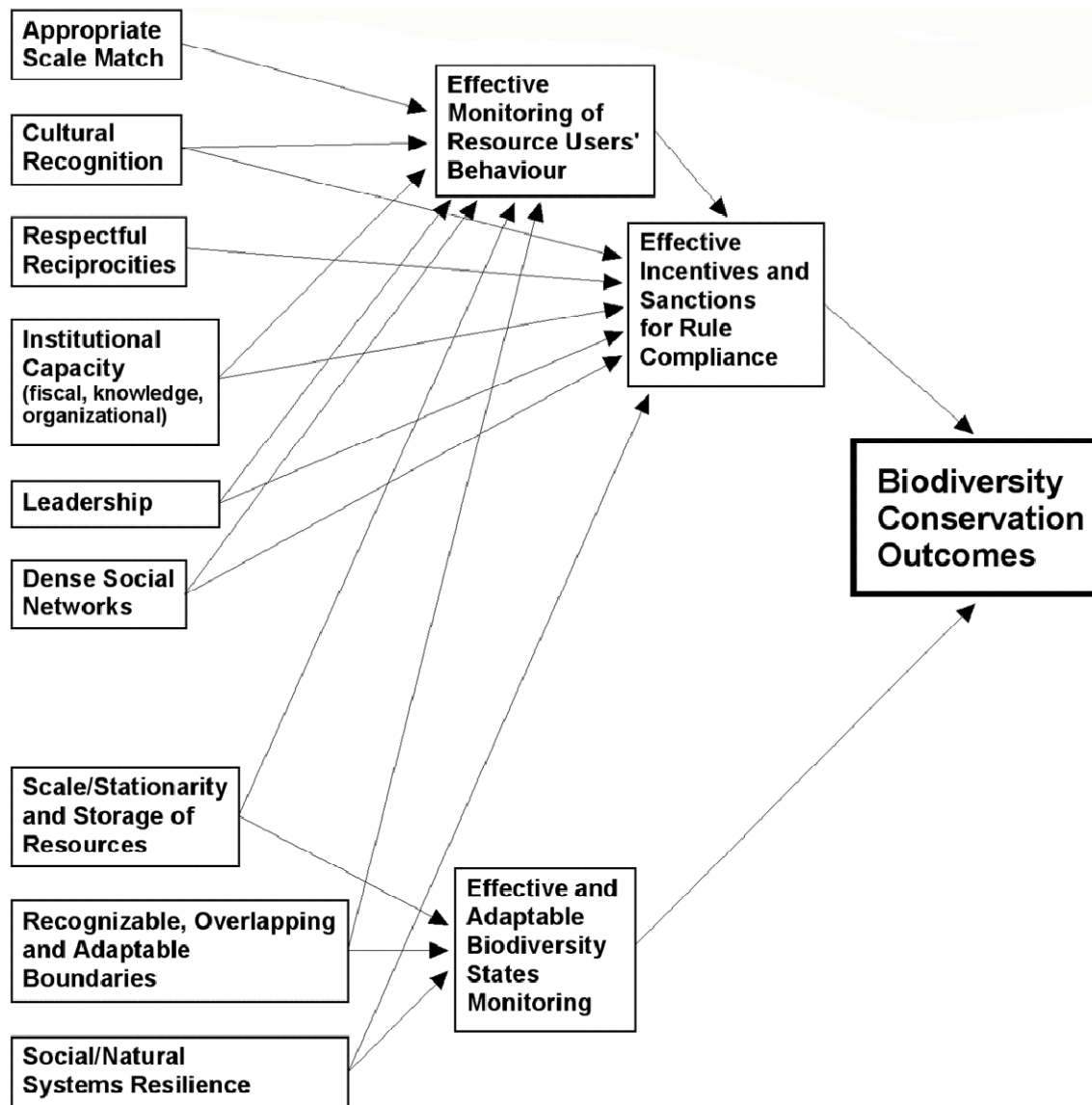
1. NW Namibia community headmen and Garth-Owen Smith having a common vision to restore wildlife populations and then acting to create the auxiliary game guards in the 1980s;
2. The gaining of independence by Namibia in 1990 and the critical convergence of this event with policy thinking of senior officials in government contemplating emerging global discourses in sustainable development and conservation;
3. The convergence of USAID and other international donor support with CBNRM policy and program thinking originating in Namibia, leading to national legislation for CBNRM in 1996, registration of the first conservancies in 1998, and the formation of NACSO in 1999.

Both bottom-up and top-down development of community-based conservation has been featured in Namibia. Bottom-up dimensions include the initial development of the community game guard program with local headmen, self-organization by communities to form conservancy boundaries, registered memberships and constitutions and the preparation of wildlife benefits distribution and management plans by conservancies. Notable top-down features include promulgation and administration of national law and policies for conservancy registration and legal gazetting, as well as the setting of wildlife use quotas by central government. The flow of donor funding is also a very top-down feature and pervasive influence. Perhaps the dominant characteristic of Namibia's CBNRM program is the institutionalizing of facilitation and support for CBNRM by the national NGO community. Namibian NGOs have evolved as boundary organizations (Cash & Moser 2000) mediating the contributions of international donors and legal requirements of central government with local conservancies, and facilitating capacity-building at conservancy level to meet conservancy registration requirements and manage donor funds and revenues from wildlife conservation and related tourism enterprises. A



strong and quite well coordinated network of CBNRM support organizations has developed that has facilitated capacity-building at the local level and partnerships with private enterprises. This density of supportive networks bodes well for the robustness of the conservancy model for wildlife conservation.

A recent and useful model of causal processes for resource outcomes (Ostrom 2004) has been modified and adapted based on this review of Southern African and Namibian experience in community-base conservation. The model suggests the attributes of resource users and resources that may effect the achievement of biodiversity conservation (Figure 3). Certain resource user attributes from Ostrom's model, including dense social networks and reciprocity are retained. Other attributes have been added or elaborated, including appropriate scale match, cultural recognition, respectful reciprocities, institutional capacity and leadership. It may be postulated that biodiversity conservation necessitates positive cross-scale linkages, both horizontal across biodiversity space and vertical across local, national and international levels of organization, while sustaining the subsidiary principle. Leadership by key persons is required at all levels, to build and sustain coalitions for collective action and nested collaborations, and to take advantage of or create what have been termed here as critical convergences. The monitoring of resource use and users remains pivotal, and offers promise as a key process for building partnerships between western science practitioners and local and traditional knowledge holders. Effective incentives and sanctions for rules compliance are pivotal as well. In Namibian CBNRM and the Torra Conservancy case, benefits from wildlife have promoted conservation, but evident challenges remain in benefits distribution and governance. Managing power relations to retain the place and voice of the 'community' remain big challenges. Partnerships between conservancies and private enterprises pose issues in power relations. So too does the involvement of multiple donors and NGOs who have supported and facilitated capacity-building and institutional strengthening of conservancies and CBNRM on the one hand, but who can also push or control communities in certain directions or decisions, through how they may allocate or withhold funds and technical support (Jones & Mosimane 2000).



Adapted from: Ostrom, 2004.

Figure 3: Causal factors for cross-cultural/  
cross-institutional conservation of biodiversity

Resource attributes in this adapted model recognize the necessity of scale considerations for biodiversity conservation, in addition to stationarity and storage (Agrawal 2002; Ostrom 2004; Berkes 2006). Boundaries will not always be clear, but they must be recognizable, will necessarily overlap in terms of different bundles of resource rights and traditions and must be adaptable to monitoring results, new knowledge and changing participants. This appears especially relevant in Namibia as further land reform emerges and tenure arrangements may change.

Properties of social and ecological resilience are also causal for effective monitoring and application of incentives and sanctions for compliance in biodiversity conservation. The acknowledgement of complexity and a cross-cultural conservation ethic (Berkes 2004) are threads coursing through the chains of the adapted Ostrom model.

It is concluded that Namibia's conservancies might serve as effective complements or alternatives to biodiversity conservation within national parks. They will likely require adaptation from their original purpose and design, to accommodate greater pluralities of traditional knowledge, wider community participation and more transparent governance. Observers have noted, some ten years after Namibia gained independence, that the country still suffered from the legacy of South African colonial rule and imposition of apartheid policies (Jones & Mosimane 2000). This observation remains true today. While there are recent indications of changing attitudes, policies and legislation concerning protected areas management in Namibia, the national parks remain very much under a command - and - control model (Holling & Meffe 1996) developed throughout the German and South African colonial periods and reinforced by the South African administration under the *Nature Conservation Ordinance No. 4 of 1975*. There have been few if any linkages between wildlife management in the national parks and that emerging under Namibia's conservancies. A draft policy was prepared in 1997 for linking local communities and protected areas, but this was never acted upon (Jones 1997). No serious attempt has been made to include conservancies in deliberations for new parks being contemplated under a currently proposed expansion of the protected areas network, although this situation is reportedly changing. Yet, 27 of 44 conservancies are immediately adjacent to or situated between national parks (Senior Manager, WWF (US), August 2006, Windhoek). Current initiatives for Namibian national parks include newly drafted statutory legislation, a draft tourism concessions policy and a Global Environment Facility (GEF) project to strengthen the protected areas network (Ministry of Environment and Tourism 2006a). All contain features that might promote stronger linkages and networks between local conservancies and protected areas for biodiversity conservation within and beyond protected areas. The wider doctoral research to which this paper contributes will further examine the history of protected areas in and bordering the Kunene region, social and ecological systems within this region, and the potential institutional linkages between conservancies and national parks management.

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