Community-Based Conservation and Protected Areas in Namibia: Social-Ecological Linkages for Biodiversity

By
Arthur Hoole

A Thesis
Submitted to the Faculty of Graduate Studies
In Partial Fulfillment of the Requirements
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To the memory of my parents, and for Leslie

ABSTRACT

This study investigates the premise that national park designations and management in Southern Africa decoupled indigenous communities from their local ecosystems. The research explores ways and means to recouple communities and national parks to promote biodiversity. The relationships are characterized between Namibia's community-based resource management program (CBNRM), conservancies, and protected areas system, with particular reference to the Ehi-rovipuka Conservancy and Etosha National Park in northern Namibia. This is a sparsely populated, arid region, marked by recurrent drought, a stunning wildlife spectacle, and ethnically diverse, communal area villages. The nature and consequences of decoupled social-ecological systems between community and national park are elucidated. Institutional linkages and interplay are identified and described in and between community-based conservation and national parks. Alternative approaches are suggested to the strict protection regimes that typify IUCN Category II National Parks.

A qualitative research approach is employed, featuring a case study and several different and interrelated methods of data collection and analysis. Fieldwork in Namibia was completed over a 6 month period. Semi-structured interviews were conducted with 51 different key informants representing a cross-section of NGOs, private enterprise, international donors, Namibia's Ministry of Environment and Tourism, communities and conservancies. Structured interviews were conducted in the case study community of Otjokavare with 40 Herero villagers in the Otjiherero language, employing a community interpreter and field assistant. Participatory Rural Appraisal (PRA) methods were also employed, including participant observation, memory mapping by 3 village elders, local knowledge mapping by 6 village men and women, and a national park and conservation awareness exercise by 34 Grade 7 pupils at the community primary school. Field research findings were supplemented and triangulated with park and wildlife legislative and policy analyses, as well as the extensive study of regional literature and data sources.

Findings reveal an historic and systemic decoupling of social and ecological linkages by national parks in Southern Africa. Colonial wildlife and protected areas legislation, policies and management practice decoupled indigenous peoples from places and resources they traditionally occupied and used in protected areas,

criminalizing their use of wildlife. The separate removals of Hai||om Bushman and Herero communities from Etosha National Park by central government are presented as compelling examples. Herero elders in Otjokavare shared their memories in narratives and maps, telling a story of forced relocation from and denied return to their ancestral place in the park.

Namibia's CBNRM program and the creation of conservancies on communal lands have recently devolved rights in wildlife to communal area villagers, fostering institutions for community-based conservation. This has been an evolutionary process spanning a 25 year period. Institutional interplay, multiple level linkages and partnerships have proven to be important in this process. Dense social networks of national NGOs, working in support of communal conservancies, and mediating international donor funding, are especially noteworthy. But, partnerships and supportive networks in community-based conservation do not yet bridge the gap between communities and national parks, which still emphasize a command-and-control approach to wildlife management.

Villagers of the Ehi-rovipuka Conservancy identify a range of prospective benefits they would like to enjoy from living next to the Etosha National Park. These are then portrayed as potential mechanisms in a model for recoupling social-ecological linkages between communities and national parks. Key attributes of community and natural resources are suggested for effective monitoring, as are incentives and sanctions, to achieve biodiversity and sustainable development outcomes. Dynamic and mobile community-conserved areas, integrated conservation corridors, integrated community-conserved areas and state protected areas are envisioned within a collaborative, adaptive and wide area landscape approach to biodiversity conservation. These represent alternatives to the strict protection regimes of IUCN Category II National Parks, emphasizing 'community' and community-based conservation, in contrast to typologies of park and protected area.

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Any endeavour of this magnitude requires the patience, support and encouragement of many. My family has been everything to me on this journey. My parents encouraged me at every stage of life and inspired me with their love of people and nature. Our sons Trent and Grant have provided constant encouragement and taken an abiding interest in my progress. My wife Leslie has accompanied me each step of the way, meticulously recording each interview I conducted with the villagers of Otjokavare and taking every twist and turn on the long road from Winnipeg to northern Namibia. She fully shares the accomplishment of completing this trip.

I am especially indebted to particular individuals for their support. Dr. Fikret Berkes challenged and encouraged me as my advisor, inspiring me with his remarkable scholarship. Each member of my thesis committee provided important and valued guidance. Dr. Jim Gardner challenged me to read widely and to never forget important environmental context. Dr. Leslie King's enthusiasm for my subject and her special effort to travel to Namibia and provide on the spot feedback is greatly appreciated. Dr. Stuart Marks shared deep insights from his vast work in Africa, suggested important readings, and provided much needed practical advice. Dr. John Sinclair provided regular encouragement and reminded me to focus my work.

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I wish to acknowledge the skills of several in the production of this document. My colleague Rob Nedotiafko converted my hand drawings and sketches into effective figures. Christopher Werner applied his GIS computing skills to shape files and hand-drawn maps that I brought from the field. Audrey Law Hosegood provided her considerable talents to the layout of the document.

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While this work has depended on the support of many, I alone am responsible for any misinterpretations and shortcomings.

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GLOSSARY

ADMADE: the Administrative Management Design for Game Management Areas community-based wildlife management project in Zambia.

Bushman/Bushmen: synonymous and widely accepted alternative terms for the anthropological term San. There is no agreement about the "correct" form (see Dieckmann 2007:3; Gall 2002:xxiv).

CAMPFIRE: the Communal Areas Management Programme for Indigenous Resources in Zimbabwe.

Cattle Post (also Grazing Station): an area with a natural water supply where the Herero herded and grazed their cattle.

CBNRM: community-based natural resource management.

CBO: community-based organization.

CGG: community game guard.

Ehi-rovipuka: the Otjiherero term for the place of wildlife.

Ephemeral River: a river that has surface water flow only briefly during the rains.

Field Foods: the terminology used by Herero villagers to describe consumable plants, insects, wild honey and smaller game such as birds.

GEF: the Global Environment Facility, a funding program mechanism of the World Bank to support environmental projects in developing countries.

Hai||om: a recognized sub-group of Bushmen in north-central Namibia, who particularly concentrated on and near the Etosha Pan in the Etosha National Park. The || symbol represents a click in pronunciation.

Headman: the recognized leader or chief of the governing council of an Herero community.

Holy Fire (also Ancestral Fire): the spiritual and ritual centre of the Herero household. The term in Otjiherero is the okuruwo.

Hostel: the term used for the sleeping areas or dormitories of residential schools in rural Namibia.

Household: the extended family grouping occupying several adjacent individual dwelling units in a Herero village.

ICEMA: the Integrated Community-Based Ecosystem Management Project of Namibia's Ministry of Environment and Tourism, funded by the World Bank.

IRDNC: the Integrated Rural Development and Nature Conservation, a non-governmental organization that champions CBNRM in Namibia.

Kraal: an Afrikaans or South African English word for a fenced enclosure of livestock in an African village.

LAC: the Legal Assistance Centre, a public interest law centre based in Windhoek that promotes human rights and provides legal assistance to marginalized communities.

Learners: the term used by Herero villagers to describe school pupils.

Linear Oases: a term used in Namibia to characterize the ephemeral rivers and their value to wildlife and people.

LIRDP: the Luangwa Integrated Rural Development Project, Zambia.

MET: Namibia's Ministry of Environment and Tourism.

NACOBTA: the Namibia Community Based Tourism Association.

NACSO: the Namibian Association of CBNRM Support Organizations.

NNF: the Namibian Nature Foundation, a Namibian non-governmental conservation organization.

Pan: a distinctive landscape feature that is a flat or slightly depressed clay-lined basin that catches water and retains it after rainfall.

Rinderpest: an infectious viral disease of cattle and certain wildlife species. The term derives from the German, meaning cattle plague (Wikipedia).

SAEIA: the Southern African Institute for Environmental Assessment.

San: the synonymous anthropological term for the Bushmen of Southern Africa.

Sanga: the indigenous cattle of Central, West Equatorial and Southern Africa that have been crossbred over the centuries and are highly adapted to the range and drought conditions of the region.

SPAN: the Strengthening the Protected Areas Network Project of Namibia's Ministry of Environment and Tourism, funded by the GEF and UNDP to strengthen and expand Namibia's protected areas system.

Spoor: the Afrikaans derived term for the sign of wild animals, such as their tracks and droppings.

SWA: South West Africa.

SWAA: the South West Africa Administration of the Republic of South Africa in South West Africa, now Namibia.

SWAPO: the South West Africa People's Organization.

TA: Traditional Authority of headman and council.

UNDP: the United Nations Development Program.

Veld: a general term used to describe open savannah areas of grass and low bush. It derives from the Afrikaans and original Dutch term meaning 'field' (Wikipedia).

WWF (LIFE): the World Wildlife Fund (US) Living in a Finite Environment Project in Namibia.

PROLOGUE

> *The Ik, like all hunters, must have been as much a part of their natural world as the mountains and winds and rains and the very game they hunted and wild fruits they gathered. Wherever they went there was beauty, for, as Didigwari had told them, there would always be enough. But when they were imprisoned in one tiny corner, the world became something cruel and hostile, and in their lives cruelty took the place of love* (Turnbull 1972:259).

My fascination with Africa and association with national parks and protected areas go back many years. As a young teenager, watching the early days of television in my family home, I was captivated with images of African wildlife and landscapes in programs such as Mutual of Omaha's *Wild Kingdom*. Scenes of cheetahs racing down gazelles, lions stalking and feasting on wildebeests, and elephants striding purposefully to waterholes were indelibly etched in my mind. I determined then and there that I would one day travel to that wonderful continent and experience such spectacles myself.

When I completed graduate work in 1970, I joined Canada's National Parks Service, now known as Parks Canada. These were wonderful early career years. The parks service was full of young, new graduates, zealous and self-righteous about the grand purpose to which we were employed – protecting precious representations of Canada's natural regions for our own and future generations. Budgets were robust in those years and I travelled extensively on field missions to prepare park management plans. I worked first in the mountain national parks, returned briefly to my prairie roots in Riding Mountain National Park and enjoyed great adventures in the North, travelling the South Nahanni River, flying and backpacking in the great mountains and icefields of Kluane, and boating through the Peace-Athabasca Delta of Wood Buffalo. These experiences solidified my belief that Canada's national parks were indeed very special places, to be resolutely protected from the widespread and growing grasps of human settlement, agriculture and industry.

In 1984, now 14 years into my career, I was fortunate to be chosen to attend an international seminar on parks and protected areas, a travelling short course for young park managers and scientists from around the world. We visited many parks and reserves over 6 weeks of travel together and some of these sowed a different seed of personal awareness about people in protected areas. We visited Grand Canyon National Park in the United States, and several monuments and museums, including the

renowned Sonoran Desert Museum, near Tucson, Arizona. In Hawaii, we visited Pu'Uhonua O Honaunau National Historic Park, an historic place of refuge and sanctuary for the indigenous Hawaiian people. And throughout, I shared impressions with fellow course participants, many from developing countries in Africa, Asia and South America. These experiences prompted further reflection about indigenous people in protected areas. I recalled 2 years of public participation preparing the Riding Mountain National Park Master Plan in Manitoba, in the mid-1970s. Our planning team had met with every small community around the park, as well as holding many meetings in Brandon and Winnipeg. However, we did not meet once with the descendants of aboriginal peoples who had hunted and gathered across the Riding Mountain, for centuries prior to European settlement. The resultant master plan, which actually received quite wide public acclaim after earlier versions had been roundly debated and rejected, contained scarcely a reference to aboriginal history and use in the park. I reflected too on my experiences in northern Canada, travelling through aboriginal communities, never contemplating or consulting about how these people had used, or may have wanted to use the special places that we were bent on protecting. Neither was I expected to by the agency that employed me.

Then, my chance to go to Africa finally came. My family and I were fortunate to be selected for a Canadian International Development Agency (CIDA) assignment in Zimbabwe. We had 'won the lottery'! Finally I was going to see those cheetah, lion and elephant firsthand. And we did.

It was a marvellous, challenging three years in Zimbabwe, enjoying the wonderful people and places of that beautiful, but troubled country. During our time there, I heard vague and passing references to a program called CAMPFIRE, the Communal Areas Management Programme for Indigenous Resources. It was the early 1990s, the program was quite new and it was not a focus of my own responsibilities. So, I learned little about it, except that CAMPFIRE aimed to provide incentives and livelihood options to local communities to help conserve wildlife that were increasingly under threat from poaching. Indeed, there was a war against poaching in those years and Zimbabwean game officers were mandated to shoot poachers on sight. And, I heard just such a story.

Apparently, a local African, living just outside one of the national parks, was shot to death when he was caught poaching impala. This was shocking to me; outrageous in fact. How could a native Zimbabwean be killed for doing what his ancestors must have

done for centuries before any national park was established? It seemed to me one thing to stem an illicit international trade in animal parts like rhino horn from endangered populations, and quite another to kill a man for feeding himself and his family. Zimbabwe was in the grips of a drought of the century at the time, and life in the rural areas was desperate. Meat from wildlife was critical for survival. Knowing none of the facts of the particular case, I remained outraged by the alleged incident and it really jolted my thinking about protected areas and local communities.

I returned to Zimbabwe for another two years in 1999 and lived in the midst of several protected areas surrounding the Victoria Falls, a World Heritage Site on the Zambezi River. My views about protected areas and indigenous people were pretty well formed by then and were reinforced by the experience living in Victoria Falls. All of the national parks prohibited hunting, fishing, gathering, wood cutting, settlement and stock rearing by the surrounding African populations. Thousands of tourists visited the area annually to view one of the wonders of the world, the wildlife and scenic Zambezi River, and enjoy world-class white-water rafting and kayaking through the river's magnificent gorges. Meanwhile, there was widespread "poaching" of wildlife, plants and wood in the parks by the indigenous, impoverished local communities. Zimbabwean national park authorities could not keep up with these 'illegal' activities and seemed powerless to enforce the situation. The CAMPFIRE program operated in the nearby Hwange Rural District communal lands, but was apparently having little to no affect in changing local attitudes towards the national parks. My wife Leslie taught school in the Chinotimba high-density area, just out of sight of tourists, and a mere kilometre or so distant from Victoria Falls. Yet, almost all of the African children had never seen the falls. There was and is a major disconnect between these local, indigenous people and the national parks that are supposed to be a part of their national heritage, and which their ancestors traditionally used for livelihoods for centuries before national parks were established.

I resolved to learn more about and improve my understanding of the relationships between protected areas and indigenous peoples. So, I have returned to Africa, through the journey of this research, armed with a few tools from formal theory and the tutelage of wise scholars. I promise some personal reflections on what I may discover at the end of this journey.

CHAPTER 1:
INTRODUCTION

My motives for conducting this research have been briefly explained. It is important too that I immediately declare my observer position or perspective for this investigation. A study of protected areas and community-based conservation may adopt one of at least two perspectives. The researcher can explore the literature and practice of protected areas designation and management and look at local communities through that lens. Indeed, a great deal of the recent literature concerning parks and equivalent reserves considers how a protection agenda can be advanced by forming greater alliances or cooperation with communities, encouraging "compatible uses" on the landscapes surrounding parks and reserves, thus advancing the protection of core areas. This might be characterized as an outreach approach (Hulme & Murphree 2001; West & Brechin 1991). However, I have tried to come at park and people relationships from the other angle. That is, what has community experience been with protected areas and how can conservation relationships with protected areas be created that respect and benefit communities? I will show early in this work that local communities have suffered from preservationist agendas and I further argue that this has led to polarization between protected areas and local peoples that is counterproductive to the conservation of biodiversity. My stance does not diminish a personal sense of the critical role played by protected areas in conserving the world's increasingly threatened biodiversity. However, I contend that local and indigenous communities have been unjustly displaced, disregarded, or co-opted by a preservationist agenda attached to parks and protected areas for far too long. I contend that this situation has ultimately worked against the conservation of biodiversity and is fundamentally unjust.

With these declarations, I begin a journey that may further support or reject such viewpoints shaped from my many years of work in conservation, parks and wildlife management.

This investigation deals with the commons, shared resources and collective action. My research centres on common property resource institutions for community-based conservation and their relationships with protected areas. Community-based conservation and protected area are therefore defining concepts of the work and the meaning of these terms is a useful place to begin.

Community-Based Conservation

Community-based conservation (CBC) is based on the idea that if conservation and development can be simultaneously achieved, the interests of both are served (Berkes 2004). In the African context, community conservation has been defined as those principles and practices that stress that conservation goals are pursued by strategies emphasizing the role of local residents in decision-making for natural resources (Adams & Hulme 2001). 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).

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-based conservation is employed here as an overarching concept, inclusive of and interchangeable with community-based natural resource management (CBNRM). The focus is on wildlife conservation, given the central place and role of wildlife in African community life and national parks management.

Protected Areas in an African Context

There are an estimated 60,000 parks and equivalent reserves around the world that satisfy the IUCN-World Conservation Union definition for protected areas (Phillips 2003).

> *An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources and managed through legal or other effective means* (IUCN 1994:Chapter 2).

This definition and the meaning given to a protected area are applied in the present research, although findings may give cause to reconsider definitions. More precisely, IUCN has recognized six different management categories for protected areas, representing a gradation from strict protection, in Categories Ia, Ib and II, to management for human access and sustainable use in Category VI (Table 1).

Table 1. IUCN Categories of Protected Areas

Category	Description
Ia	Strict Nature Reserve: Protected area managed mainly for science.
Ib	Wilderness Area: Protected area managed mainly for wilderness protection
II	National Park: Protected area managed mainly for ecosystem protection and recreation
III	Natural Monument: Protected area managed mainly for conservation of specific natural features
IV	Habitat /Species Management Area: Protected area managed mainly for conservation through management intervention
V	Protected Landscape/Seascape: Protected area managed mainly for landscape/seascape conservation and recreation
VI	Managed Resource Protected Area: Protected area managed mainly for the sustainable use of natural ecosystems

IUCN 2004

Societies have recognized and set aside protected areas for centuries. Sacred groves, spiritual and religious sites such as temples and burial grounds have received special recognition and respect in virtually all societies (Child 2004a). For the purposes of this research, the state protected area model that originated with Yellowstone National Park in the United States is invoked. The world's first national park was established in the United States in 1872. Yellowstone stressed the protection of the unique natural

features of the area, and public access and use for recreation and tourism (Chase 1987). The so-called Yellowstone model for national parks became synonymous with public ownership, tourism development and above all, the concept of wilderness. Such protected areas had little to no place for indigenous peoples (Lane 2001). The model found wide application throughout the United States, Canada and on other continents, including Africa.

Canada's national parks system began with the establishment of Banff National Park in 1885. The rationale for setting aside Canada's first national park typified that for many of the national parks established from the late 19th century through to the later 20th century. It was the discovery of mineral hot springs by workers building the transcontinental railway that led to the creation of Banff (Parks Canada 1997). The magnificent splendour of the Canadian Rockies and the perceived leisure, recreational and health benefits of the Banff hot springs led to the area being set aside as a national park. While the general vicinity was not an "untouched" landscape and at one time or another had been hunted, trapped and occupied by aboriginal peoples, then harvested, prospected and mined by early European settlers, these uses declined and were phased out under national park policy by the early 20th century (Nelson 1970). Today, Canada's national parks are dedicated to all Canadians and are to be protected for their benefit, education and enjoyment, leaving them unimpaired for future generations (Parks Canada 1994).

The Yellowstone model thus found application in Canada and in many other parts of the world, including Africa. Phillips (2003) briefly traces the history of protected areas in Africa, noting the application of the Yellowstone model and its reaffirmation by the 1968 Africa Convention on Nature and Natural Resources. National parks were defined at that time as areas under strict state control, exclusively for the protection, conservation, and management of vegetation and wild animals. Killing, hunting and capture of animals and the destruction or collection of plants were prohibited, while the public were encouraged to visit (Phillips 2003). An especially poignant commentary on such protection provisions in African national parks is provided by one observer.

> *Many African cultures have always lived among wildlife; wildlife is in a much more real sense a part of their heritage, and hunting and gathering wild products a part of their everyday life. But national parks in Africa have followed the pattern of US national parks such as Yellowstone and Yosemite, where no economic activity or any hunting or fishing or gathering of wildlife is allowed. These 'rules' were developed in the United States and elaborated by the International Union*

> *for Conservation of Nature and Natural Resources (IUCN), based in Gland, Switzerland. They have been applied to Africa first by colonial administrators, then by Western-trained African conservationists and are still the basis of most outside funding and support.*
>
> *The result of applying such rules to African parks is the bizarre situation in which Africans are hired, trained and armed to guard African parks to keep out African people, for the benefit of both the protected animals and the people who come to see them...* (Timberlake 1991:141).

The present research is directed at examining those protected areas in Africa designated as national parks or equivalent reserves; the IUCN Category II protected areas fashioned from the Yellowstone mold and continuing to this day in many instances to disenfranchise indigenous Africans from their legacy of natural and social capital (Hulme & Murphree 2001; Berkes & Folke 2002). More particularly, the research is a quest to discover new models or approaches for national park management that can be more inclusive of local communities in biodiversity conservation.

Scholars are recognizing a shift from command and control, centralized resource management approaches to systems approaches in natural resources conservation and management; approaches that recognize humans as integral parts of ecosystems and employ participatory, community empowering methods in conservation and protected areas management (Colby 1991; Berkes 2004; Phillips 2003). 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 and species endemism is concentrated (Western & Pearl 1989; Chown & Gaston 2000). Biodiversity conservation is an imperative in sustaining environment and human well-being. Protected area networks, notably national parks, are often regarded as perhaps the most important mechanism for conserving biodiversity (IUCN et al. 1980; UNEP 1992) Yet, there is a 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 them (West & Brechin 1991; Lucas 1992; McNeely 1994).

Protected areas in Africa, especially IUCN Category II national parks, have been established and managed with little to no regard for local community resource access and use. In fact, local and indigenous communities have been displaced and

disenfranchised from their traditional areas of use and occupancy, with severe consequences for socio-cultural and economic survival (Owen-Smith 1987; Western 2002). A "fortress" approach to conservation in national parks has excluded local and indigenous use of water, wildlife, forests and grasslands (Adams & Hulme 2001). "Fences and fines" measures have produced adversarial relationships between local indigenous communities and protected areas. Such polarization, it has been shown, can contribute to further loss of biodiversity (Western 2002). The poaching of wildlife in and surrounding national parks, land degradation and loss of native forests, grasslands and wetlands have all been exacerbated by impoverished local and indigenous communities. Impoverishment of indigenous peoples is partially attributable to protected areas management regulations and policies. Local, indigenous peoples have typically opposed and flouted colonial or state imposed rules for resource access and use associated with national parks.

Research Purpose and Objectives

The purpose of this research is to investigate the premise that national park designations and management in Southern Africa have decoupled indigenous communities and ecosystems, exploring ways to recouple communities and national parks to promote biodiversity conservation. I have chosen to focus the investigation on Namibia, its conservancies and community-based natural resource management (CBNRM) program and the protected areas system. More specifically, I have made a case study of the Ehi-rovipuka Conservancy and the Etosha National Park and the relationships between the two. The case study area was chosen based on upon explicit criteria and considerations elaborated later in this chapter.

My specific research objectives are:

- to determine the nature and consequences of decoupling social-ecological linkages between local, indigenous communities and national parks;
- to identify significant cross scale linkages and institutional interplay that may or may not exist in and between community-based conservation and national parks management and;

- to suggest alternative approaches to strict protection regimes that can recouple social-ecological systems, managing for resilience and biodiversity conservation.

Research Approach

A place-based case study of community-based conservation institutions and a large and significant national park in Namibia forms the central research approach. Case studies involve the systematic gathering of information to permit the researcher to understand how the subject operates or functions. Case study is not actually a data gathering technique but is rather a methodological approach incorporating a number of data gathering measures (Hamel, Dufour & Fortin 1993; Merriam 2001; Yin 1998, as cited in Berg 2004). The case study approach can be characterized as a qualitative methodology, emphasizing an inductive research process (Gray 2004). Case study requires as inquiring orientation, listening, observation and sensing, adaptability to unanticipated events or circumstances that may require change in data collection strategies, a thorough understanding of the issues being studied in order to interpret the data gathered and an unbiased interpretation of the data, a good test for which is openness to contradictory findings (Yin 1998, as cited in Berg 2004).

One major case has been examined comprehensively and in depth. This approach can be characterized as a single case, embedded, where there are multiple units of analysis (Gray 2004) including, but not limited to, the processes of decoupling social-ecological linkages between the subject national park and local communities, the different institutions and linkages at play, and the existing and possible relationships between community-based conservation and national parks management.

The case study approach represents qualitative social science research. Qualitative research refers to the meanings, concepts, definitions, metaphors, symbols and descriptions of things in contrast to quantitative research, which refers to the measurement of things (Berg 2004). While various statistics and quantitative data have been compiled, the emphasis has been placed on immersion in the study community as an active observer, employing different participatory research methods. Factors such as language, the oral tradition of communication of local peoples, cross-cultural relationship building and logistical limitations imposed by the study area's remoteness and undeveloped conditions (e.g., unreliable or non-existent telephone, mail and internet

services) augured against the use of formal questionnaire surveys and quantitative sampling methods.

A Participatory Rural Appraisal (PRA) approach was taken in the field, drawing on different survey methods and tools from the PRA toolbox (Chambers 1997). Participant observation, community transect walks and 4x4 truck tours, key informant semi-structured interviews, in-depth, structured villager interviews, villager mapping processes and a drawing exercise with Grade 7 pupils were all undertaken. Such methods are recognized as part of a continuum of participatory research methods that really are differentiated by the degree of participation and ownership by the persons supplying the data (Chambers 1997). An operational objective in the fieldwork was to apply different methods to correlate and triangulate findings, thus achieving a better, more substantive picture of reality (Berg 2004).

My fieldwork in Namibia was planned and carried out in two phases, with a different geographic and methods emphasis in each phase.

Phase 1 Planning, Conduct and Methods

A first phase of fieldwork was planned and conducted over a three month period in 2006. As both a practical consideration and research grant requirement, prior arrangements were confirmed for a local cooperating agency, well before arriving in Namibia. Namibia was largely unknown to me prior to the research and cooperating agencies and individuals within these agencies proved invaluable to the work. In fact, two cooperating arrangements were made, one with the Southern African Institute for Environmental Assessment (SAIEA), an African regional NGO based in Windhoek, and one with Integrated Rural Development and Nature Conservation (IRDNC), a national conservation NGO with offices in both Windhoek and the study region. Both NGOs were very helpful to my early organization of work in the field.

SAIEA provided an office and internet access during Phase 1. The Executive Director of SAIEA, Dr. Peter Tarr, has a wealth of experience in conservation and environmental management in Namibia. He was able to provide excellent advice on key persons knowledgeable about and involved in protected areas and CBNRM in Namibia, including contact addresses and phone numbers. Based on this advice an initial roster of

key informants was developed early on arrival in Namibia that permitted an orderly approach to setting up key informant interviews.

IRDNC is the leading NGO in CBNRM in Namibia and its founding directors, Garth-Owen Smith and Dr. Margaret Jacobsohn have been pioneers in the development of CBNRM from its beginnings in the 1980s. IRDNC formally reviewed my proposed research and agreed to be a local cooperating agency for purposes of obtaining a government research visa and to satisfy the local cooperating agency requirement for one of my research grants. IRDNC also provided advice on key informants for interviews, supplied some very useful source materials and facilitated attendance at quarterly planning meetings of conservancies in the Kunene study region.

My cooperating NGOs did not provide any funding, transportation or equipment for the research, nor was such support requested. They confined their support to advice and facilitation. Both NGOs made no attempt to interfere with the research and it was agreed that both would receive copies of the thesis upon completion.

Key informant interviews were the principal method used in Phase 1 to explore my research premise and the first two research objectives and most of the interviews were carried out in Windhoek, the national capital. The questions posed in these interviews sought to explore the history and origins of CBNRM and the conservancies in Namibia, the history and characteristics of Namibia's protected areas, and linkages between community-based conservation and protected areas management. These questions were aimed to discover how community-based conservation originated and developed in Namibia, the extent to which this may have been a top-down process from central government or a bottom-up approach from the community level, as well as exploring vertical and horizontal linkages (Berkes 2004; Young 2002) between and among the institutions involved. The questions also explored the roles of local communities in protected areas management and existing or potential linkages between community-based conservation and protected areas management.

Each key informant interview lasted about 90 minutes, posing questions and promoting discussion with the key informant. Handwritten notes were kept during each interview and transcribed on a laptop computer shortly after the interview was completed. A total of 25 different key informants were interviewed and in several instances, a preliminary introductory meeting was followed by a fuller interview, resulting

in a total of 33 interviews in Phase 1. In each case, the research purpose and objectives were fully disclosed at the beginning and a letter explaining the study, seeking informed consent and identifying my university affiliation and contact information was given to each informant, in accord with my ethics protocol approval for the research.

All informants willingly consented to participate and have their comments recorded and disclosed. A complete list of key informants interviewed in both 2006 and 2007 is provided at the end of the thesis that is linked to citations in text. The key informants from NGOs, private enterprise, the university and consulting communities, were all senior, experienced individuals, most of whom were based in Windhoek. The Ministry of Environment and Tourism officials were all senior personnel, based in Windhoek. The community /conservancy informants were residents of study region conservancies and communities, some of whom were employed in an ecotourism enterprise. A rich array of findings resulted from the interviews and these have been incorporated throughout Chapters 5 to 8, with citation.

A summary of institutional groups represented by key informants is provided in Table 2.

Table 2. Key Informant Affiliations for Phase 1 Semi-structured Interviews (2006)

Institution	**N=25**
National Conservation NGO	11
International Conservation NGO/Donor Agent	1
Ministry of Environment and Tourism	5
Private Enterprise	2
Local Community/Conservancy	4
University or Independent Consultancy	2

Many of the key of the informants were asked for and supplied relevant research, policy, legislative and project documents which were returned to Canada for further study. Some these documents were quite difficult to acquire, especially historical or more recently drafted parks and wildlife legislation and certain internal government planning or policy documents. Such material was eventually obtained and formed an important resource for the park and wildlife legislation and policy analyses presented in Chapter 5.

Reconnaissance travel, site visits and participant observations were also accomplished in Phase 1. A 4x4 truck equipped with camping gear was used to tour remote parts of the study region, to attend quarterly planning meetings of regional conservancies in the Kunene region, and to make preliminary visits to the community and conservancy selected for the case study undertaken in Phase 2. As well, a visit and reconnaissance was made of the Etosha National Park.

A systematic approach was taken to gaining a firsthand appreciation of the regional, community and protected area environmental characteristics. Cross-sectional transects were driven and photographed in the region and site visits were made to a pre-eminent ecotourism lodge, the Damaraland Camp, as well as to Etosha National Park as noted above. The aforementioned quarterly planning meetings were attended at Wereldsend, IRDNC's remote field station in the Kunene region. These meetings provided an opportunity to meet with community representatives from the conservancies, listen to and observe their various project proposal presentations and discussions, as well as make my own brief presentation on the research purpose and objectives, seeking local feedback.

Selecting the Case Study Area

The selection of the case study area was based on several criteria related to the research purpose and objectives and these were developed prior to going to the field. These included:

- the presence of a long-established national park or reserve equivalent to IUCN's Category II Protected Area;
- the presence of recognizable local and indigenous communities whose ancestors may have occupied and used the national park area, prior to park designation;
- the presence of fugitive wildlife populations that form part of the conservation mandate of the national park and for which there is some history of use and relationships with local, indigenous communities and;
- the presence of institutions for community-based conservation that are well documented in the literature or have received other recognition or acclaim.

My initial thinking was that the Torra Conservancy, given its proximity to the Skeleton Coast Park and its reported successes in community-based wildlife conservation, might serve as the case study area for my research. Torra Conservancy seemed to satisfy my chosen selection criteria and Torra Conservancy was awarded a 2004 Equator Prize (UNDP 2004b) in recognition of its achievements to improve the livelihoods of local people, preserve wildlife and habitat. The United Nations Development Program (UNDP) recently developed the Equator Initiative with various project partners. The program champions and supports community-level projects that link economic improvement with the conservation and sustainable use of biodiversity (UNDP 2004a:1). The equatorial belt is the program focus since it contains the greatest species richness in the world. Equator Prizes are awarded biennially to recognize outstanding communities from developing countries in the tropics demonstrating practical efforts to conserve biodiversity and reduce poverty.

Once in the field, I sought further advice about the most appropriate case study area and communities in which to conduct the research. During key informant interviews with IRDNC's founding directors, I sought their advice on where best to carry out case study investigations. Also, community members of the Ehi-rovipuka Conservancy approached me during my attendance at the conservancy quarterly planning meetings about selecting their conservancy for the case study work, after hearing my presentation about my research purpose and objectives. They pointed out their location right on the boundary of the Etosha National Park, as well as their history of past use inside the Etosha National Park. This reaffirmed advice from others, as well as my own judgment, that Ehi-rovipuka's potential linkages with Etosha and Etosha's history, size and reputation as a leading African national park presented a much more robust case to explore the research objectives and questions than the Torra Conservancy area. Ehi-rovipuka Conservancy and the Etosha National Park were thus selected for the case study (Figure 1).

It was recognized that the wider Kunene region provided important context and a regional perspective for the community case study work. Moreover, some consideration of Torra Conservancy has been retained, given its prominent role in the institutional development of conservancies in Namibia (see Chapter 6, Figure 10).

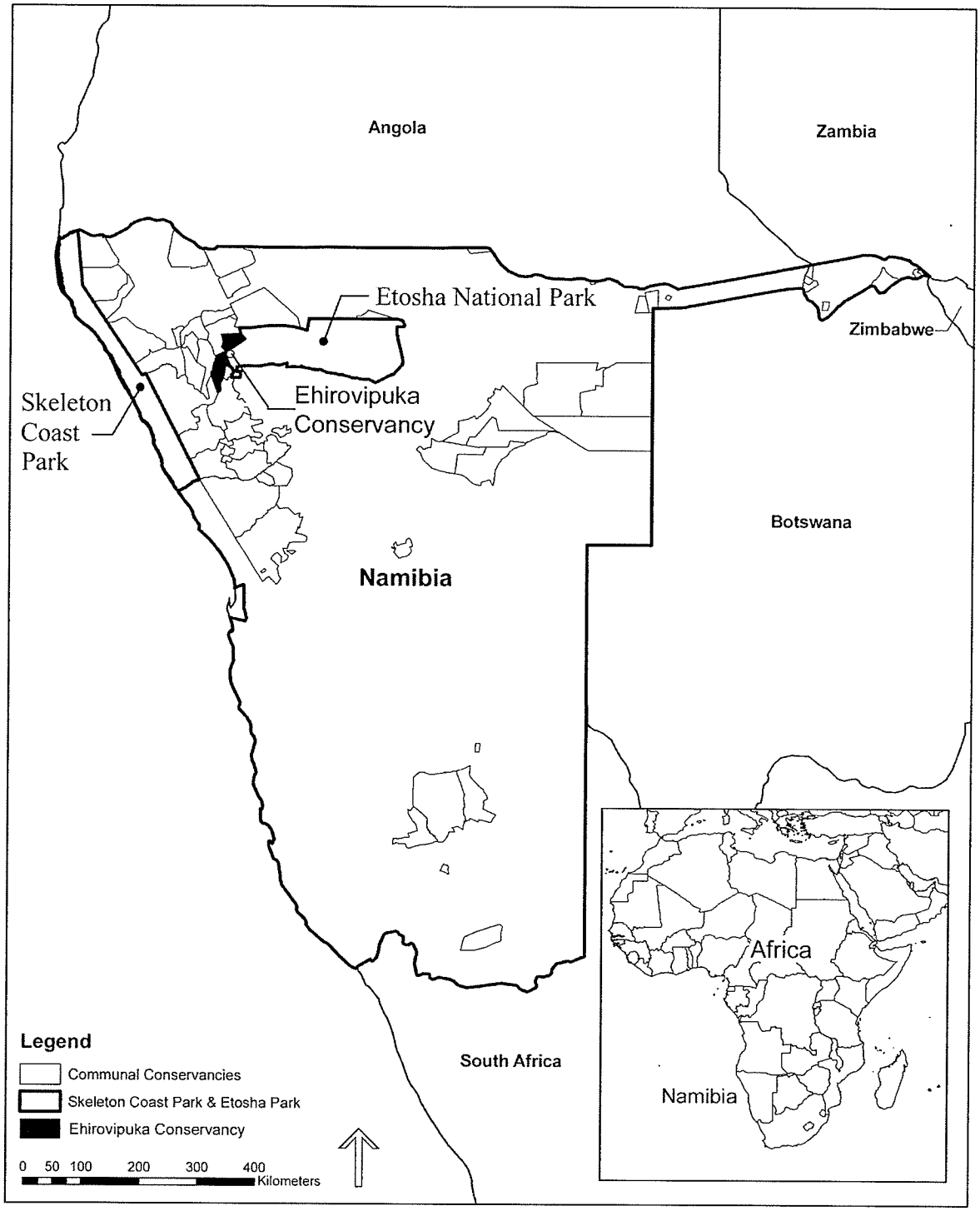


Figure 1. Location of Study Area

The case study area is referred to at different scales in the balance of this research and these references include the 'study region,' the 'case study conservancy,' Ehi-rovipuka and the 'case study community,' Otjokavare, within the Ehi-rovipuka Conservancy (Figure 2).

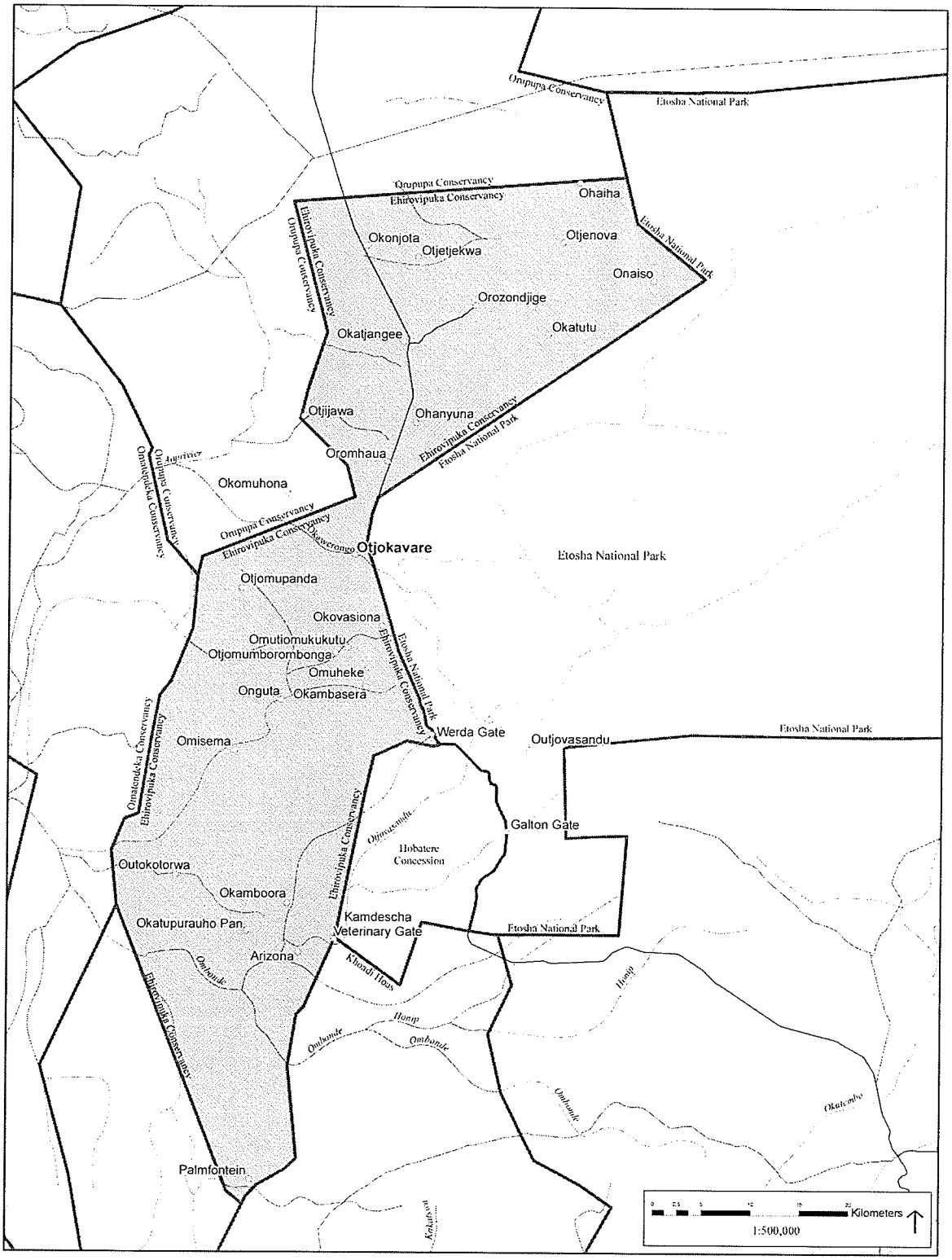


Figure 2. Ehi-rovipuka Conservancy and Otjokavare

Different geographic or spatial scales, such as local area versus regional area, and differences in social and organizational scale, such as local, regional and national, are important in the theory of social and ecological systems (Cash & Moser 2000; Berkes 2006; Geores 2003). The role and importance of scale is elaborated in Chapter 2 and will also be demonstrated more practically in subsequent chapters.

Another task for the planning and conduct of the Phase 2 fieldwork in 2007 was accomplished in Phase 1. Shape files for 1:250,000 scale topographic details were researched and purchased from Namibia's Directorate of Surveys and Mapping. As well, a geographic information system (GIS) database called CONINFO for Namibia's conservancies, tourism concessions and protected areas was researched and a CD copy of this database was obtained from the Namibian Nature Foundation. The two GIS databases operate with ArcView software and provided the spatial data to create base maps for use in memory mapping and other mapping exercises planned as part of community data collection in Phase 2. This activity is described more fully under the Phase 2 fieldwork activities.

Archival research at the National Archives of Namibia, University of Namibia and Ministry of Environment and Tourism rounded out the Phase 1 fieldwork. Photocopied archival material and a variety of research papers concerning protected areas and CBNRM were obtained and returned to Canada for further study.

Phase 2 Planning, Conduct and Methods

The Phase 2 fieldwork was conducted in Namibia from early April 2007 to mid-June 2007. The planning of the Phase 2 fieldwork began with the preparation of both conservancy scale and regional base maps, that aimed to be both understandable for and usable by community participants in local knowledge and memory mapping (Brody 1988; Tobias 2000) to be employed as part of my participatory research approach in Phase 2.

The first step in building these maps was to decide on the areas of map coverage and the details to be included. The base map for the Ehi-rovipuka Conservancy included the entire extent of the conservancy, the immediately contiguous areas surrounding the conservancy and sufficient area in the western part of Etosha National Park to hopefully include any places and areas that the subject communities may have occupied. This

latter consideration was essentially an educated guess when the base map was finalized prior to the Phase 2 fieldwork. Archival records and secondary literature suggested that the central and eastern parts of Etosha had little to no history of use by Herero peoples, but this was by no means confirmed prior to the Phase 2 fieldwork.

The Ehi-rovipuka Conservancy base map included Herero place names, spring and borehole locations, contours and shaded areas of heavier slopes, rivers, streams and roads, with the intent to provide community participants as many reference points as possible for the information they would be asked to plot on the maps (Appendix 1). A regional base map was also prepared with similar details (Appendix 1). The area selected for map coverage was derived by mapping the extent of the Hoanib River catchment and then adding in the consideration of conservancy boundaries for those contiguous conservancies stretching between the west end of Etosha National Park and the Skeleton Coast Park. Plot-size versions of the maps measuring 23"x35" were produced and laminated for use in the field.

Other preparations for the memory and local knowledge mapping included supplying erasable colour markers that could be used on the laminated map surfaces, as well as the preparation of plain instructions for each mapping exercise (Tobias 2000).

The community-level surveys required a decision on which community(ies) to work within. The highly dispersed population within the Ehi-rovipuka Conservancy posed logistical issues for access and survey coverage. It was decided to focus the community surveys in the one conservancy community, Otjokavare. Otjokavare is the largest village in the conservancy and is the home of the headman, Langman Muzuma and the place of his holy fire. Otjokavare is also the location of the Ehi-rovipuka office or headquarters and the village closest to Etosha National Park. It is also readily accessible by road. For all these reasons, it presented the most logical choice for the community surveys.

The recruitment of Asser Ujaha, as community interpreter and field assistant was a key aspect of the community surveys. I first met Asser Ujaha at the conservancy planning meetings in 2006 and he showed a high level of interest in the research. He is fluent in both English and Otjiherero and has lived in Otjokavare since his early childhood. He was active in the creation of the Ehi-rovipuka Conservancy and has been employed as an enterprise officer in the conservancy by IRDNC. He proved to be a very knowledgeable and able assistant, given his intimate knowledge of the communities,

individual villagers, and natural resources. Mr. Ujaha's work on my behalf included the conduct of a household census of Otjokavare, the arrangement and translation of all villager interviews, and serving as field guide for reconnaissance travel made throughout the conservancy. He also translated for me at an Ehi-rovipuka Conservancy Annual General Meeting (AGM), facilitated memory mapping and local knowledge mapping processes, and served as interpreter at a community report back and verification meeting.

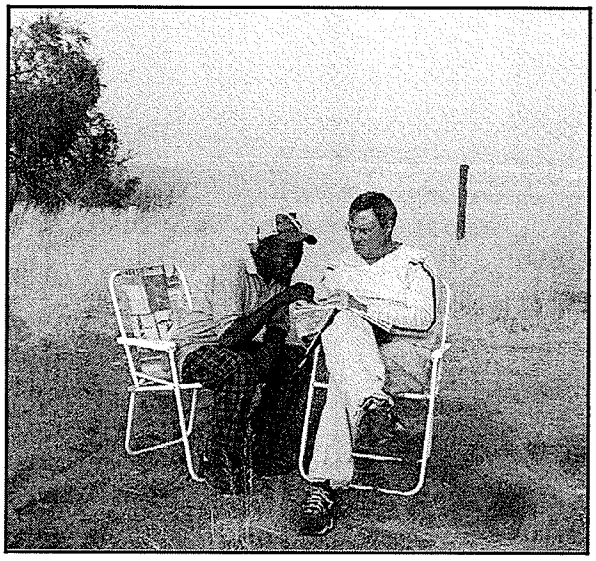


Photo by Leslie Hoole

With Asser Ujaha, Field Assistant and Interpreter

The household census in Otjokavare was carried out by Asser Ujaha, within guidelines that I provided. He counted all dwelling units, counted the number of adult males and females in each dwelling unit, and the number of male and female children and youth under 18.

The basic instructions and purpose of the maps were explained for each mapping exercise to my community research assistant/interpreter. For the memory mapping process, I requested Asser Ujaha to identify villagers who would have knowledge of the period when the community ancestors were thought to have lived in Etosha National Park. He recommended three elders, and initially approached them on my behalf to seek their participation, which they agreed to. A similar process was followed to identify villagers to participate in the local wildlife knowledge mapping and the field foods mapping processes. In the first case, Asser Ujaha recommended himself, the senior community game guard and the field officer for the conservancy as knowledgeable and experienced persons about wildlife. In the second case, he

recommended a woman elder and two younger women who had shown an interest in field foods during my structured villager interviews.

I obtained the informed consent of all mapping participants and indeed, all specifically requested that their names be included on the maps when used in the thesis. My community research translator and assistant worked with the mapping participants to create the maps and I was not present during these working sessions. The PRA principle of 'handing over the stick' (Chalmers 1997) was employed. Once the maps were drafted, I reviewed them for understanding and verification with the participants. Three sets of maps were thus produced: elders' memory maps of the history of community use and occupancy in Etosha National Park; seasonal wildlife maps for the Ehi-rovipuka vicinity prepared by community game guards and field staff and; field food maps prepared by community women.

Several methods were used to obtain community participation in the research. The previously described mapping exercises represent one method employed. As well, structured interviews were conducted with 40 different villagers. The interviews and conversations were arranged by my community field assistant and each lasted from 90 minutes to 2 hours. The structured interview method related directly to obtaining data about my research purpose and all three of my research objectives. The questions aimed to discover and learn about the attitudes, awareness, values and opinions of villagers concerning wildlife, their experience with the national park and their identity and experiences with Ehi-rovipuka Conservancy as an institution for wildlife management (Appendix 2). I first pre-tested and modified the questions with the local school principal and my community translator and field assistant before asking them in the villager interviews.

The structured interviews and discussions were conducted with a cross-section of village respondents including a representative from each of 19 extended family households in Otjokavare, as well as with elders, community game guards, local teachers, students, and villagers employed by the Ehi-rovipuka Conservancy. Table 3 summarizes the community composition of the 40 respondents. An effort was made to interview both men and women and of the 40 village participants, 22 were men and 18 were women.

Table 3. Structured Interviews with Villager Participants

Representation	Number of Participants	Male	Female
Extended Family Households	19	7	12
Elders	4	2	2
School Teachers	4	3	1
Primary School Students	4	2	2
Conservancy Management Committee	2	2	0
Community Game Guards	2	2	0
Other Conservancy Staff	2	1	1
Headman and Traditional Authority	3	3	0

N=40

Each interview began with seeking the informed consent of the participant, which was always willingly given. I conducted all interviews and posed the exact same questions to each participant (with the exception of a few community-based management questions not posed to students, on the advice of the school principal). Each question and response was translated in English and Otjiherero by Asser Ujaha. My wife Leslie recorded all responses and conversation in detailed handwritten notes.

One other method was employed to assess the level of villager awareness and attitudes about wildlife, the park and the conservancy. The Grade 7 class of 34 pupils at the Kephas Muzuma Primary School was given a 30 minute drawing and basic question assignment. The school principal assisted in this process by translating the instructions to the class and being present while the assignment was completed.

Each pupil was provided a blank sheet of paper and was asked to draw the main road in the area down the centre of page and the position of the school building, as demonstrated on the blackboard. They were then asked to draw anything they saw or were aware of on one side of the road (the side that Etosha National Park is on) and then to draw what they saw on the other side of the road, where the school is located (the community side of the road). Following the mapping exercise, the pupils were asked to indicate the village they were from, the name of the conservancy they lived in, the name of the national park and to indicate if they liked or disliked wildlife. They were also asked whether or not they liked wild meat and which wild animals they liked or disliked. The results and discussion of this exercise are presented in Chapter 7.

Upon completion of the villager interviews, mapping processes and school exercise, a community gathering was organized to provide feedback to participants about my preliminary findings and impressions, seeking verification. This event was held at the Kephas Muzuma Primary School, and organized with the cooperation of teachers. Food and refreshments were provided following the meeting, with the assistance of community women. Over 30 persons attended. As well, a verification session was held with the participants who created the local knowledge wildlife maps.

Participant observation formed an important part of the fieldwork throughout Phase 2. Daily visits to the case study community were made over a six week period to carry out the various surveys described. This provided regular and firsthand exposure to daily life. A three day long conservancy Annual General Meeting (AGM) was held in Otjokavare, as well as a large family funeral lasting over one week, during the period of the study. Both of these events provided rich opportunities to participate in and observe social and cultural interactions.

A series of field reconnaissance trips were also conducted. Several community transect walks and drives were made in and near the community of Otjokavare, providing understandings of environmental conditions, community infrastructure and land use relationships – dwelling organization, school, shops, conservancy office, government buildings, livestock kraals, borehole locations, water distribution, energy supply and community sanitation. As well, transect drives were made to nearby community gardens and to other parts of the conservancy (Figure 3).

These reconnaissance trips provided opportunities to view vegetation communities, wildlife and topography of the conservancy area, visit other villages, and view springs/water boreholes and places of cultural significance. An extensive trip was also made through the wider region to better understand ecological and social relationships such ephemeral river corridors, vegetation communities, distribution and characteristics of neighbouring villages and conservancies. A similar extensive 4x4 trip was made from the Etosha National Park headquarters and visitor centre at Okaukuejo through the western part of the park adjacent to the Ehi-rovipuka Conservancy. This is a remote area not open to general park visitors and required a special access permit for the research trip (Transect 10, Figure 3).

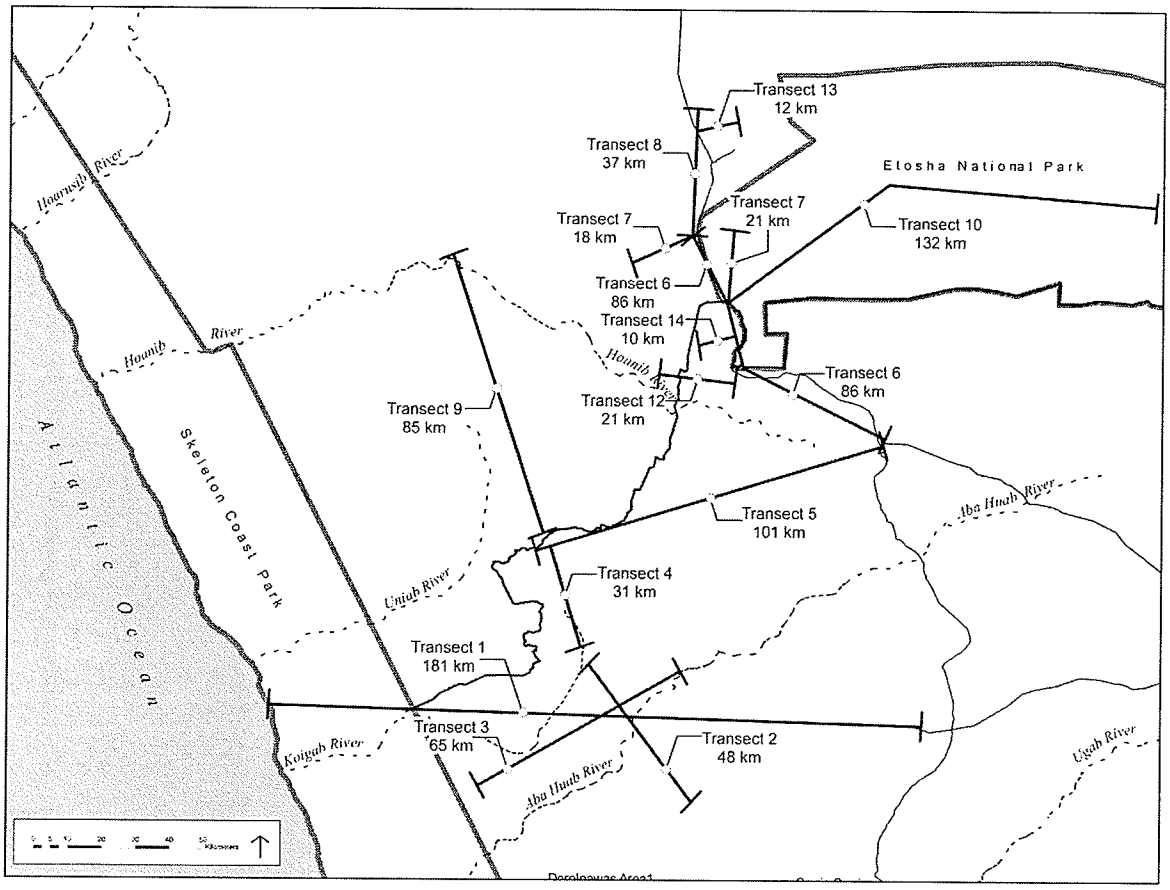


Figure 3. Transects Driven by 4x4 in 2006 and 2007

A further 20 key informant semi-structured interviews, similar to those in Phase 1, were conducted in Phase 2. These interviews were conducted with present and former national park officials to learn more about the management of Etosha National Park and the status of a current national project to strengthen the protected areas network. Key informant interviews were also conducted with several members of the Ehi-rovipuka Conservancy and Torra Conservancy, as well as a few follow-up interviews with key informants from conservation NGOs first interviewed in 2006. Findings derived from these interviews are cited where applied in subsequent chapters.

The Phase 2 fieldwork was rounded out with brief archival work in the National Archives of Namibia, to further corroborate certain of the findings from the community work.

Table 4. Key Informant Affiliations for Phase 2 Semi-structured Interviews (2007)

Institution	N=20
National Conservation NGO	5
International Conservation NGO/Donor Agent	1
Ministry of Environment and Tourism	5
Private Enterprise	2
Local Community/Conservancy	7

Table 5 summarizes the main methods, tasks and their timing over the two phases of fieldwork in Namibia.

Methods of Analysis

Several analytical methods have been applied to the various data assembled. Extensive literature review and synthesis of relevant findings has been featured for the findings and discussions presented in Chapters 2 to 6. A legislative and policy analysis was carried out for aspects of the protected areas and wildlife conservation subjects and findings are presented and discussed in Chapter 5. A limited discourse analysis was also made of dialogues on conservation, development and relationships with national parks (Gillson, Sheridan & Brockington 2003; Yates 2004). Institutional analyses (Brown 2002; Gibson 1999) were also used with certain of the secondary source materials, key informant interview results and structured villager interview findings, to identify operational linkages between and among different levels of social organization concerning community-based conservation. The institutional analyses aimed to identify the key roles, trade-offs and leadership relationships among community members at the interface of community resource use and conservation practices. Vertical and horizontal linkages and relationships were examined among local, regional, national and international conservation institutions.

Table 5. Summary of Field Research Organization, Conduct, Methods and Tasks

	Phase 1, 2006								Phase 2, 2007					
Field Methods and Tasks Completed	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Jan	Feb	Mar	Apr	May	Jun
Confirmed Local cooperating agencies – IDRC Grant Condition	—	—												
Obtained Research Entry Visa Namibia			—											
Obtained Ethics Protocol Approval				—										
Developed List of Key Informants						—								
Conducted 33 Key Informant Semi-structured Interviews						—	—	—						
Participated in Conservancy Quarterly Planning Meetings – Study Region							—							
Conducted Conservancy Transect Drives and Site Visits – Kunene Region							—	—						
Made Etosha National Park Site Visit							—							
Made Damaraland Camp Site Visit							—							
Made Skeleton Coast Park Site Visit							—							
Made Preliminary Site Visits, Ehi-rovipuka Conservancy and Otjokavare							—	—						
Researched Park Legislation, Policy and Project Documents						—	—							
Confirmed Case Study Area								—						
Obtained Mapping Shape Files for GIS Mapping						—		—						
Conducted Archival Research in Windhoek						—		—						
Prepared GIS Base Maps for Community Mapping									—					
Prepared GIS Thematic Maps										—	—			
Obtained Research Protocol Approval											—			
Obtained Research Entry Visa											—			
Recruited Field Assistant/Interpreter												—		
Pre-tested Interview Questions												—		
Confirmed Otjokavare as Study Community; Conducted 40 Villager Interviews												—	—	
Completed Elders' Memory Maps												—		
Completed Local Knowledge Maps with 6 Villagers													—	
Completed Grade 7 Exercise, Kephas Muzuma Primary School												—		
Conducted Community Feedback/Verification Meeting													—	
Participant Observation: Site Visits, Transect Walks and 4x4 Travel; Attended Conservancy AGM												—	—	
Conducted Key Informant Semi-structured Interviews/ Re-interviews												—	—	—
Completed Archival Work in Windhoek														—

The key informant interviews were transcribed and subsequently abstracted for key points in relationship to the research questions. Certain of these results were triangulated with results from the structured villager interviews and related materials from secondary sources. The structured villager interviews enabled compilation of absolute frequencies and proportional distributions of responses which were manually tabulated from the detailed interview records. Tables and charts were then prepared to present the content and rank order of responses in terms of absolute frequency and proportional distribution. The hand-drawn local knowledge and memory maps were digitized and processed in ArcView Geographic Information System (GIS) software and map outputs produced to facilitate presentation, comparative and composite analyses of those findings that represent spatial data.

Significance of the Research

There is a growing attention to the complexity of social and ecological systems and the need to understand the linkages between these systems in adaptive management aimed at conserving resilience (Berkes & Folke 1998; Berkes et al. 2003). My research has aimed to identify means for achieving biodiversity conservation through effective links between national parks use, management and local communities, as alternatives to fortress and fines approaches that typify much of present day national parks management.

The protected areas and biodiversity conservation literature is replete with concerns about the increasingly island nature or isolation of protected areas, commensurate threats to ecological integrity and biodiversity conservation within parks, and mounting threats to biodiversity in the wider landscapes surrounding designated protected areas. An active conservation debate is underway. One prevailing argument is to enforce the strict protection of national parks and equivalent reserves, while another proposes to integrate conservation with community development. Proponents for the well-entrenched protection paradigm essentially argue that indigenous communities cannot be trusted as conservationists. This lack of trust is founded on a record of mega-faunal extinctions in the fossil record attributable to early *Homo sapiens* hunters and the likelihood that contemporary local indigenous societies will soon succumb to wider socio-economic development forces, embracing the worst practices of modern western economic development and technologies and laying waste to remaining biodiversity (Terborgh 2000).

Those who oppose this view argue that indigenous communities have demonstrably inculcated and applied traditional knowledge, values, ethics and institutional arrangements to conserve, and can actually become natural allies and partners in global efforts to address the loss of biodiversity (Berkes 2004). Indeed, it has been observed that indigenous communities have been placed in a Catch 22 situation by the protection paradigm (Lu Holt 2005), effectively being denied opportunities for self-determination to develop and improve their livelihoods, on the premise that they will ultimately behave like western, mass-consumption societies, hastening environmental degradation and the loss of biodiversity.

The research aims to apply the theory of complex social-ecological systems, managing for both ecological and social resilience (Berkes et al. 2003; Holling & Meffe 1996). A specific theoretical contribution of the work may be the identification of means and alternatives for recoupling social-ecological systems linkages for biodiversity conservation where these linkages have been historically broken. Identifying and understanding institutional linkages and interplay, both horizontal and vertical, is a specific research objective (Berkes 2004; Young 2002). The identification of possible institutional arrangements to re-connect local people and protected areas is central to the research. New protected area management models are considered based on this research and additional design principles for community-based conservation are suggested. Problems that have no definitive formulation, no stopping rule and no test for a solution have been defined as "wicked" (Ludwig 2001) and demand partnerships of knowledge sharing and action between and among management, science and indigenous peoples. Biodiversity conservation in protected areas and adjacent cultural landscapes is a "wicked problem," demanding partnerships in collective action among the players.

Several practical outcomes may also be realized. The place-based case study includes the world-renowned Etosha National Park, surrounded by indigenous communities variously engaged in real experiments or practices in community-based conservation. Namibia's Ministry of Environment and Tourism is currently attempting to strengthen the country's protected areas network and is pursuing a demonstration project for a contractual park with communities in the Kunene study region. The outcomes of my research are being shared and made available to communities and various conservation agencies involved, at local, national and international levels. The work may assist these various agents in creating cooperative or partnership

management approaches. The research may also help advance new typologies in the international classification of protected areas currently under study by scientists and managers (Borrini-Feyerabend et al. 2004), such as community-conserved areas, indigenous protected reserves and dynamic, mobile reserves (Bengtsson et al. 2003; Elmqvist et al. 2004).

The research is topical in terms of emerging new fields of interdisciplinary inquiry (Golde & Gallagher 1999) concerning the future of community-based conservation and evolving community management models for national parks and protected areas. While the research is confined to Southern Africa, the merger of theories being applied and the international significance of the national park forming part of the place-based study could provide important lessons for elsewhere, where parks and indigenous peoples share biodiversity space.

Organization of the Chapters

This chapter has introduced the research premise, purpose and objectives, as well as definitions of community-based conservation and protected areas as principal terms. Prevailing relationships between national parks and local communities have been characterized and the ground prepared to investigate alternatives to a protectionist paradigm that has dominated park and local, indigenous people relationships. The research approaches, methodologies and processes have been described and the potential relevancy and significance of the work has been suggested.

In Chapter 2, theoretical underpinnings are explored that can inform the research process and be applied to the subjects of inquiry. Chapters 3 and 4 describe the biophysical and social dimensions of environment in the case study region and localized area. These chapters draw heavily on secondary sources acquired during the fieldwork in Namibia. Chapters 5 and 6 deal with the two pillars of the investigation: protected areas and community-based conservation. These chapters synthesize material from secondary sources with findings from key informant interviews, participant observations and certain data acquired from community-based surveys. Chapters 7 and 8 present the results and discussion of primary research in the case study area and community. Chapter 7 focuses on the findings of the case study of Ehi-rovipuka Conservancy relationships to Etosha National Park. Chapter 8 continues with case study findings concerning community experience and perspectives with wildlife and the conservancy as

an institution for community-based wildlife conservation. Conclusions are then presented in Chapter 9, organized within the framework of the research premise and objectives. My personal reflections on the journey taken through the research process are offered in an Epilogue.

CHAPTER 2:
THEORETICAL UNDERPINNINGS

Introduction

Several bodies of theory, some of them interrelated, inform the research purpose and objectives. Theoretical considerations of common property, complex social-ecological systems, protected areas and biodiversity conservation all provide important organizing concepts for considering the decoupling and recoupling of social-ecological systems in national parks. These fields of scholarship and practice are explored for their potential applications in the research, with particular attention to Southern Africa.

Common Property Regimes and Principles

The field of common property emerged from some work in fisheries economics in the 1950s, and from the re-examination of Garrett 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). Hardin's metaphor of herdsmen in a pasture open to all, locked in a system compelling each to add to his herd without limit, thus ruining the commons, spawned a popular response from scholars and policy-makers alike (Bromley 1992; Ostrom et al. 1999). This implied that either strong central government control over resource access, or outright private ownership, is necessary to avert the tragedy of the commons. The inevitability of the tragedy did not acknowledge that individuals observe and can learn from their actions and the actions of others, or that feedback presented by the environment or by communication between and among people (McCay 2002; Berkes & Folke 2002) can lead to negotiation, institutional development and collective action. Scholars have demonstrated that for thousands of years people have self-organized to manage resources upon which they depend (Feeny et al. 1990; Ostrom 1990; Ostrom et al. 1999). The starkness of Hardin's metaphor has been challenged and largely refuted. The prospect for collective action has been given currency in a rapidly growing body of common property literature and theory.

Commons, or common property (common-pool) resources are considered to possess two defining characteristics. The first is excludability, or control of access. The second is subtractability, wherein each user is capable of subtracting from the welfare of

others (Feeny et al. 1990). In fact, commons are defined as resources for which exclusion is difficult and collective use involves subtractability (Oakerson 1992; Ostrom 1990; Feeny et al. 1990).

Four different property rights regimes have been recognized for common property resources: open access, private property, communal property and state property (Feeny et al. 1990). Open access is akin to the commons of Hardin's metaphor. Property rights are not well defined and resource access is unregulated, free and open to all. Open access represents *res nullius* or "no one's property" (Bromley 1992). Present day examples of open access systems include the high seas, the atmosphere and outer space. Open access can be *de facto* in many local situations where there may be *de jure* provisions intended to limit access. A good example is unregulated wildlife and wood harvesting in and surrounding certain African national parks.

Private property vests rights to exclude use by others and the regulation of resource use in a private individual or entity. Examples include privately owned or leased wildlife estates, safari lands and lodges adjacent to national parks, fenced rangelands and private forests.

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. Examples include inshore fisheries, water-sharing associations, community forestry users, and shared rangelands (Bromley 1992; Ostrom 1990). In rural Africa, communal land tenure is the dominant property regime, featuring a variety of local indigenous institutional arrangements, but complicated by communal property being treated as state property by 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 are classic examples of state property regimes.

The consideration of national parks and local indigenous community relationships must deal with both state property and communal property regimes, and is further complicated by private property-like situations such a leased safari lands and *de facto* open access, such as the aforementioned wildlife and wood use by local communities in and around national parks.

A variety of design principles for long-enduring commons institutions at local levels have been identified (Ostrom 1990; Agrawal 2002). Clearly defined boundaries and the characteristics of the resources being used in terms of their ability to be bounded (stationarity), agreed rules for resource access and use, sanctions for violating rules, conflict resolution mechanisms among members, external recognition of local rights to organize and nested enterprises (Ostrom 1990) are features for successful collective action. These are all aspects of local institutions, or the norms and rules determining who is excluded from a particular resource use or area, and how those who are participants deal with subtractability in ways that sustain collective agreement and mutually shared benefits. Further factors include scale and cross-scale linkages (Cash & Moser 2000; Dolšak & Ostrom 2003; Berkes 2006), community leadership, and the presence of external aid. This latter factor has proven to be a double-edged sword, providing necessary fiscal resources on one hand, but often producing undue influence and dependencies on the other.

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. The importance of scale is underscored here. Issues such as matching scales in bio-geographical 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 understanding national park management and local community linkages. Features such as small group size, location of users close to the resource, homogeneity among group members and past experiences of social cooperation are also important (Baland & Plateau 1996, cited in Agrawal 2002). These multiple and varied common property resource design principles and features for successful collective action can be applied and evaluated in considering African cases of community-based conservation (CBC) related to national parks.

Complex Social and Ecological Systems

There is an emerging and rich scholarship addressing complexity and social-ecological systems in natural resources management and interdisciplinary research addressing coupled systems of humans and nature (Berkes 2004).

Resilience is an important dimension of complex social-ecological systems (Berkes & Folke 1998). Resilience is a characteristic of both social and ecological systems and managing for resilience or adaptability (Walker et al. 2004) is important to the recoupling question for social-ecological systems in and surrounding national parks. Resilience may be thought of as the ability of an ecosystem to absorb change and remain functional or healthy. The roles of institutions or norms, rules and behaviours, learning and knowledge (Davidson-Hunt 2003), and the capacity to recognize and respond to both environmental and social feedbacks are critical for social resilience (Berkes & Folke 1998; Niamir-Fuller 1998; Levin 1999). For natural systems, the capabilities and capacities to absorb stresses and adapt to new functional states represents resilience.

Four characteristics have been suggested for resilience: latitude, resistance, precariousness and panarchy (Walker et al. 2004). Latitude is the ability to absorb change and retain various functions before crossing a threshold beyond which recovery is difficult or impossible. Resistance is the ease or difficulty to change a system; its resistance to change. Precariousness is how close a system's state is to a limit or threshold beyond which recovery is difficult or impossible. Panarchy is the resilience of a system at a particular scale, and depends on influences from states and dynamics at scales above and below it (Gunderson & Holling 2002; Walker et al. 2004).

Managing for resilience of both ecological and social systems is highly pertinent to the recoupling question for Africa national parks and local communities. What is the place for a broader landscape level biodiversity conservation approach that manages for both ecological and social systems resilience and that might employ different protected area models that are dynamic or even mobile (Bengtsson et al. 2003; Elmqvist et al. 2004)? Possible answers are contemplated later in the thesis.

The concept of resilience in social and ecological systems underscores a major research challenge. 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 (Ludwig et al. 2001; Berkes et al. 2003). They operate at various scales and are self-organizing. A heuristic model of an adaptive renewal cycle depicts some of this complexity and underscores that systems move through different stages characterized as exploitation, conservation, release and re-organization, reflecting the changing properties of potential in a system and

connectedness among controlling variables (Figure 4). This complexity is further compounded by the panarchy effects of scale, where adaptive renewal cycles are nested within one another, across space and time.

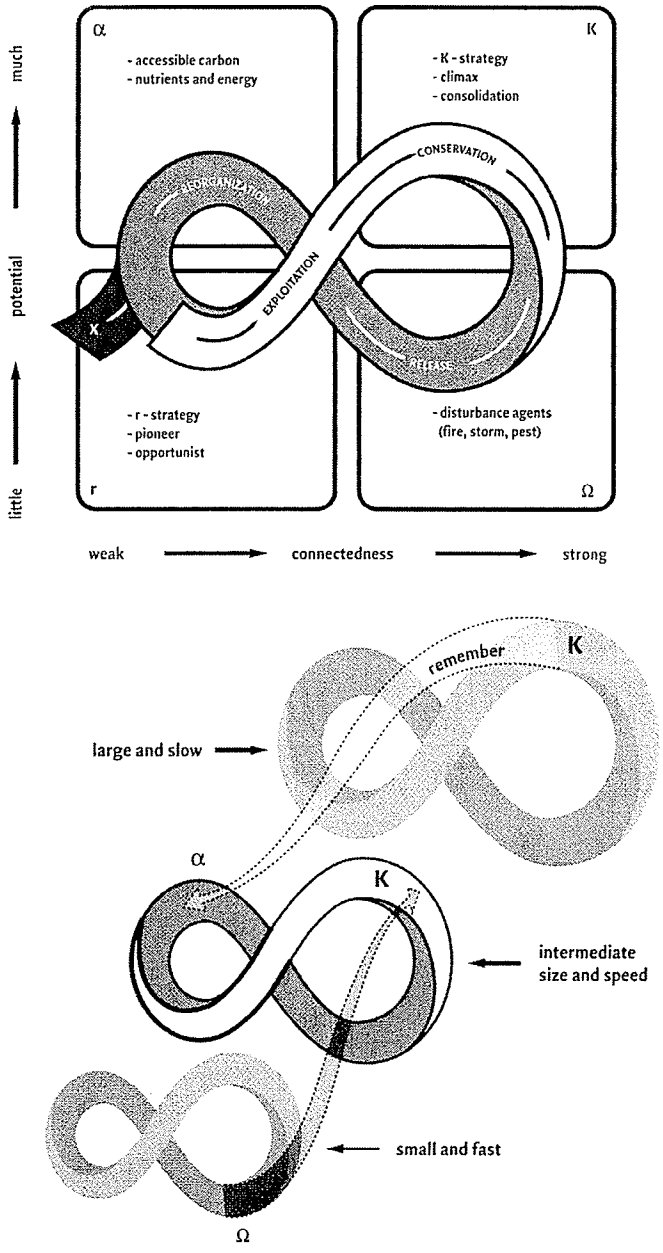


Figure 4. Adaptive Renewal Cycle and Panarchy

Holling 1986, in Berkes et al. 2003:17; Gunderson & Holling 2002, in Berkes et al. 2003:18

Historically, natural resources management has focussed on the exploitation and conservation phases of the adaptive renewal cycle, stressing economic returns and maximum sustained yields (Colby 1991). The analogue of this approach in national parks management under the Yellowstone model has been a strict and inflexible adherence to preservation, minimizing disturbance and natural variability to sustain some vaguely conceived notion of a natural state (Chase 1987). More adaptive natural resources management is called for (Holling & Meffe 1996) that considers the back loops of the cycle, where natural releases or disturbances such as forest and grassland fires occur, and where systems retain "memory," such as seed beds, that help re-organize and renew ecosystems. Such concepts are useful to illustrate the potential application of more holistic environmental management approaches for protected areas management and biodiversity conservation. Local communities have frequently acted as disturbance agents, as they pursue livelihoods on the land. Their levels and types of use and occupancy, perhaps unwittingly, can often be consistent with adaptive management in the "backloop" of systems of which they are an integral part (Niamir-Fuller 1998).

The complexity of ecosystems is fully matched by the complexity of social systems. People are a part of ecosystems and complex social systems and natural systems are intertwined and interdependent. They are coupled systems (Levin 1999). Certain scholars have observed that the entire notion of community, as expressed in the literature of community-based conservation, glosses over the complexities within and among communities, and different levels of organization (Agrawal & Gibson 1999; Gibson 1999; Berkes 2002; Brown 2002). They identify 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 (Agrawal & Gibson 1999). Indeed, a focus on institutions, and methodologies to conduct institutional evaluations, such as trade-off analyses (Brown 2002) is a compelling research gap.

It should not be simply 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, both horizontal across space, and vertical, across levels of organization (Berkes 2006; Berkes 2004).

My early reference in the statement of research purpose and objectives to decoupling and recoupling social-ecological systems arises out of the perspective that these systems are interdependent, coupled and complex. Decoupling is not a mere mechanical process, but a living system altering process. Any recoupling that may ensue will produce a different system from the original one, both in terms of the social and ecological systems and their linkages. I will elaborate upon the meanings for decoupling and recoupling processes *vis á vis* national parks and communities with real cases described later.

National Parks Management and Indigenous Communities

There has been an evolution in the relationships between national park management and indigenous peoples over the past 25 years or so, reflecting factors such as international conventions on environment and development, human rights movements and treaties, accelerating concerns for biodiversity conservation, and world park congresses that have increasingly addressed relationships between protected areas and indigenous, mobile and local communities. The World Conservation Strategy (IUCN 1980), Our Common Future (World Commission on Environment & Development 1987), Caring for the Earth (IUCN; UNEP; WWF: 1991), the United Nations Conference on Environment and Development (UNCED) 1992 and Agenda 21 have successively underscored the imperative for human development to recognize and be realized within environmental limits to growth (Hoole & Milne 1995). The oft-quoted mantra for sustainable development is to meet "the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment & Development 1987:8). This thinking has merged with global concerns for the loss of biodiversity, the signing of the Convention on Biodiversity (1992) and subsequent international initiatives, such as the UNDP's Equator Initiative, all successively linking human development, community livelihoods and biodiversity conservation, especially in the species-rich equatorial belt. These broad international discourses, policy and program responses have inevitably encompassed protected areas establishment and management, since global protected area networks are regarded as a principal mechanism to conserve biodiversity.

The evolution in protected areas management and indigenous communities has been characterized as a new paradigm for protected areas (Phillips 2003). Features of this emerging new paradigm include:

- local people as participants, partners, or beneficiaries in management;
- protected areas as networks, featuring green corridors, regional cooperation and integrated conservation in wider landscapes beyond protected area boundaries;
- protected area management that merges international and national responsibilities, with local concerns and needs;
- increasingly skilled park management and science merging with traditional and local knowledge.

Indeed, there are recently developed international principles and guidelines for engaging indigenous people and protected areas management (Borrini-Feyerabend 1996). While the core IUCN definition of protected areas has been re-affirmed, greater use of IUCN Protected Area Categories V and VI to accommodate human occupancy, use, culture and livelihoods has been called for. Protected Landscapes and Seascapes, IUCN Category V are conceptualized as protected areas in which people live and work in harmony with nature. Protected landscapes are conceived of as living models of sustainability, where landscape is the interface between nature and culture (Lucas 1992:2). Protected landscapes "differ significantly" from other protected area categories, because most of the land is in private or communal ownership or occupation by resident populations going about their daily activities. The IUCN Protected Landscapes category has been further broadened in recent thinking into a protected landscape approach that recognizes the need for a combination of protected area designations responding to differing local contexts and cultural, natural and social features (Brown et al. 2005). However, retaining the language of protection and designation of protected areas detracts from the central place of indigenous and local communities practicing conservation while living in landscapes. More meaningful terms than protected or protection are community, sustainable livelihoods, and community-based conservation (Hough 1991; Gbadegsin & Ayileka 2000). Nonetheless, the acknowledgement of a landscape approach linking nature, culture and community is promising and this thinking will be revisited later.

The idea of biosphere reserves emerged from UNESCO's Man and Biosphere Reserve Programme (MAB). Biosphere reserves were envisioned to play several roles: conservation of genetic resources, ecosystems and maintenance of biological diversity; networks for research and monitoring and; a development role, associating environmental protection and development of land for research and education (Lucas 1992:24; Kühn 2000).

The concept of a biosphere reserve is that of a strictly protected core area, with a buffer zone containing controlled, non-destructive uses and a so-called transition area, where traditional resource use, rehabilitation, and research can take place. In other words, the core protected area is the centrepiece of a broader landscape conservation arrangement conceived to reinforce protection of the core. This approach has not been implemented very widely, perhaps because the protected core has been viewed problematically by the people who live around it or commensurate implementation with various jurisdictions and communities has not developed. Examples from my own experience are the Riding Mountain Biosphere Reserve and the Waterton Lakes Biosphere Reserve in Canada, neither of which have galvanized broad public recognition or substantively contributed to biodiversity conservation across broader regional landscapes.

More promising protected areas concepts have been recently conceived, giving greater attention to the place and role of communities in conservation. So-called "community-conserved areas" have emerged for consideration (Borrini-Feyerabend et al. 2004a), suggesting greater convergence in protected areas management with community-based conservation. The most recent World Parks Congress, held in Durban, South Africa in 2003 was attended by an active delegation of indigenous, mobile and local communities concerned about protected areas (Brosius 2004). The outcomes of this participation have been characterized as a breakthrough in global thinking about conservation. Participants insisted on the recognition of indigenous conservation systems and restitution for indigenous lands and territories historically being included in protected areas without prior informed consent by local communities or compensation (Borrini-Feyerabend et al. 2004b; Brosius 2004). A concluding reflection on the Durban congress stated:

> *We cannot afford to perpetuate the polemic that the goals of conservation and indigenous rights are at odds with each other. The fate of biodiversity rests in part on how the conservation community responds to the challenge posed by*

indigenous, mobile and local communities and whether it is able to embrace the opportunity to create new alliances for conservation (Brosius 2004:611).

Differing and potentially applicable concepts for protected area categories and classifications will be considered further within the case study research for the Kunene region and Etosha National Park.

There has been a 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 return to strictly controlled protected areas by national and international conservation authorities (Chapin 2004; 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 the last bastion for protecting biodiversity in the face of relentless industrialization, habitat loss, pollution, and the over-exploitation of species. Conservation by local communities has been regarded by some as a failed experiment in voluntary compliance with conservation imperatives. Rather, a scientific and authority-based management approach is called for.

The counter argument is 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 (Gbadegesin & Ayileka 2000). 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 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 community-based conservation and integrated conservation and development programs are not because they are fundamentally wrong, but relate to how they have conceptualised community, participation, empowerment and sustainability (Brown 2002).

Community complexity necessitates identifying key actors and adopting an analytical approach that has been termed trade-off analysis. Trade-off analysis features stakeholder interests and impacts and employs participatory rural appraisal techniques to confirm different priorities for decision-making, building consensus for conservation action. New institutions and restructuring of decision-making processes are required 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). An added dimension in such thinking is the observation that community-based conservation has focussed on economic benefits and livelihoods, to the exclusion of cultural relationships and access, such as community access and use of culturally or spiritually significant vegetation and wildlife in protected areas (Infield 2001). Sensitivity and access to cultural values might foster positive conservation relationships between local communities and protected areas managers.

Biodiversity and Protected Area Design

The term biodiversity has been widely used in many different contexts. A variety of definitions for biodiversity have resulted, with early attention almost exclusively on the numbers or diversity of living organisms. However, for the purposes of conserving biodiversity through the mechanism or institution of protected areas, a much broader understanding of biodiversity is required. Principal threats to biodiversity are acknowledged to include loss of habitats, pollution, invasion of exotic species, over-exploitation of species and global climate change. Conservation and management efforts to avoid or reduce such threats must deal with more than a simple focus on the numbers and varieties of species. Therefore, the definition or understanding of biodiversity as the variety of living organisms, the ways in which they organize themselves at genetic, population, species, community and ecosystem levels and how they interact with the physical environment and one another is much more relevant (Redford & Richter 1999, cited in Groves 2003). A simple, but comprehensive definition of biodiversity is the sum of all biotic variation from the level of genes to ecosystems (Pither 2005). The conservation of biodiversity must account for its composition, structure and function (Noss 1990, cited in Groves 2003). Biological diversity occurs at different spatial and temporal scales. Consideration of scale is an important aspect of

how protected areas are designed and employed to conserve biodiversity (Groves 2003).

Ecological integrity is another concept increasingly employed in protected areas management. Noss (1995) observes that ecological integrity and biodiversity are closely allied concepts, but ecological integrity is the broader of the two. "An ecosystem with integrity is one that is able to maintain its biodiversity over time, not in any fixed, quantitative sense, but rather as a dynamic property" (Noss 1995:22). Key related considerations are those of scale and rates of change.

An important aspect of biodiversity is that it occurs at different levels of organization, in a hierarchy. Again, scale is important. Four spatial scales have been recognized that have found application in selection and definition of conservation areas such as national parks. These are the local, intermediate, coarse and regional scales (Poiani et al. 2000 cited in Groves 2003). Individual species can be very local in occurrence, whereas species like grizzly bear or elephant range over wide territories. Similarly, some communities and ecosystems can be quite localized or small scale in extent, such as wetland patches or assemblages of cliff-dwelling birds. Other communities and ecosystems may cover thousands to millions of hectares, such as savannah grasslands and forests. Biodiversity conservation must operate at all these different scales.

Much of the work in national parks selection and establishment can be characterized as a coarse filter approach, operating at the regional and broad landscape level. However, the limits of such approaches in addressing the fine filter levels of localized species, communities and ecosystems must be acknowledged. Other methods can be used to supplement landscape level assessments and deal with the fine filter level of specific species, populations and localized features.

The landscape scale or level has been acknowledged as the most appropriate for selecting protected areas. "Ecological theory, corroborated by some empirical findings, suggest that the larger spatial scales, often referred to as the landscape scale, should be the preferred scale for selecting conservation areas" (Schwartz 1999; Poiani et al. 2000; Noss 2002, cited in Groves 2003). Larger landscape areas are likely to: contain more species (the species/area relationship concept); contain larger populations of species with greater likelihood of maintaining viability; avoid edge effects associated with small

areas; and are generally more capable of including and sustaining ecological processes, including disturbance regimes like fire, insects, predation and weather. Moreover, a landscape approach will help promote beta diversity – where there is a high turnover of species composition over a relatively short distance.

Theory in the design of protected area networks has long recognized that larger reserves are better than small (Pressey 1994a; Pressey 1994b; Margules & Pressey 2000). A set of principles were postulated that invoke ways in which reserves can best avoid landscape fragmentation and maintain connectivity (Diamond 1975). These design principles are:

- Larger reserves are better than small ones;
- A single large reserve is better than a group of small, similarly sized ones (SLOSS);
- Reserves spaced close together are better than those far apart;
- Reserves clustered compactly are better than reserves in a line;
- Reserves connected by corridors are better than unconnected ones;
- Round reserves are better than long, thin ones.

Biodiversity conservation concepts inherent in such design principles warrant brief elaboration. The importance of area size and scale has already been noted in terms of positive correlation to numbers of species and size of populations. Areas spaced close together are thought to better promote movement of species from one area, or patch, to another. This increased mobility is considered especially important for meta-populations, which are somewhat isolated local populations, some of which may be in more productive habitat patches and characterized by better reproductive success, and others which may be in poorer quality habitats, where mortality exceeds reproduction. The healthy population and good habitat has been characterized as a source population and habitat; the other, a sink population and habitat. It is important that such populations can move through intervening landscapes (Groves 2003) to ensure overall viability.

Fragmentation of habitat is a major concern of biologists in conserving biodiversity. Roads are recognized as one of the key elements to be avoided in selecting and designing protected areas. Roads act as major fragmenting agents, and they typically lead to further successive fragmentation and unnatural landscape disturbances.

Considerable effort has been expended on developing and refining a working model of reserve network design at the landscape level (Noss 1995; Noss et al. 2002). This work features core reserves that receive strict protection from fragmentation, which in turn can be connected by conservation corridors of relatively intact landscape and habitats that pass through a wider human landscape matrix, or what may be termed a working landscape. Surrounding the core areas and corridors, can be different levels of buffer zone, with differing degrees and types of human use. What is implicit in this design concept is the recognized need to manage for biodiversity across the wider landscape that includes, but reaches far beyond the protected areas and reserves. "I am convinced that ecological integrity cannot be maintained in its full glory unless the landscape surrounding reserves remains healthy" (Noss 1995:45). This sentiment invokes the necessity and place of community-based conservation in my view.

Noss (1995) further defined guidelines and steps for reserve boundary delineation:

- identify and map the spatial bounds of each ecological factor of interest – i.e., watersheds, plant communities, rare plants and animals, populations, resource hotspots like special habitats or species occurrences or mineral licks;

- overlay the boundaries defined and mapped for each ecological factor to create a composite map – i.e., encircle boundaries for all ecological factors, avoid severing areas of active terrain such as deltas, sinkholes or stream courses;

- map land ownership of land and protection status – i.e., national parks, non-designated Crown multiple use lands, private lands;

- refine core reserve boundaries – i.e., encompass entire watersheds as feasible, avoid severing drainage lines or leaving out headwater areas, include biodiversity "hotspots" like rare plant and animal sites, nests or dens;

- map buffer zone boundaries – i.e., capture key ecological factors not included in core reserve, provide supplemental habitats for key species in core reserves, buffer human influences and edge effects from surrounding landscapes, serve as suitable movement habitats for animals moving between and among core reserves;

- establish connectivity within and between regions – i.e., link reserves and buffers in a natural region, offset fragmentation in dominant surrounding landscapes, use ecological factors for connectivity corridors such as known wildlife migration routes or travel corridors, stream or river corridors, and make corridors and related buffers wide enough to minimize edge effects.

This overview of biodiversity conservation principles in protected areas management and design resonates with complex systems thinking and adaptive management for resilience. Wide area landscape level approaches to protected areas design and conservation inevitably must engage humans and nature. It may be argued that community, in this view, rests at the very centre of biodiversity conservation. Hierarchies in socio-political and community realms mirror hierarchies in ecological and biodiversity realms (Berkes 2004).

> *Biological diversity is a good thing. So is cultural diversity. They are, moreover, intimately linked. Cultural diversity is a reflection of biological diversity, a fact more clearly recognized by tribal totemism than by contemporary social science. The same forces – transnational corporations, Green Revolution agriculture, and a global market, among others – driving cultural homogenisation and impoverishment also drive biological homogenisation and impoverishment. And the conservation of cultural diversity is instrumental in the conservation of biological diversity. Since the life-ways of foragers and vernacular agriculturalists are so thoroughly integrated into their local biotic communities, culture conservation is tantamount to biological conservation* (Callicott 1994:186).

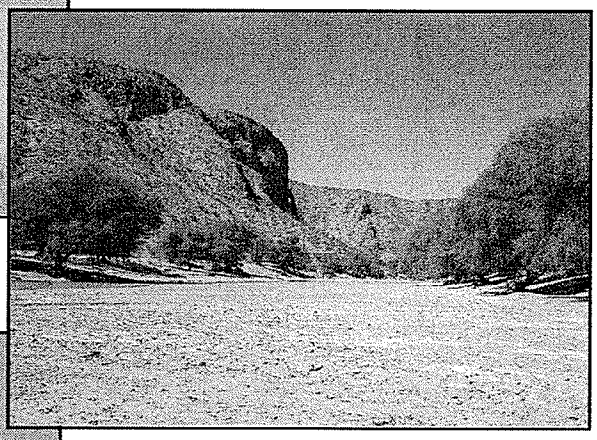
Summary Reflections

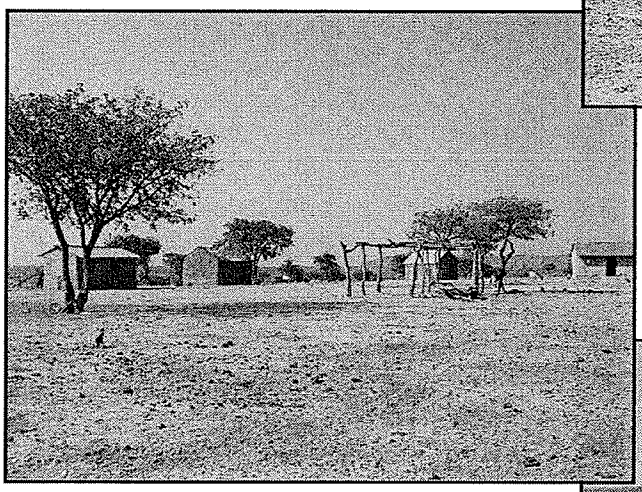
This survey of theory from common property, complexity in social and ecological systems, protected areas and biodiversity conservation will find application in all remaining chapters. Chapters 3 and 4 deal with the environmental context and considerations of scale, disturbance, resilience and social system complexities are applied. Theoretical aspects of protected areas management and biodiversity conservation at the wide landscape level find application in Chapter 5, where the decoupling of social-ecological systems is explored through an analysis of Namibia's

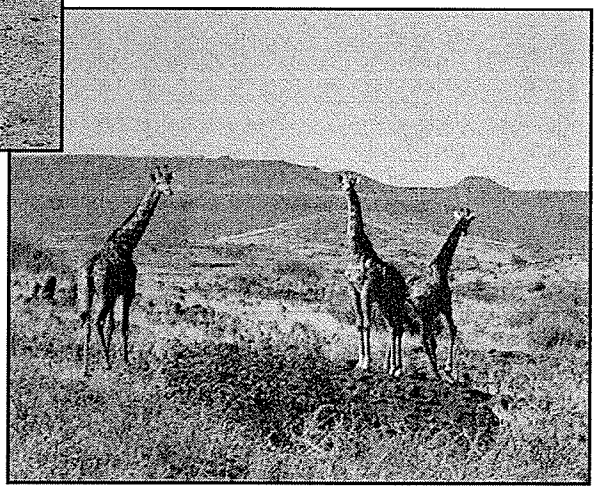
park and wildlife legislation and policies, as well as the story of the Hai||om Bushmen ousted from Etosha National Park. Chapter 6 presents the evolution of CBNRM in Namibia, drawing heavily on tenets of common property theory, with suggestions to refine and broaden design principles for successful common property resource institutions based on findings. Chapter 7 presents the interplay between the Herero people of Ehi-rovipuka Conservancy and Etosha National Park, with extensive application of theory from common property, protected areas and biodiversity conservation to arrive at suggested means and models for recoupling social and ecological systems in the concluding chapter.

CHAPTER 3:
ARIDITY, ECOLOGY AND SCALE:
ENVIRONMENTAL CONTEXT

Photos by Arthur Hoole







Clockwise, from top:
elephants dusting,
ephemeral Hoanib River,
Otjokavare, Ehi-rovipuka Conservancy,
giraffe near Torra Conservancy.

Organization

This chapter offers an overview of the biophysical environment for the study region. The environment is considered holistically and includes the atmosphere, abiotic or physical components, all biota, as well as human society, which will receive attention in Chapter 4. Environmental context is important for the further exploration of the research purpose and objectives. The characteristics and complexities of ecological and social systems are essential to understand, or at the least to acknowledge, to better comprehend the conservation institutions that are the ultimate focus of the research. As well, the opportunities and constraints to extrapolate research findings and conclusions in more general applications are governed largely by their environmental context.

A variety of authoritative and current sources have been drawn on to develop a profile of the biophysical environment, together with direct field observations.

Climate of Study Region

Aridity is the defining characteristic of Namibia and the study region in the Kunene district of northwest Namibia. Namibia possesses a very dry climate with highly variable and unpredictable rainfall. The annual rainfall in the western limits of the study region averages less the 20 mm along the Atlantic coast, ranging up to about 350 mm in the vicinity of the Ehi-rovipuka Conservancy and Etosha National Park. There is high variability in annual rainfall and this variability is greatest closer to the Atlantic coast. Because of the high variability, mean values for annual rainfall are less important than the range for the planning of resource use (Jacobson et al. 1995). The potential average annual evaporation varies throughout the country but in the northwest is about 2,600 mm. Therefore, most rainfall evaporates very quickly (Moyo et al. 1993). The rains arrive in October or November and rainfall peaks in the January to February period. Rainfall events can often be short and intense; creating temporary surface ponding of water, floods and rapid runoff that erodes soil on steeper slopes, or areas where vegetation is not well established. The phrase, 'it never rains but it pours' applies well to this region.

Temperatures are strongly influenced by the cold Benguela Current in the Atlantic Ocean and by altitude. October and November are the hottest months with average daily maximum temperatures of 34 to 36°C. July is the coldest month in most

places, with average minimum temperatures of less than 10°C, excepting along the Atlantic coast, where August temperatures can be expected to be the lowest. Namibia is considered a hot, dry, and sunny country. These characteristics have enhanced its attractiveness as an international tourist destination.

Drought is common and is defined as two concurrent years recording below average rainfall (Leggett et al. 2001). A 1923 commission investigating drought found that droughts had been experienced in 1879, 1887-90, 1896, 1900-03, 1911, 1912-16, and 1918-22. In other words 21 of 44 years experienced drought (Jacobson et al. 1995).

The availability of water is affected by the climate and is a principal determinant of plant and animal distribution, human patterns of settlement and resource use. It is thought that today's climate has been similar for millions of years. The sand dune deposits in the Namib Desert are the oldest in the world, dating back some 13 to 18 million years. Thus, the conditions for their formation have persisted for a great period of time. Similarly, the soils and salt concentrations in the groundwater suggest that patterns of sporadic flooding and high rates of evaporation have prevailed over this long period (Mendelsohn et al. 2003).

Namibia's location in Southern Africa, between 17° and 29° latitude south of the Equator makes it subject to three major climate systems: the Intertropical Convergence Zone, the Subtropical High Pressure Zone and the Temperate Zone. It is the relative positions of these zones that determine rainfall received. The Intertropical Convergence Zone supplies moist air from the north while the Subtropical High Pressure Zone forces the moist air back with dry, cold air. It is this latter system that normally dominates, producing dry weather for much of the year. Air in the high pressure zone descends, heating and drying at lower altitudes. There is a basic absence of moisture in the atmosphere and it is principally this factor that makes Namibia arid (Mendelsohn et al. 2003).

The Benguela Current is one of the large cold ocean currents flowing along the western margins of the continents. The Benguela Current is directly responsible for the particular aridity of the Namib Desert along the Atlantic coast of Namibia. It seems counterintuitive that a desert is situated immediately next to the sea, where one would expect moist air to condense as rain over the land. However, the cold water of the Benguela Current cools the air so much that it cannot rise enough to produce rain. The

sea air is cooler than the air above it and this inversion traps the sea air at lower elevations below 600 m above sea level (Mendelsohn et al. 2003). Moisture is only manifest as localized low clouds and fog. This pronounced phenomenon was witnessed during fieldwork for this research. Travelling across the Namib Desert to the coast on a July afternoon, bright sunny and cloudless skies prevailed right to the shore. There, banks of low cloud were rolling in off the sea, quickly disappearing inland over the desert. Early in the morning during this same period, fog banks were observed at least 60 km. inland, along lower lying river channels. These disappeared as the morning sun rose, burning off the fog.

The Namib Desert thus receives very little moisture from the Atlantic Ocean. Compounding this effect, moist tropical air originating from the north and east is often blocked by sea breezes blowing inland. As well, the Northwestern Escarpment that roughly parallels the coastline, about midway between the coast and the savannah uplands in the eastern part of the study region, causes moist air from the north and east to first rise and then subside towards the coast. This produces dry, warm air, further limiting rainfall over the Namib Desert. On those infrequent occasions when the moist tropical air dominates and pushes through to the Atlantic coast, unexpected and quite dramatic downpours can occur.

Climate is relevant to an examination of community-based wildlife conservation because both the wildlife and the human communities under investigation are significantly influenced by climatic effects. The aridity is directly responsible for low human population densities and a human history of nomadic pastoralism in the region. There is both low and variable potential for agriculture, underscoring the importance of other resource alternatives such as wildlife use and conservation. The larger mammals that form the basis for present day ecotourism and the conservancy conservation model are wide ranging and lightly dispersed in their constant search for food and water. There is a pronounced annual rainfall gradient from west to east across the study area; a significant determinant of ecological and social patterns. Furthermore, the highly variable annual rainfall and cyclical nature of this rainfall has a direct bearing on wildlife abundance.

Most years were relatively wet in the 1950s, much drier in the 1960s, wetter again in the 1970s, followed by a lengthy period of dry years in the 1980s and 1990s (Mendelsohn et al. 2003). In fact, the period of major decline in wildlife in the early 1980s

that prompted the early wildlife conservation efforts spawning Namibia's CBNRM program were associated with severe drought. It is important to bear in mind that drought is an important ecological disturbance factor that makes the predictability and assessment of conservation efforts difficult and underscores the necessity of adaptability and resilience in both social and ecological systems.

Panarchy effects of scale, as described in Chapter 2, are a critical consideration in the ecological resilience for this region. The periodicity of rainfall, subsequent runoff and flood events, for example, represent parts of a regional scale system of 'memory' and release that revitalize smaller scale systems like localized groundwater, riparian vegetation communities and associated wildlife recoveries from severe disturbance by drought.

The Land and Water

Several distinctive landscapes dominate the study region, reflecting climatic effects, geological processes and drainage (Figure 5). Along the coast, the Namib Desert sand dunes dominate, giving way inland to the Namib Plains of thin sands, interspersed with metamorphic rock fragments and outcrops. Much of this area is low lying and eventually transitions into the Etendeka Plateau and the Kunene Hills, further north.

The Etendeka Plateau, consists of flat-topped hills underlain by volcanic rocks of ancient lava flows and some sedimentary formations. The dramatic Grootberg at 1,645 m above sea level and its surrounding hills typify the landform. The Kunene Hills are an area of rugged, dissected terrain ranging in altitude between 1,000 and 1,900 m above sea level. Much of this landscape consists of metamorphic and folded rocks dating back 1,800 to 2,600 million years. The Etendeka Plateau and Kunene Hills form a part of the Northwestern Escarpment that is quite dissected and broad in this region. East of the escarpment an upland plateau landscape prevails with elevations ranging from about 900 to 1,300 m above sea level (Mendelsohn et al. 2003).

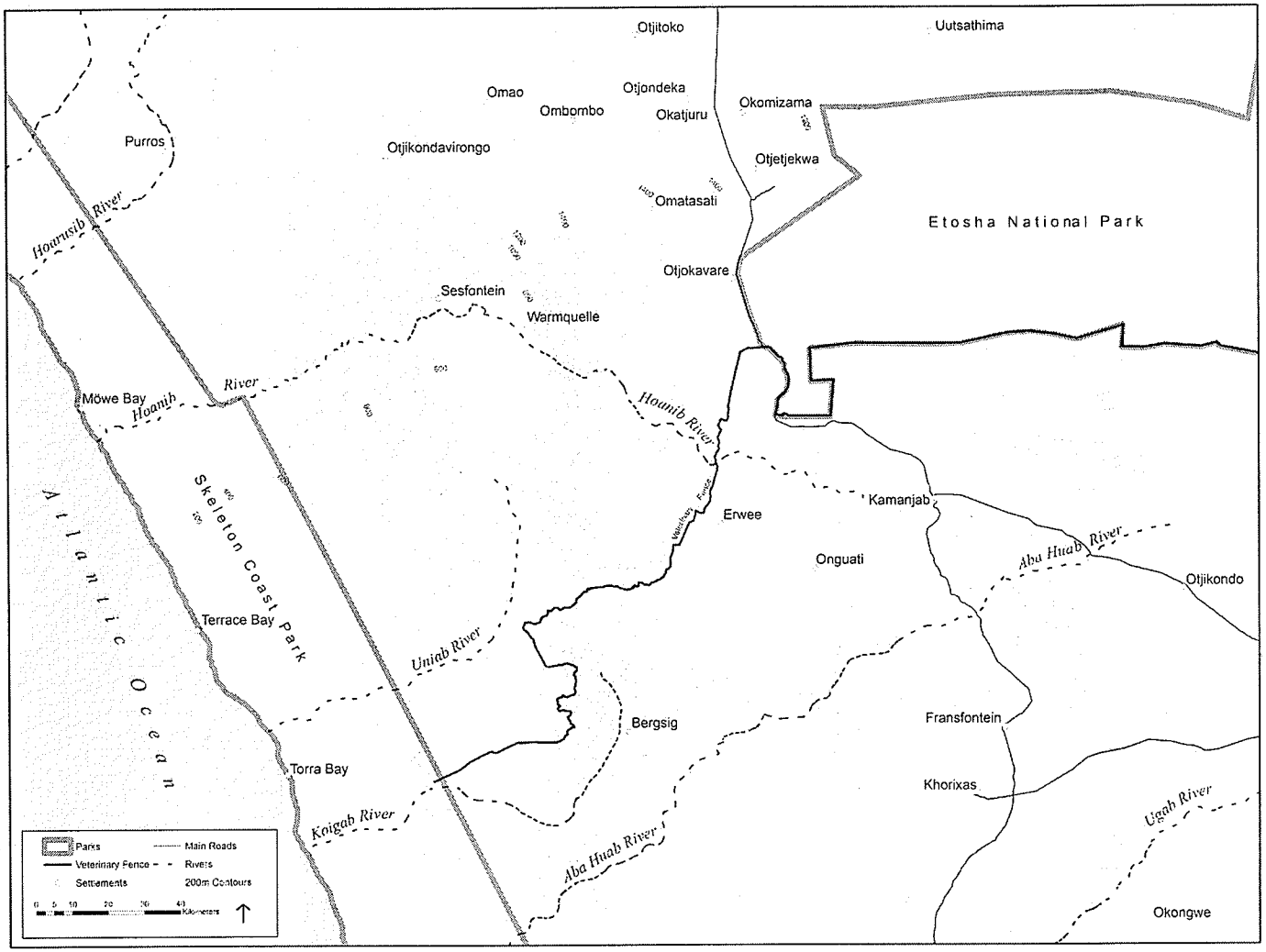


Figure 5. Study Region Topography and Drainage

Adapted from: CONINFO Information System 2006

The geology of the region is complex, with ancient granites and gneisses, volcanic lava flows and the dominant Damara Sequence of sedimentary rocks, laid down some 850 to 500 million years ago. Karoo sediments, deposited some 300 to 130 million years ago, have at their base a Carboniferous period of glaciation that is reflected in the present landscape in the glacially scoured valleys of westward flowing rivers such as the Hoarusib and Hoanib (Jacobson et al. 1995).

The soils of the region vary in association with the diverse parent material. Throughout most of the region soils are very thin and poorly developed, a function of aridity and relatively slow rates of weathering. Alluvial and colluvial deposits are generally the most fertile and are confined to the river valleys that trend from east to west. Close to the coast, soils consist of either littoral sands in the dune fields of the Namib Desert or halomorphic soils, associated with gypsum or salt deposits.

Dominant soil groups are Lithic Leptosols, Eutric Leptosols, rock outcrops and dune sands. Lithic Leptosols are very thin, shallow soils typical of actively eroding landscapes. These are coarse-textured and highly calcareous. Their water retention capacity is low and rates of runoff and water erosion are high during episodes of heavy rain. These soils support only low densities of wildlife and livestock. Eutric Leptosols are somewhat more fertile but still reflect the soil formation characteristics described for Lithic Leptosols. Rock outcrops are not strictly soils and are formed by exposed bedrock underlying the region. Dune sands originate from a complexity of fluvial, littoral and aeolian erosional and depositional processes (Jacobson et al. 1995; Mendelsohn et al. 2003).

The relevancy of landform, geology and soils to the research is several-fold. The stunning scenery and rugged, remote wilderness character of the study region derives from the aridity, distinctive vegetation responses and dramatically variable topography. Human settlement is sparse and until very recently, has been semi-nomadic, in search of seasonal shifts in available graze and water for livestock. Wildlife is particularly adapted to the variable terrain and the meagre vegetation it supports. All of these factors combine to influence the scale of ecological units to be managed under community-based conservation institutions. These institutions are largely predicated on opportunities and benefits based on wildlife, especially ecotourism founded upon wildlife viewing and wilderness pursuits attracted by the remote character of the region.

An especially distinctive and influential part of the study region is the surface drainage. Namibia as a whole has only two rivers that flow all year around – the Kunene River along the Angolan border and the Orange River, forming the southern border of the country. The remainder of the country's rivers are described as *ephemeral*. The ephemeral rivers are watercourses that only carry surface flows of water briefly following heavy rainfall. Such rivers flow from the upland plateau area to the east in a westerly direction, through to the coastal dunes of the Namib Desert (Figure 5).

The Hoanib is the major ephemeral river of the study region. Its catchment or watershed has been used to help define the limits of the study region, in combination with conservancy boundaries that straddle the space from Etosha National Park to the Skeleton Coast Park boundary in the Namib Desert. The Hoanib River possesses an intricate network of ephemeral tributary streams, some of which transect the Ehi-rovipuka Conservancy which is the focus of my community-based investigations.

Other major westerly flowing ephemeral rivers in this vicinity include the Uniab, Kiogab and Huab. The general landscape is devoid of surface water for much of the year. The ephemeral river courses appear as dry gulches of sand, with steep banks supporting riparian trees. As one travels across the region on the few gravel roads that have been developed, most river crossings cut right across the dry stream beds. This can be very problematic during the rains, when road crossings can be blocked or entirely washed out by flood waters.

Pans are another distinctive surface water and landscape feature of the study region. Pans are flat, clay-lined areas into which water drains and accumulates after heavy local rainfalls. The Etosha Pan is the largest and most famous of Namibia's pans, situated in the eastern half of Etosha National Park. The Etosha Pan and smaller pans nearby attract wildlife concentrations in the dry winter season with their residual accumulations of water at or near the surface. This exerts an influence on the movements of some species like elephant and lions in the wider region to the west of Etosha.

The Hoanib Catchment is 17,200 km² in area, with elevations ranging from over 1,800 m above sea level in the upper reaches of the catchment to sea level, at the coastal mouth of the river. The main river channel is 270 km long and the annual

precipitation range is from 0 mm at the coast to about 300 mm in the vicinity of the Ehirovipuka Conservancy (Jacobson et al. 1995).

Ephemeral rivers like the Hoanib are critical to biological life in this region. All fodder for livestock and wildlife is provided by the extensive grasslands of the catchment areas and the riparian vegetation along the water courses. Although dry for most of the year, runoff and flooding during the summer rains recharge groundwater under the river beds. Travelling along these water courses in the dry season, one can observe elephant, for example, feeding on the acacia pods of the riverine trees and digging for water under the surface of the sandy stream beds. Nearby, one can further observe flood debris and driftwood trapped in the lower branches of mature trees, several metres above the ground; testimony to the rise and force of seasonal flood waters. These ephemeral river courses are described and recognized as *linear oases* in NW Namibia, serving as critical habitats for wildlife and as migration corridors.

It has been observed that the drying up of the western-flowing ephemeral rivers would have disastrous consequences for tourism development and the nation's economy (Jacobson et al. 1995). It is essential that seasonal flooding and runoff not be impeded in these drainage courses by human development or land use practices. There has been historical competition for livestock grazing areas and wood sources along the watercourses, highlighting a need for integrated water and land use planning. Although this is not the focus of the present research, it is important to bear in mind as community-based conservation institutions are discussed later.

Vegetation Characteristics

Variation in rainfall is the principal determinant of vegetation. The influence of rainfall can be seen in the species composition of plant communities across the west-east rainfall gradient (Jacobson et al. 1995) in the study region (Figure 6). Typically, tall mopane (*Colophospernum mopane*) and *Terminalia* woodlands in the upland plateau and headwaters of the ephemeral rivers give way to more stunted mopane and *Terminalia* shrublands further west, eventually yielding to ephemeral grasslands of *Stipagrostis* species in the arid western reaches of the ephem

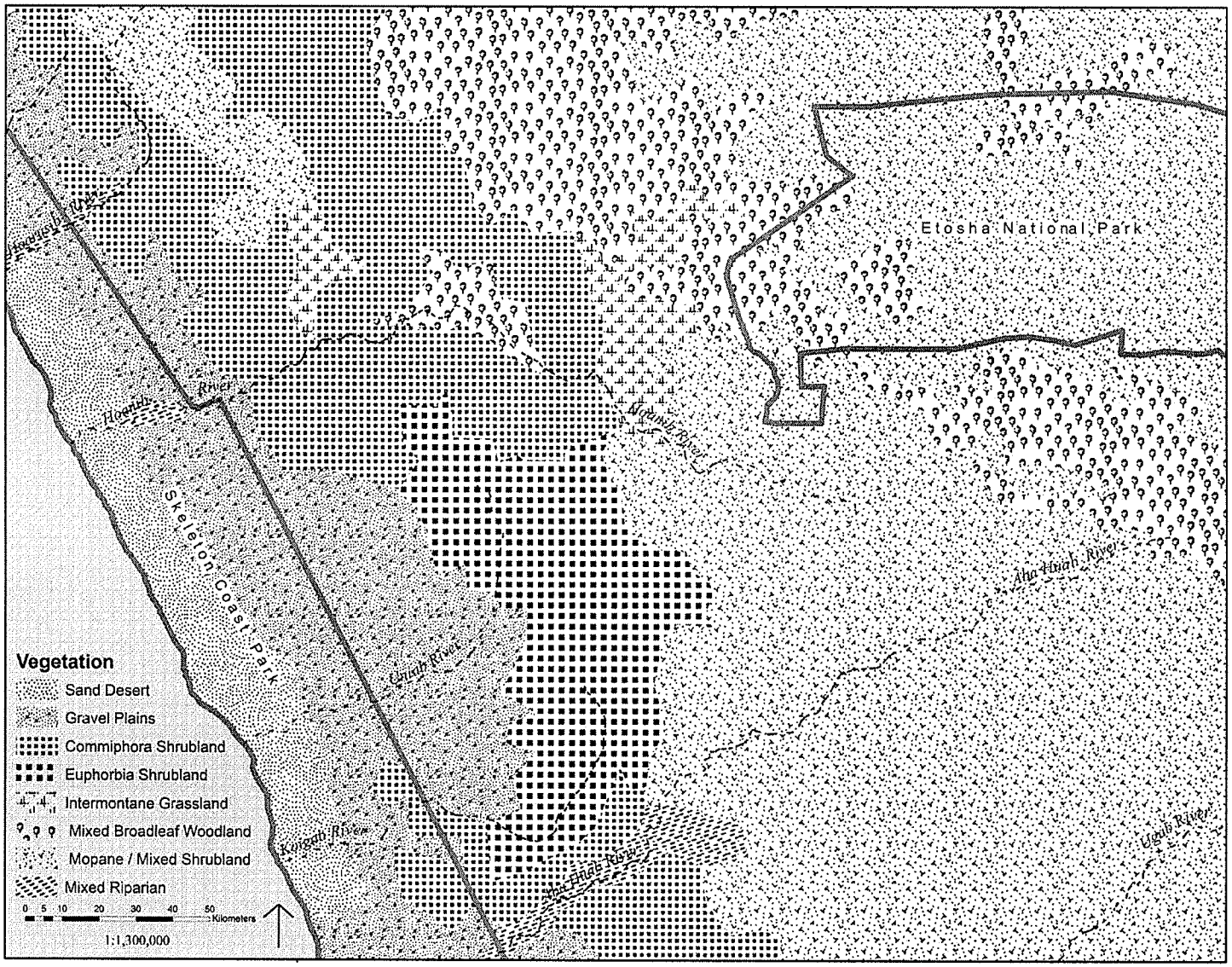


Figure 6. Vegetation Communities of the Study Region

Adapted from: CONINFO Information System 2006

The broad classification of vegetation types characterizing the upland plateau and upper catchment areas of the west flowing rivers is Mopane Savannah. Moving west into a more semi-desert area a great variety of species are encountered which are endemic to the region – *Euphorbia*, *Cypostemma*, *Moringa*, *Adenolobus* and *Acacia.* Two species of endemic *Acacia*: *Acacia montis-usti* and *Acacia robynsiana*, are found only in the Brandberg to central Kunene Region. Many species of *Commiphora* also occur in this zone. The lower reaches of all western flowing rivers cross the Namib Desert, which has a unique flora found no where else in the world, including *Welwitschia mirabilis* and the Inara, or *Acanthosicyos horridus.* A diverse array of succulents are also found in the Namib Desert, highly adapted to capturing very small amounts of water available from fog along the coast (Jacobson et al. 1995).

The riparian forests along the ephemeral river courses are an especially distinctive and influential aspect of vegetation distribution. These forests stand in stark contrast to the surrounding sand and rock desert landscapes that prevail in the wider region. These strips of dense forest are composed of ana trees (*Faidherbia albida*), leadwood (*Combretum imberbe*), mopane, camelthorn (*Acacia erioloba*), *Tamarix*, ebony (*Euclea pseudebenus*), figs (*Ficus* spp.) and palms (*Hyphaene petersiana*).

The riparian forests, as already noted, form linear oases, providing food and water for both animal and human survival in the harsh, arid conditions that prevail. They are well adapted to the pattern of seasonal flooding on the ephemeral rivers. It is flooding that provides essential water and nutrients. Flooding transports organic material, sediments, nutrients and seeds over long distances downstream, which in turn create and renew habitats for a variety of plant and animal species. Episodic massive floods which have return intervals as long as the life expectancy of the oldest trees are especially important for recharging groundwater and supplying nutrients that maintain and renew the riparian vegetation (Jacobson et al. 1995).

Species diversity and density are highest in the upper reaches of the ephemeral river catchments, declining towards the coast, as aridity increases. The major river courses also contain some wetland areas, where groundwater has been forced to the surface by shallow bedrock. Reeds and sedges grow in such places including *Phragmites*, *Typha, Scirpus*, *Juncellus* and *Cyperus* species, as well as *Tamarix* and *Suaeda* (Jacobson et al. 1995) contributing to a greater biodiversity of plants and animals. This research is ultimately concerned about institutional arrangements that can

further promote biodiversity conservation. Hence, these essential processes for biodiversity are fundamental considerations.

Given the harshness of the physical environment, the various plants and trees, especially in the linear oases, are extremely important for human and wildlife survival. For example, Ana trees produce large seed pods that are abundant in the dry season and provide important fodder for livestock and wildlife. Large hollowed out trunks are used for drinking troughs and wooden bowls to winnow grass seeds. Green bark is used to dye skins and pod pulp is eaten by children. Mopane are especially valuable for hut construction, firewood and mopane heartwood makes good pestles for grinding grains. Resinous gum exuded by heat is applied to wounds and mopane leaves are chewed for stomach disorders. My field assistant and interpreter Asser Ujaha provided a ready demonstration of this one morning in the field, as he consumed mopane leaves feverishly to relieve a stomach ache.

Mopane has traditional use to keep holy fires burning (see a discussion of holy fires in Chapter 5) and bark fibres are used to make twine and rope to secure kraal fences and hut frames. The green leaves and young branches of mopane are important to wildlife like giraffe and elephant and livestock (Craven & Marais 2003). As well, mopane is host to a moth (*Gonimbrasia belina*) which feeds on mopane leaves in the larval stage. These 'mopane worms' are dried or roasted and are a popular food for people throughout their range in southern Africa, having a nutty flavour, high in protein content and very nourishing. There is a growing market for mopane worms as a medicinal cure for high blood pressure. I have tried mopane worms on several occasions and they are quite palatable, even to a Canadian.

Camelthorn (*Acacia erioloba*) produce a large velvety pod that is especially favoured by people and wildlife alike. Elephants eat the pods enthusiastically and people too eat these pods, use the seeds as a coffee substitute, chew the gum and use them for medicinal purposes as well. Mature camelthorn are especially valued as a shade tree, and to prevent its exploitation, it is a protected tree in Namibia and may not be felled (Craven & Marais 2003).

Wildlife Characteristics

The wildlife of the study region, most particularly the large mammals, lies at the heart of the community-based conservation institutions that are a principal subject of the research.

The large vertebrates survive in arid environments by being nomadic and their movements centre on their relentless search for food and water. Extensive ranging by radio-collared elephant and lion over thousands of square kilometres is illustrative (Figure 7). Wildlife use the ephemeral rivers as refugia and travel corridors and riparian vegetation is the preferred fodder year-round for species such as elephant, rhino, giraffe, and baboon. Groundwater springs in the river catchments, especially in the more arid western parts of the study region, are essential watering points. Rivers and springs serve as "rungs in a ladder" (Jacobson et al. 1995) allowing animals to move successfully across the prevailing dry landscapes. Current wildlife management has focussed on recovery and maintenance of the wildlife numbers of several species especially important for human purposes such as hunting and ecotourism. Much less research and management attention has been focussed on wildlife ecology and habitat conservation. This is important for my research questions concerning linkages between protected areas and communal land areas.

This research is ultimately concerned with institutional relationships and linkages that can better achieve the overall conservation of biodiversity at the ecosystem or landscape level. Nevertheless, it is necessary to acknowledge that the wildlife conservation institutions in Namibia have been predicated on a relatively few wildlife species to date. The natural history of these species is an important understanding for the research.

Springbok (*Antidorcus marsupialis*) are the most abundant antelope of the arid landscapes found in the study region. The highest densities are on the eastern plains of the Namib Desert and on the scrublands surrounding the Etosha Pan (Mendelsohn et al. 2003). Springbok are an important source of food and revenue for conservancies and they are a delight to view in the field by tourists.

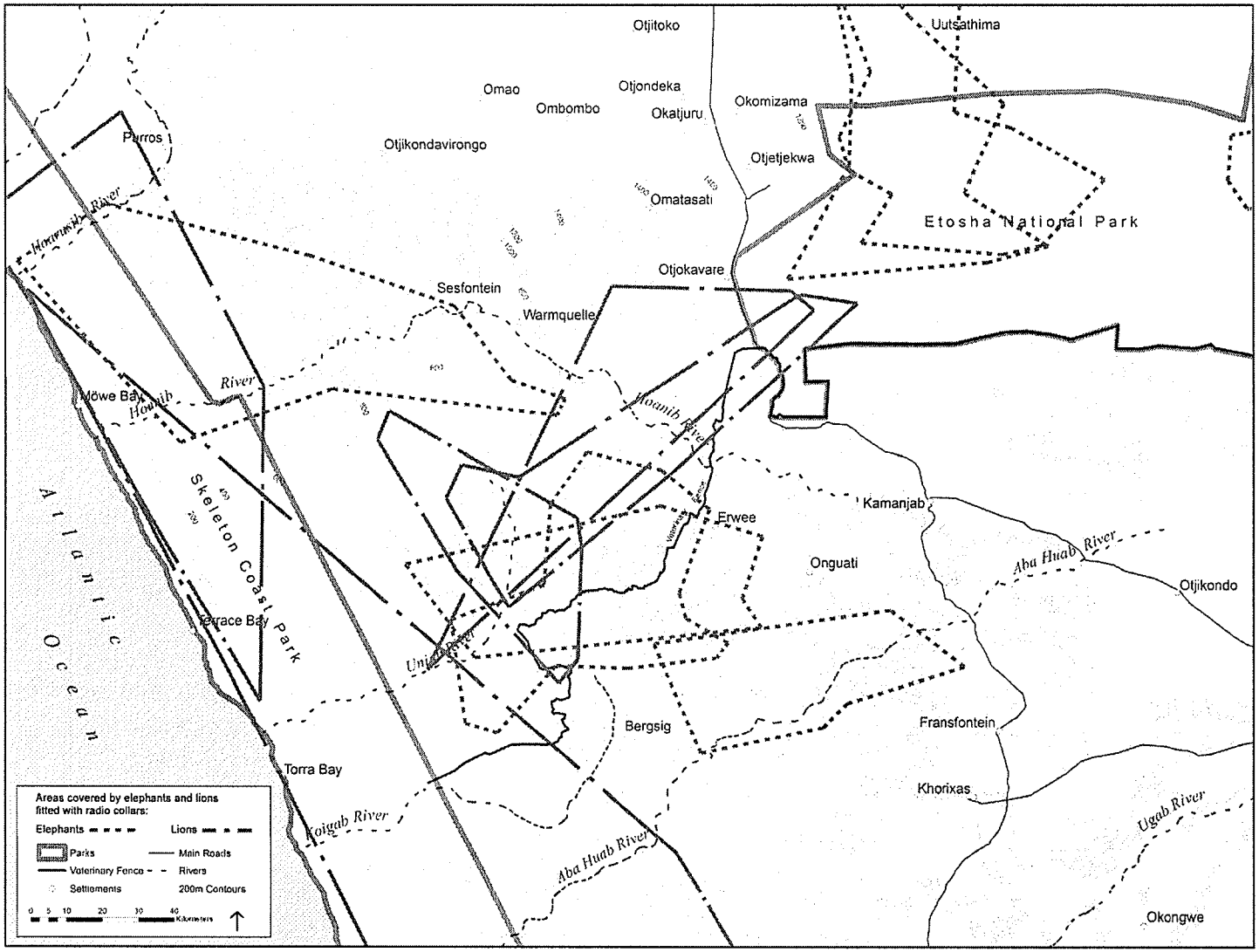


Figure 7. Movements of Seven Radio-Collared Elephant and Five Radio-Collared Lion

Adapted from: Mendelsohn et al. 2003:125

Springbok can tolerate conditions ranging from the desert to the more watered savannahs. They avoid areas of dense vegetation, mountains, rocky hills and sand dune areas, where they would be more exposed to predators and less able to use their great speed to escape. They are a mixed grazer and browser, able to subsist for long periods without actually drinking water, but rather obtaining moisture from eating plants. Springbok reverse the more typical wet season dispersal, dry season concentration of most species found in this part of the world and they concentrate on short green pastures in the rainy season, dispersing into smaller herds in the dry season. They calve in the spring, at the onset of rains and again in autumn. They are an important prey species for jackal, spotted hyena, cheetah, lion and humans in the study region. Springbok are known to migrate great distances in search of favoured seasonal habitats

Reproduction in springbok is seasonal and variable due to climatic conditions. The main calving season is at the beginning of the rains in spring, with a secondary peak in the autumn. Synchrony in reproduction results in formation of sizable female herds with fawns (Estes 1993). A single offspring is the norm in African antelopes of all species.

Oryx or Gemsbok (*Oryx gazelle*) are an icon of desert habitat and one of the greatest concentrations of this animal is along the edges of the Namib Desert in the western part of the study region (Mendelsohn et al. 2003). Gemsbok is a large antelope with long stiletto horns and beautiful black and white markings on a pale grey to tan coat. For this reason it is a popular object for wildlife photography, as well as a prized hunting trophy. Its meat is favoured in community use and very popular in commercial game farming. It is highly adapted to arid lands uninhabitable to most large mammals. It ranges over the high sand dunes of the Namib Desert and will climb hilly and mountainous terrain in search of springs and mineral licks. Gemsbok will range widely in dry areas, but can also occupy relatively small home ranges where water availability is more reliable, such as in parts of Etosha National Park. It is a mixed grazer and browser that can survive on the tough dry bunch grasses characteristic of much of the area lying between the Namib Desert and NW Escarpment in the study region. It will drink regularly where water is available but depends on water-storing vegetation like melons, roots and tubers. This animal can endure extreme heat by raising its body temperature, avoiding exertion during the heat of the day and feeding at night when plants have stored up the most moisture (Estes 1993). Gemsbok form mixed herds of males and females and

these can number several hundred, but average about 14 animals. Breeding is perennial. Lions and hyenas regularly prey on gemsbok and leopards are known to take calves. Gemsboks depend on their speed and ability to run long distances to elude predators.

Hartmann's Mountain Zebra (*Equus z. hartmannae*) and Burchell's Zebra (*Equus burchelli*) are both found in Namibia. Burchell's zebra is common on savannah plains and most are found in Etosha National Park. Zebra are very photogenic and it is quite remarkable to observe this handsome animal in the rugged, arid terrain of the study region. They are prized as a game animal and are popular for their meat and hides.

The mountain zebra is the species that is adapted to the arid and rough topography of the study region. Indeed, one of the areas of greatest concentration is in the study area and within the Ehi-rovipuka Conservancy (Mendelsohn et al. 2003). While similar in appearance to the plains zebra the mountain zebra's stripe pattern is distinctive, with striped legs, the absence of shadow stripes and a gridiron pattern of parallel strips on the rump.

The mountain zebra ranges on the arid plains and rocky uplands. It concentrates on plains pasture lands during the rains and has been known to penetrate the Namib Desert dunes. During the dry season it moves upland into the hills and mountains, using springs or wetlands to drink. It will dig for water in the dry watercourses of the ephemeral rivers and tributaries and defend its waterholes. Zebra will move over 100 km between wet and dry season ranges. Breeding peaks in the summer months when rain and pasture is most plentiful. Lion and hyena are main predators and zebras will defend themselves by herding closely together, running and kicking if attacked (Estes 1993).

The Giraffe (*Giraffa camelopardalis*) is the world's tallest land mammal and is widely and thinly distributed across northern Namibia, with greatest concentrations along the eastern edge of the Etosha Pan (Mendelsohn et al. 2003). Due to its height it especially adapted to browse vegetation beyond the reach of all other animals except elephant. It will feed on the upper branches and crowns of broad-leafed trees and can use a range of species of variable availability in the arid environment. *Acacia* and *Combretum* are principal species used in most areas. Giraffe will drink every two to three days when water is readily available but they can survive on water-storing plants and hence have been able to adapt to the aridity of the study region. Giraffe live in loose

open herds and the fluid nature of giraffe society reflects their need to spend most time feeding, moving independently among trees. Mature bulls will often be seen by themselves. The animal's height, excellent eyesight and power give it the confidence to travel and feed alone. Regardless, a group of giraffe that were watering in Etosha in the evening were observed to startle suddenly and run. A few moments later, two lionesses emerged from the dark and took over the giraffe's watering point. So, giraffe certainly respect the largest predator on the savannah. Reproduction in giraffe is year-round with conception peaking in the rainy season. Lions are the principal predator, taking mainly calves. Giraffe can defend themselves and their young with deadly kicking when attacked. Giraffe are highly prized for wildlife photography and they have been hunted for meat, hides and body parts by indigenous peoples (Estes 1993).

Elephant (*Loxodonta Africana*) are the world's largest land mammal and they are found in the Kunene region, Etosha National Park and the northeast part of the country. Recent estimates suggest that there are about 9,000 elephant in Namibia and these animals move widely within and between different areas of occupancy (Mendelsohn et al. 2003). Elephant are a highly versatile herbivore feeding on trees, scrubs, grasses and cultivated crops. Grasses and herbs are mainstays during the rains and other browse is important in the dry season, especially in the riparian forests of the study region. Elephants will feed most of the day and they require a lot of water daily. Mature bulls can drink nearly 230 L a day and consume nearly 100 L at a single drinking (Estes 1993). The presence of elephant in the arid environment of the study region is testament not only to their adaptability, but also to the presence of large amounts of groundwater that they are able to find. Elephants live in a matriarchal clan society of mother, dependent offspring and grown daughters with offspring. Mature males live separately, either alone or in bachelor herds. A matriarchal group of elephant with newborns was encountered during fieldwork in the study region, as well as lone bull elephants. Both female herds and lone bulls were also observed in Etosha National Park.

Elephant have an ambling gait and can cover great distances (Douglas-Hamilton et al. 2005). They can handle very rough terrain, dense forests and have been witnessed sliding down the Namib sand dunes. They are able swimmers as well, although this is a little required skill in the deserts and dry plains of the study region. Elephant serve as a keystone species and they are very instrumental in creating habitats for other species through seed dispersal, opening up forested areas and finding water that is used by other species. Their large range requirements can be used as an indicator of the extent

to which habitat distribution and scale needs to be accounted for to conserve overall biodiversity (Douglas-Hamilton et al. 2005).

Reproduction in elephants is not strictly seasonal, but most matings and births occur in the rains (Estes 1993). Elephants carefully protect their young and successfully fend off most predation attempts by lion and hyena. Predators will not attempt to attack mature animals. Humans are the greatest threat to elephant and poaching for elephant ivory has been widespread on the African continent for centuries. In Namibia, it has been estimated that there were less than a thousand elephants at the beginning of the 20th century due primarily to the ivory trade (Mendelsohn et al. 2003). Concern for elephant populations was one of the motivating factors in early efforts to curb poaching that led to the eventual formation of conservancies in Namibia (see Chapter 6). Elephant are a principal contributor to so called human-wildlife conflict (HWC) in the study region today. Their incessant need for large amounts of water and their sheer size and power frequently result in their use of boreholes and water reservoirs in the small villages in the region. Elephants will frequently damage pipes and water tanks when they attempt to obtain water from these sources and I was personally shown several examples by villagers over the course of my fieldwork.

Black Rhinoceros (*Diceros bicornis*) are an endangered species, due largely to poaching for rhino horn that accelerated rapidly in southern Africa in the 1970s. The dramatic declines in Black Rhino populations were an early motive to curtail poaching in northern Namibia that led to the formation of early conservancies. The Save the Rhino Trust is a national NGO that has been involved from the 1980s in restoring and conserving rhino in Namibia. Rhino exploit a range of habitats including the dry plains and Namib Desert fringes of the Kunene region. They are browsers and favour herbs and shrubs. They can go for four to five days without water (Estes 1993) and they will obtain water from succulents and dig for water in the sand beds of ephemeral river courses They are most active at night. They have a great fidelity to a specific territory and are quite predictable in daily and seasonal movements. For example, rhino were observed at Okaukuejo waterhole in Etosha on several evenings, arriving about the same time after night fall. Such predictability has made them especially vulnerable to poachers. Reproduction and calving is at intervals of two to four years.

The size and power of mature rhinos makes them immune to most predation, but lions and hyena will take young calves. Humans have proven to be the greatest threat,

especially in terms of the aforementioned poaching. Black Rhino are a significant tourist attraction and people will travel to Namibia and the study region expressly to view this endangered species.

Eland (*Taurotragus oryx*) is the largest African antelope. It is a highly adaptable species and can inhabit several habitats including the semi-desert and savannah parts of the study region. It is both a browser and grazer and during the rains grass forms an important part of its diet. In cool weather they feed and rest during the day and continue to feed all night. In the hot dry season, they rest all day in the shade and confine feeding to the night (Estes 1993). Home ranges of females and young can be very large and eland will form larger herds during the rains. Bulls have much smaller ranges and they will venture more readily into woodlands than females with calves. The size of the animal makes it more ponderous than other antelopes. Most breeding occurs during the rains. Lion and hyena are principal predators, especially on young eland. Eland are highly valued for their meat, as well as a trophy animal.

Greater Kudu (*Tragelaphus strepsiceros*) are a large antelope comparable in size to North American elk. Mature bulls have spectacular spiralling horns that are used as trumpeting horns by some African groups. It is one of the few large mammals that seem to thrive in settled areas and it favours concealing habitat of savannah woodlands of acacia and mopane. It is a browser and eats a variety of leaves and plants. Kudu make extensive seasonal movements, dispersing among woodlands during the rains and concentrating along rivers in the dry season (Estes 1993). Several large kudu bulls were observed in these riparian conditions during the dry season fieldwork for this research. Herds typically have several females and offspring, being smaller in the dry season than during the rains. Mating peaks at the end of the rains and calving peaks during the rainy season. Lions and hyenas will take mature kudu and younger animals and calves are subject to predation by smaller predators. During an interview with one of the village elders I was told that kudu do not respond well to drought and will 'die on the spot,' not moving to other places to seek water. Kudu are much valued for their meat and bulls are prized as a trophy, with their magnificent horns.

Black-Faced Impala (*Aepyceros melampus petersi*) are endemic to northwest Namibia and there are only 4,000 estimated to survive in the wild (Matson 2007; Matson 2005). They are classified by IUCN as Vulnerable and they are a distinctive sub-species from the common impala, with their blaze of black on the nose, darker coat and larger

body size. They are threatened by interbreeding with common impala. There have been recent efforts to re-introduce black-faced impala to the Kunene region from a founder population in the Etosha National Park. Ehi-rovipuka Conservancy is targeted as a priority area for re-introduction and there are already a few black-faced impala in the conservancy. Populations were reduced in the past by poaching, drought and competition with other animals, including livestock. They require shade and shelter to survive and are dispersed more widely in the wet season. Planned re-introductions will require that no common impala or hybrids are present in release areas and at least 30 animals are introduced (Matson 2007) at each site. Evidently, recent research has determined that black-face impala can persist if sufficient numbers are re-introduced to withstand predation by cheetahs.

Predation on the grazers and browsers has been outlined for each species described. There are four principal predators occupying the study region: lion, leopard, cheetah and hyena, including both spotted hyena and brown hyena. The natural history of these species will be outlined briefly.

Lion (*Panthera leo*) are mainly an animal of the African savannahs and plains where there is the greatest concentration of the antelopes, zebra, wildebeest and the other animals that they prey upon. Lions are confined to the northwest and northeast regions of Namibia, with the largest concentration in Etosha National Park. They are known to move over great distances and individuals have been tracked by radio-collar from the western parts of Etosha all the way to the Skeleton Coast Park (Mendelsohn et al. 2003; Stander & Esterhuizen n.d.). Lions have adapted to the arid conditions of the study region and part of their adaptation has featured their wide range. They hunt mainly at night, seeking rest and shade during the heat of the day, but they are opportunistic and will take prey whenever there is a chance. They have been known to devour seals along the beaches of the Atlantic coast, for example.

Basic units of lion society are female prides occupying a home range or territory, and these ranges can be up to 400 km² where prey densities are low. Hunting usually involves several lionesses stalking and driving quarry into ambushes of hunting partners. I personally witnessed this in Etosha National Park, where three lionesses attacked and caught a wildebeest in a pincer-like attack. Male lions typically will feed on the kills made by female hunting groups although they will kill for themselves if necessary.

Reproduction in lions is year-round and typically three cubs are produced (Estes 1993). Lions are generally feared by humans that live in their ranges and they are a source of predation on domestic livestock. Hence, lions are a principal species implicated in human-wildlife conflicts. They have proven capable of breaking through fences that surround Etosha National Park as they move to hunt prey or seek water across their territories.

Brown Hyena (*Hyaena brunnea*) is a dominant carnivore in arid parts of Southern Africa, including the study region. This animal is a predator and scavenger. It forages and hunts at night and while it prefers meat, it will also eat plants, marine organisms and insects. It will prey on smaller animals and the young of several of the species earlier described. In the rainy season it will scavenge on lion, leopard and cheetah kills and eat more vegetable matter, insects and so on during dry periods. Reproduction is non-seasonal and unsynchronized within clans (Estes 1993).

Spotted Hyena (*Crotuta corsuta*) is a larger hyena and is the most abundant carnivore in areas where antelopes and zebra are plentiful. It is a formidable predator and scavenger and seldom eats vegetable matter. It too hunts at night and is seldom seen in daylight. Reproduction is non-seasonal, with a typical litter size of two (Estes 1993). Both species of hyena, especially the spotted hyena, are a main source of human-wildlife conflicts as hyenas prey on domestic livestock. Hyenas are feared by people and have been known to attack humans.

Leopards (*Panthera pardus*) are common throughout the study region, especially in the more wooded upland savannah portions and in the riparian forests. Leopards are considered the masters of stealth (Estes 1993). They will stalk prey with patience and silence and can strike with complete surprise. They are powerful cats that can kill animals of much greater weight than themselves, frequently hauling the carcasses up into treetops to keep them away from other predators. I have personally witnessed impala stuffed into treetops by leopards in Hwange National Park, Zimbabwe and I have encountered several leopard by chance while traveling through wild parkland savannah.

Leopards are solitary and associate with other adults only long enough to mate. They can survive in a wide range of habitats and occupy relatively small home ranges. They hunt at night and lay up in brush and trees during the day. Reproduction in leopard is unseasonal and they produce one to three cubs. Leopards will readily take livestock in

settled areas and occasionally prey on humans as well. They are feared for this reason. They are much prized as a trophy animal by hunters and they are much sought after by photographers as well. They are also implicated in loss of livestock in communities.

Cheetahs (*Acinonyx jubatus*) are the fastest land mammal in the world and they can reach speeds of 70 mph to chase down prey. The cheetah is quite prey specific and feeds largely on small antelope like the springbok of the study region. Cheetah lack genetic diversity, making the species especially vulnerable to disease or over-exploitation (Estes 1993). Namibia possesses a large proportion of the world population and there are several captive rearing facilities aimed at conserving and restoring the species.

Cheetahs depend on cover to approach within sprinting distance of speedy prey and also to hide themselves from larger predators. It will hunt during the day and occupies relatively small home ranges. Reproduction is year-round and they usually produce three to four cubs. Cheetah will take smaller livestock like sheep and goats and are therefore regarding as a nuisance in some communities. They are highly valued for photography and tourists are very anxious to see them. They are protected from hunting in Namibia.

Ecological Complexity and Biodiversity

A brief overview of the principal wildlife species receiving the most attention in present day conservation and management efforts has been provided. However, a more important perspective is the overall complexity of ecological systems and how interrelationships among and between biotic and abiotic components result in the biodiversity of the study region. The ecosystem or broad landscape level is considered the most useful and manageable scale at which to consider biodiversity in terms of the research purpose and objectives. The aforementioned descriptions of climate, topography, erosional and depositional processes, and vegetation and animal responses together underscore the complexity and networks of interrelationships that produce biodiversity. Complex networks in the web of life (Capra 1996) result in the emergent properties of biodiversity, scenic beauty and wildlife abundance that render the study region attractive for international ecotourism, trophy hunting and community livelihoods premised on wildlife.

Overall species diversity in Namibia is estimated to be about 185,000 plants, animals and other living organisms (Ministry of Environment and Tourism 1997). Of this, over 85% are insects, plants account for just under 2% of all species, and mammals account for less that 1%. Conservation efforts are therefore focussed on a miniscule part of overall species diversity. However, with a landscape or regional scale approach to biodiversity conservation, the community, species and genetic levels of biodiversity are captured to an extent in the aggregate, given biotic and abiotic interrelationships and networks. This 'course filter' approach operates at the wide region scale and this is the approach emphasized here.

Given its arid character the species biodiversity of Namibia is not as great as that for many places in the tropics (Barnard 1998). Within Namibia, highest areas of species diversity are in the northeast and Caprivi Strip areas, due to higher rainfall, presence of wetlands and forest habitats. The study region has lower levels of species diversity, reflecting it aridity. However, patterns of species endemism are quite different and it is the endemism of the species in the study region that is especially relevant to its significance for biodiversity conservation (Chown & Gaston 2000).

Endemic species are those found only in a particular area, habitat, biome or country. There are 14 species of endemic birds, 66 reptiles, 15 mammals, 14 scorpions and 604 plants with 75% to 100% of their range in Namibia. One of the highest areas of overall plant and animal endemism is in the study region (Mendelsohn et al. 2003). This pattern reflects the region's aridity and topographic diversity producing particular speciation and adaptation to the distinct environment. It is important to note that the protected areas in and bordering the study region, namely the Skeleton Coast Park and Etosha National Park, do not encompass the areas of greatest species endemism, which largely lies between the protected areas on the communal lands. This underscores a general point made in the introduction; that protected areas alone are very limited regimes for conserving biodiversity and this is very much the case in the study region.

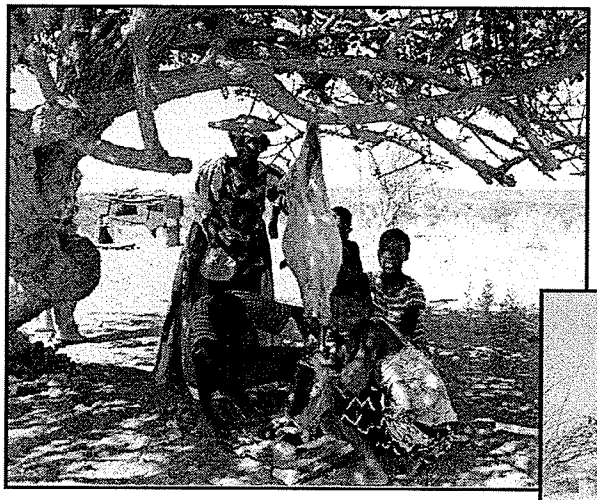
The overall abundance of the large herbivores important for meat, trophy hunting and tourism is greatest in Etosha National Park, with important concentrations through the private commercial faming zone in the central part of the country. The study region has lower, but nonetheless important abundances of these animals that are linked to the populations of these animals in Etosha. The southwest corner of Etosha National Park, lying adjacent to Ehi-rovipuka Conservancy, is an important area of concentration for the

large herbivores (Mendelsohn et al. 2003). Similarly, some of the greatest abundance of the large carnivores that are important for tourism, trophy hunting and management of human-wildlife conflicts is found in Etosha National Park and the study region to the west of the park, all the way to the coast.

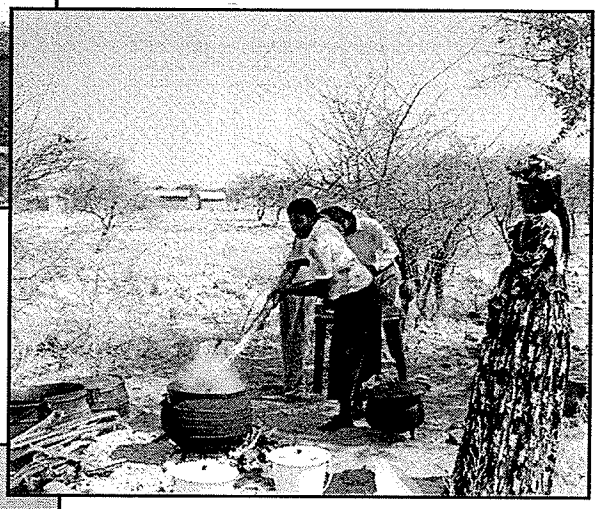
Summary Reflections

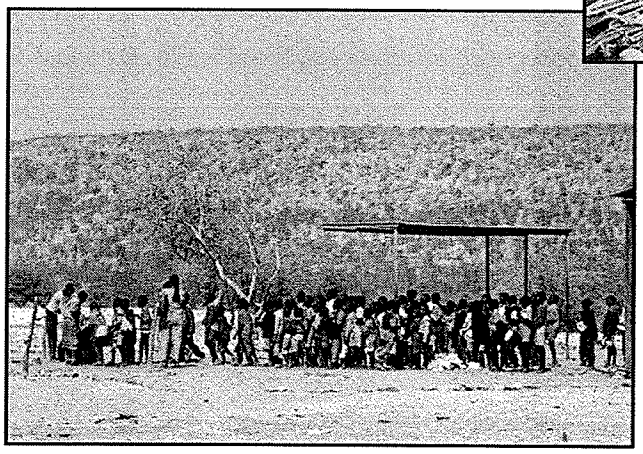
This discussion of aridity, ecology, and scale is ultimately relevant and important to understanding and interpreting findings concerning the viability of community-based institutions for biodiversity conservation. The regional rainfall gradient from west to east profoundly influences plant and animal distributions, and many of the animals that are the basis for community-based conservation move seasonally and widely, beyond the locations of individual communities and conservancies. The gradation of topography from coastal sand dunes and flat dry plains in the Namib Desert near sea level, to a higher escarpment zone and upland plateau inland from the Atlantic coast has also affected patterns of vegetation, wildlife and human distributions. The ephemeral rivers are prominent regional features draining east to west, contributing to the resilience of both ecological and social systems. These all are dimensions of complexity and scale grappled with in this research, presenting implications and impacts upon the fundamental relationships between protected areas and community-based conservation that rest at the nexus of the research. A matching complexity is presented by the human dimensions of environment described next, in Chapter 4.

CHAPTER 4:
PEOPLE, CULTURE, AND COMMUNITY:
ENVIRONMENTAL CONTEXT



Photos by Arthur Hoole





Clockwise, from top:
butchering a goat,
preparing a zebra meat feast,
pupils line up for breakfast.

Organization

This chapter provides further environmental context for the study region, focussing on people, culture and communities. Human societies and institutions are part of the environment, intertwined with the ecological systems reviewed in Chapter 3. The complexities of ecological systems are fully matched by complexities of ethnographies and socio-political dimensions.

The approach taken is to first provide highlights of population and demography for Namibia as a whole, then focussing the discussion on the study region. An overview of the cultural and ethnic diversity of the study region is then outlined as context for a consideration of the Herero people, who constitute the communities that are the subject of the case study in the Ehi-rovipuka Conservancy.

A variety of authoritative sources were obtained in Namibia during the first phase of fieldwork. As well, personal field observations and visits to study region communities form a part of the research process to assemble the material presented in this chapter.

Namibia's Population and Demographic Characteristics

Namibia's population is quite small in comparison to other Southern African nations, reflecting the aridity of the region. A population of approximately 1.8 million people is distributed over a total land area of 823,680 km², with nearly 40% now living in urban areas, the largest centre being Windhoek, the capital (Mendelsohn et al. 2003). Most of the rural population is concentrated in north-central Namibia, where rainfall and arable lands are most plentiful.

The overall population is quite youthful, with over 40% of the population under the age of 15. In recent decades annual population growth had been quite high at 3%, but in the 1990s slowed due to lower fertility and higher mortality from AIDS. Fertility rates and life expectancy have dropped by one-third in the last decade (Mendelsohn et al. 2003).

Approximately 43% of Namibia is freehold land such as commercial farms and ranches, 39% communal land and 18% is state land. All the land in the study region is communal land. Most of the population is directly dependent on natural resources for livelihoods, with the majority of land dedicated to some form of agriculture, mainly livestock rearing. Only about 3,000 km² is cultivated annually, primarily for millet, sorghum or maize. About 14% of the country has been set aside in protected areas (Mendelsohn et al. 2003).

Overall population density is about 2 persons/km² but this population is not evenly distributed throughout the country. Large areas are virtually uninhabited, like most of the Namib Desert along the Atlantic coast. Similar to the reasons ascribed for wildlife distributions in Chapter 3, human populations have concentrated where there is

drinking water, rainfall and adequate soil fertility for vegetation and crops, and pasture for livestock. These conditions prevail in the Cuvelai drainage of north-central Namibia between the Etosha National Park and the Angolan border, as well as along the Okavango River and river floodplains in the Eastern Caprivi of northeastern Namibia. Rural population densities in these areas range from 10 to 100 persons/km².

Availability of employment and business opportunities account for about one third of the population living in towns and cities. Much of the northwest study region is devoid of human settlement and most of the population is found in the eastern part of this area, where the rainfall is higher. Small settlements are lightly dispersed over this region, averaging no more than 1 to 5 persons/km². Settlements have concentrated near water boreholes.

Urbanization is a dramatic overall trend in Namibia and it is forecast that if annual urban growth rates of 5 to 6% experienced recently continue, over 75% of Namibians will live in towns by 2020 (Mendelsohn et al. 2003). In the entire Kunene region of which the study region is a part, only 68,735 people lived there in 2001 (Central Bureau of Statistics 2005). As further illustration of the low populations in this region, the Torra Conservancy had just 1,200 persons within its 3,522 km² area and for the Ehi-rovipuka Conservancy, 2,500 persons within its 1,975 km² area (NACSO 2006).

Population projections for the study region suggest a further decline over the next 10 to 20 years, in response to urbanization beyond the region and the impact of AIDS. This may have important implications for natural resources management and institutional arrangements for conservation. Life expectancies in Namibia were on the rise due to health care advances in recent decades but since the onset of AIDS, average life expectancies in the study area dropped from 63 years in 1991 to 46 in 2001 (Mendelsohn et al. 2003).

HIV/AIDs warrants specific acknowledgement in the research, given its profound implications for community well-being and community-based conservation. The overall rate of HIV infection in Namibia increased from 4% in 1992 to 22% in 2000. One out of every 4 deaths in Namibia in 2000 was due to AIDS (Kurz pers.comm. 2006). The Kunene region has a lower rate of HIV infection at 9%, due in part to lower population densities, absence of major infection vectors such as major transportation routes where transient populations are concentrated (e.g., trucking corridors), and perhaps also due to

lower participation rates in epidemiology surveys. Regardless, the consequences are severe for people, communities and the management of natural resources.

There is a growing array of HIV/AIDS awareness and education programs in Namibia and it is important to note that conservancies in the study region are implementing awareness and education programs, with the technical support of the Namibian Association of CBNRM Support Organizations (NACSO) and its national HIV and AIDS coordinator. These efforts are aimed at 'mainstreaming' HIV/AIDS awareness and education in community-based natural resource management on the premise that sustaining human resources is prerequisite to sustaining natural resources (Kurz pers.comm. 2006).

HIV/AIDS has profound impacts on community conservation institutions. These include but are not limited to loss of staff, loss of time to commit to resource management work due to demands of family care and funerals, diversions of funding to fight AIDS, the loss of indigenous knowledge and social memory. The very capacity to apply community knowledge and energies to manage and use natural resources wisely is threatened by AIDS.

The literacy level in the Kunene region is less than 60% and only 43% of children live within 5 km of a school (Mendelsohn et al. 2003; Central Bureau of Statistics 2005). A recent household survey in the Ehi-rovipuka Conservancy found that of residents over 20 years old, 56% had no formal schooling, 19% had completed only primary school as their highest education level, 8% had completed grades 10 to 12 and only 1% had completed higher education beyond Grade 12 (Suich 2004). These characteristics presented implications for the research methods selected to collect community data. Literacy levels also pose issues that are further explored in the research concerning effective participation in conservancies as conservation institutions linked to the national CBNRM program.

Socio-Political Heterogeneity

While Namibia's population is quite small compared to other states in Southern Africa the socio-political history is very complex and the country possesses great ethnic diversity. Much of Namibia's history over the past 500 years reflects dynamic changes in the use and occupation of lands by a variety of ethnic groups. It is not within the

competency or capacity of this research to provide a penetrating and nuanced appreciation of the cultural and ethnic complexity that undoubtedly influences certain of the research findings. What is offered is a very brief overview to illustrate and acknowledge social and cultural complexity and heterogeneity, with a particular focus on those ethnic groups that reside in or near the study region and Etosha National Park.

Further qualification is warranted for certain definitions or typologies. Given that the ultimate attention of this research is the relationships or linkages between protected areas management and community-based conservation, the term *resident peoples* is employed as a proxy or catch-all for terms such as "indigenous peoples," "traditional communities," or "native peoples." Resident peoples are those communities, families and individuals who occupy, reside in, or otherwise use on a regular or repeated basis, a specific territory within or adjacent to an established or proposed protected area (West & Brechin 1993). This definition, in the Southern African and Namibian contexts, encompasses both indigenous African and colonizing European cultural groups. However, the community focus of this research is on African communities that preceded European settlement and that reside in or near protected areas on communal lands, as distinct from resident peoples of European descent who have colonized and own private lands.

The Owambo occupy the most densely populated area of northern Namibia, between Etosha and the Angolan border and they form the largest ethic grouping in Namibia. Owambo people belong to the southwestern Bantu group. They are thought to have migrated in a southwesterly direction from Central Africa in a single group, entering present day Namibia in the 1500s. The Owambo eventually settled on the plains north of Etosha National Park where conditions for sedentary agriculture were good and they did not migrate further south into Namibia (Malan 1995). There are eight divisions recognized for the Owambo alone, each with their own language dialect. Owambo peoples practice a mixed agriculture and cattle herding economy and their staple food is millet.

The Owambo overwhelmingly have supported the South West Africa People's Organization (SWAPO), which led the revolutionary struggle against South Africa's occupation of South West Africa beginning in 1966. This struggle lasted until a United Nations Peace Plan in April 1989. SWAPO was victorious in the ensuing independence elections of 1990 and forms the present-day Namibian government. It drew over 92% of

the votes in Ovamboland, in contrast to only 10% in what is the now the Kunene region of the northwest (Malan 1995). During my fieldwork, several anecdotes were shared with me about the dominant influence of the Owambo in the present day government and discrimination in government programs that occurs along 'tribal' lines. This is noted because it is but one facet amongst others that will be further mentioned, underscoring cultural heterogeneity, differentiation and implications for the formation and operation of community conservation institutions and their development.

The Bushmen, also referred to as San, were indigenous to Namibia for centuries prior to the arrival of other ethnic groups. Different localized San groups are recognized within Namibia (Malan 1995; Mendelsohn et al. 2003; Gall 2002). The Hai||om Bushmen that occupied the area of present day Etosha National Park, especially along the southern edges of the great Etosha Pan are the focus here. This Hai||om hunter and gatherer culture was eventually displaced from Etosha National Park and this story is elaborated in Chapter 5.

The Nama are descendants of the Khoi in South Africa and they first moved into Namibia in the 1740s. A second wave known as Oorlam Nama arrived from South Africa in the 1800s (Mendelsohn et al. 2003). They were equipped with horses and guns and when they eventually came into conflict with the Herero (see below), they prevailed, driving the Herero further north and dominating much of central and southern Namibia. Other Nama groups settled as far afield as the Kuiseb Valley in the Namib Desert and Sesfontein in northwest study region. There are 14 recognized Nama groupings in Namibia (Malan 1995).

The Damara, like the Bushmen, were indigenous to Namibia long prior to the later in-migrations of other African groups in the 1500s to 1800s. Their language is close in dialect to the Nama and they have no linguistic relationship to Bantu-speaking peoples like the Owambo and the Herero. Their migrations into Namibia pre-dated the arrival of Bantu tribes like the Herero. Sources are contradictory and the origin of Damara migrations is uncertain (Malan 1995). It is speculated that Damara peoples may have originated in parts of present-day Zimbabwe and Zambia (Mendelsohn et al. 2003), moving west into Namibia. The Damara comprised almost a dozen sub-groups or bands. As a hunter-gather people they became persecuted by both the Nama and Herero. Nama domination of the Damara accounts for the loss of the Damara's original language and culture (Malan 1995). Present day Damaraland coincides with the south part of the

Kunene study region and grew out of a series of reserves and homelands created under German and South African colonial administrations from early in the 20th century.

Otjiherero-speaking peoples are likely to have entered Namibia during the 1500s from Angola. These include the Herero, who first occupied the northern Kunene region near the Angolan border, later moving south into central Namibia by the 18th century (Mendelsohn et al. 2003). The Herero first wanted to occupy the grassy plains north of Etosha with their cattle, but the Owambo had arrived earlier, forcing the Herero to move westward into the more arid and rough terrain of what became known as Kaokoland (Malan 1995). They have stayed on in this northwest region for nearly two centuries before many migrated to the central and east-central regions of Namibia.

Kaokoland is mentioned at several places in this dissertation and encompassed a vast territory bordering Angola to the north, Owamboland and the Etosha National Park to the east, Damaraland to the south and the Skeleton Coast Park to the west (Hall-Martin et al. 1988). Following Independence, Namibia was organized into 13 political regions and the Kunene Region is one of these, encompassing all of the former Kaokoland and much of the former Damaraland. This has been confusing because this demarcation history is quite recent and conversations with Namibians are frequently interspersed with references to Kaokoland or Damaraland or Kunene, northern Kunene or southern Kunene. Suffice it to say that the study region falls entirely within the communal lands of the present day Kunene region, comprised mainly of the former Kaokoland, with the southern portion containing part of Damaraland.

Two groups of Ojiherero speaking peoples are recognized in the Kunene region – the Himba and the Herero. They are interrelated ethnic groups. However, the Himba, remained to the north of region near the Kunene River and Angolan border and were more isolated from the European colonizers who first arrived in the 19th century.

From the time of their first occupation of Kaokoland the Herero followed a highly dispersed settlement pattern and were very nomadic with their cattle, seeking out the highly dispersed waterholes and springs in the arid landscape. Nama bands later invaded the region and their technologies and more concentrated forces pushed back the Herero pastoralists. The Nama established a base at Sesfontein from where they staged cattle raids on the Herero in the mid 1800s (Malan 1995). This forced large numbers of the Herero into a hunter-gatherer existence and some of these people fled

north across the Angolan border. They became labelled as *Tjimba* or *Tjimba-Herero,* derived from language meaning *aardvark*, an animal that digs up its food and as such is regarded as an inferior life form. In Angola, the Tjimba-Herero came to called *ovahimba*, meaning beggars, since they had come to beg their residence and food (Malan 1995). The *ovahimba* or Himba, as they came to be called, did not stay long in Angola and returned to Kaokoland. In 1920, on news that the German occupation of South West Africa had given way to the South African administration, Herero people returned into central and southern Kaokoland and beyond into central Namibia, while the Himba remained more isolated in the northern half of Kaokoland (Malan 1995).

Today, the Himba follow a more traditional socio-economic organization based on pastoralism, hunting, gardens and gathering of veld food. Their village architecture is more traditional than that of Herero communities and they wear traditional garments and adornments that have made them the object of international tourism attention (e.g., Himba women wear braided hair, are bare-breasted and scantily clad, and coat their entire bodies with red-ochre). Nonetheless, the Himba and Herero share much culturally, including language, their double descent system and ancestral worship.

Herero people form the communities of the Ehi-rovipuka Conservancy that is case study for this research. Herero origins in Namibia have already been highlighted. The Herero were much more influenced by German and South African colonizing forces and land policies due to their southward migration into central Namibia. Indeed, the major concentration of Herero developed in central and eastern Namibia and this region became known as Hereroland. Successive wars, first against the Nama and then against the Germans contributed to a Herero dispersal or diaspora over a vast area stretching from Kaokoland and Damaraland, east to Botswana. Herero ethnography will be elaborated later in this chapter, given the relevancy to understanding their cultural practices and organization for the research purpose and objectives.

Malan (1995) has recognized several other African ethnic groups beyond those reviewed, including the Kavango, Fwe and Subia of the northeast, the Tswana originating in Botswana, the Rehoboth Basters originating at the Cape and so-called Coloured peoples, with Afrikaans and South African influences, as well as the present day ancestors of European and South African colonizers. Also, under South African apartheid, a group known as the Reimvasmakers was forcibly re-located from the Cape Province in South Africa in 1974 and they were dispersed to many locales in Namibia

including Bergsig and De Reit in the present-day Torra Conservancy. Ancestors of the Reimvasmakers evidently originated in Namibian territory but were actually forced by tribal conflicts into South Africa in the 1800s (Jagger n.d.).

The Reimvasmakers are a good illustration of why the term *resident peoples* is favoured for the purposes of this research. They form an important ethnic community in the Torra Conservancy that is widely recognized as one of the most successful in Namibia. The Torra case is elaborated in Chapter 6, given its early and influential role in the evolution of community-based conservation. The Reimvasmakers community has played a central role in the Torra case, yet its presence dates back just to the early 1970s, in contrast to the Damara, Nama and Herero constituencies. This underscores the cultural heterogeneity in the study region that will be shown to be a factor in common property resource institutions that have emerged.

Before elaborating on Herero communities, a brief outline of the European colonizing period and certain milestones in the impacts and interactions with the African population in Namibia is needed. This is especially so for a better appreciation of the state and customs of the Herero, who were dramatically changed by colonizing forces.

European Colonization

European colonization and subsequent South Africa administration wrought profound change in the socio-political milieu of Namibia over a relatively short period. The intrusion of European colonial powers started in 1878 with the British annexing Walvis Bay on behalf of the Cape Colony (Moyo et al. 1993). The Germans proclaimed the Territory of South West Africa a German protectorate in 1884. Boundaries of the Territory of German South West Africa were concluded in agreements with Portugal in 1886 and Great Britain in 1890. German colonial rule lasted briefly, ending in 1915 when the British asked their Commonwealth member South Africa to oust the Germans as part of World War 1 hostilities (Moyo et al. 1993).

Between 1915 and 1920 the Union of South Africa imposed military rule on South West Africa. In 1920 the League of Nations proclaimed a mandated territory and the Union of South Africa as the mandated power. In 1946, a request of the United Nations to incorporate South West Africa as part of South Africa was denied, although the South African mandate over South West Africa remained. South Africa imposed its apartheid

system of racial segregation and discrimination on South West Africa during this period. By the late 1950s, African nationalist movements emerged to resist South Africa, SWAPO began an armed struggle in 1966 and by 1971 the International Court had ruled that South African occupation of Namibia was illegal. An independence process began in 1989 under UN assistance following years of armed struggle between South African military forces and SWAPO resistance fighters operating out of Angola. The newly independent nation of Namibia was internationally recognized in March 1990 (Moyo et al. 1993).

Today, the distribution of land and ethnic groups in Namibia, persistent patterns of segregation between populations, differential access to land and resources, and the mix of many African dialects, Afrikaans, German and English languages are legacies of the colonization periods under the Germans and South Africa. These legacies, coupled with the great ethnic and cultural diversity of Namibia, produce complexities and dynamics within social systems that must be acknowledged in deriving and interpreting the results of this research.

The Herero-Alienation, Annihilation and Transformation

Herero communities are the focus of the case study research and the impacts of conflict, colonization and subsequent transformations on Herero culture warrant elaboration. Earlier it was mentioned that the Herero migrated into central parts of Namibia. This led to an inevitable conflict with the Oorlam Nama moving north from the Cape Province in South Africa (Pakenham 1991). By 1830, the first clash had occurred and the Oorlam Nama prevailed with their rifles and horses, driving the Herero back to Okahandja. In spite of an early peace treaty and subsequent peace processes presided over by German missionaries, the Nama and Herero launched successive attacks and counterattacks on one another over the period from 1850 to 1884, when the German colony was proclaimed. Treaties were negotiated with the Nama and Herero chiefs and a period of uneasy peace persisted among the Nama, Herero and Germans until 1903.

In 1897, the Hereros were overtaken by natural disaster. A wave of the cattle plague rinderpest swept through their herds, leading to starvation and desperation. Individual Herero sold off their lands to German settlers to pay for vaccinations, buy new cattle or simply to buy food to stave off starvation (Pakenham 1991). The rinderpest was followed by plagues of malaria and typhoid. These events paved the way for unopposed

colonization that featured fervent Christian missionary work, the building of a railway and the acquiescence of the Herero to serve as workers on the farms and public works projects of the colonizers. With the help of natural disasters, the Herero had been brought "quietly to heel" (Pakenham 1991; Gewald 2000) and German settlement and development proceeded apace. During this period, the German governor preserved a fiction with the Herero chief Samuel Maherero that the Africans were still the rulers rather than the subjects, regardless that German settlers regularly brutalized, murdered and raped the Hereros.

Many farms in the well-watered regions of Herero-occupied territory were eventually sold by their chief Samuel Maherero to the German settlers (Pakenham 1991). This was not supported by Maherero's followers given their treatment at the hands of German settlers, but they remain pacified for a short while on a promise that Maherero would eventually take the land back. Towards the end of 1903, the Germans withdrew their troops from Hereroland to suppress a Nama uprising to the south. In January 1904, Maherero, in a fateful decision, ordered the murder of all German farmers, traders and settlers, sparing only missionaries, women and children as well as Europeans of other nationalities (Malan 1995; Pakenham 1991). In the ensuing rebellion, 150 Germans lost their lives.

Pakenham (1991) writes that this must have been a bitter decision for Maherero, since he was educated as a Christian by the Rhenish missionaries and had grown accustomed to European clothing, as well as German brandy. Nonetheless, the desperation of his people, their ill-treatment at the hands of individual German settlers and the taunts of his people forced his hand.

The German response was swift, with reinforcements being sent from Germany to suppress the Herero rebellion. The German Kaiser chose a ruthless, single minded soldier, General Lothar von Trotha, to crush the revolt. In fact it became von Trotha's declared intention to exterminate the Herero. At the battle of the Waterberg in 1905, the Herero were encircled and attacked by German forces. They drove the Herero into the Omadeke sandveld, a "waterless oven of sand, 200 miles wide, separating Bechuanaland from South West Africa. Into this death trap, as though it was a refuge, fled the terrified Herero, perhaps 8,000 men, with twice that number of women and children" (Pakenham 1991:611).

The majority of the Herero died in the sandveld. Several thousand escaped to what is now Botswana and the Cape. Others, trying to move back into South West Africa were hunted down by the Germans like game. Many surrendered and were sent to forced labour camps, where many more perished under horrendous conditions. When a census was taken in 1911, only 15,000 Herero out of an estimated previous population of 80,000 had survived (Pakenham 1991). The Nama, too, who joined the uprising against the Germans belatedly at Maherero's behest, lost half their population in the battles or forced labour camps (Pakenham 1991). In 1905, the Germans confiscated all land formerly belonging to the Herero and ruled that none would be allowed to keep cattle. The only alternative was to work as labourers for the Germans or settle in white areas on farms or in towns where they found employment. Samuel Maherero died in self-imposed exile in Bechuanaland and was buried at Okahandja in August 1923. His funeral has particular significance in the revival of Herero society and this will be explained further momentarily.

Following the First World War the Union of South Africa appointed a Native Reserves Commission and a number of reserves were provided for the Herero in central and eastern Namibia, as well as in Kaokoland to the northwest. The Herero revived their social organizations and returned to a traditional subsistence economy founded on pastoralism. Successive land allocations by the South African administration from the 1920s to the 1950s reinforced a concentration of freehold land occupied by white commercial farmers throughout central Namibia, between the Namib and Kalahari desert edges and all the way from Etosha's south boundary to the Orange River (Mendelsohn et al. 2003). In 1964, The Odendaal Commission resulted in the creation of ten ethnic areas or *Bantustans* on communal lands, following the South African apartheid policy of fostering ethnic identities and divisions, in part to counter rising black nationalism (Mendelsohn et al. 2003; Werner 2000). Many freehold farms, judged to be unsuitable for commercial farming were reallocated for communal use. These were mainly in the arid reaches of Damaraland, the southern part of Kaokoland and Namaland to the south.

Another major change resulting from the Odendaal Commission was the reduction in size of Etosha National Park, which had stretched west to the Atlantic coast. These changes represent complicated twists and turns in land tenure and the ebb and flow of peoples that have direct bearing on the study region today. These are elaborated in subsequent chapters where they bear upon research questions concerning protected

areas policies, as well as the community-based conservation institutions that have evolved.

Land allocations based on the Odendaal Commission and the separate ethnic administrations that resulted remained in force until Namibia's independence in 1990. The impacts on race relations, ethnic segregation and social cooperation are obvious to this day and contribute further social systems complexity for the research investigations.

Herero Social Organization and Institutions

The Hereros possessed sufficient resilience in terms of social memory and intergenerational continuity of cultural practices that their rural pastoral way of life has persisted through all of the natural and human disturbances wrought upon them. An overview of Herero beliefs, customs and institutions is considered important to inform the research concerning their participation in community-based conservation and protected areas management.

One distinctive feature of Herero society is double-descent reckoning. According to this institution, each person is linked unilineally both to the father and to the mother. The patrilineal group is called *oruzo* and the matrilineal group is the *eanda*. Residence patterns, religious activities and the exercise of authority are organized according to patrilineal principles, but the control and inheritance of moveable wealth is through matrilineal relationships. Although patrilineality is very important, membership in a matrilineal group is fundamental. There is a tradition of general matrilineal descent of all Herero speaking peoples; the belief that they all stem from a single, founding ancestress (Malan 1995). There are seven matriclans or *omaandas* among the Hereros, all descended from the same progenitress. With the introduction of patriclans, Herero tribes lost matrilineal inherited chieftainships and developed as decentralized and stateless societies. The choice of headmen is not determined by descent. The only requirement is that candidates be a member of one of the seven *omaanda*.

Residence after marriage is patrilocal and matrilineage is a geographically dispersed descent group performing its major social function during marriages and funerals. Then, the *eanda* exercises property control and in the pastoral tradition of the Herero, this involves cattle. Patrilineal descent has produced the creation of about 20 patriclans (*otuzo*). The oldest male occupies the position of village head and is

responsible for offerings and prayers at the ritual holy fire (*okuruwo*) directed mainly at his deceased father and grandfather. These deceased ancestors are prominent and active members of the *oruzo*. Among the Herero, the local groups and villages (*ozonganda*) are organized on patrilineal principles and the performance of political, religious and economic functions is along patrilineages (Malan 1995; Bollig & Gewald 2000).

Cattle can be described as the life of the Herero traditionally and strict rules apply to protect the collective interests in cattle. Large-scale estrangement of stock is not allowed because this would affect the material welfare of the people or others who hope to inherit cattle to make a living. Livestock are not treated as private property and a person cannot dispose of cattle beyond the limits of his immediate needs. The cattle belong to the lineage and the greater part of all property is inherited matrilineally. Therefore, productive property remains in the control of the same *eanda*.

A more recent principle of inheritance has emerged with children being awarded cattle and small stock like goats from their father's estate. This practice reflects more concentration of functions in localized patrilineages (Malan 1995). Acculturation with European cultural practices has also been a factor for change. This is perhaps most graphically illustrated by the fact most Herero women still wear Victorian-style dresses introduced by the wives of German missionaries. Most Herero, in spite of all the new means of livelihood posed by industrialization and urbanization, still cherish above all else being cattle farmers (Malan 1995).

Traditionally, the Herero have been a stateless society and the practice of double descent accounts for a lack of a centralized political structure. The only political system compatible with a tradition of double descent has proven to be the election of non-hereditary leaders. The determining requirements for leadership are that a Herero man must be a member of a matriclan and beyond that, personality, intelligence, organizational abilities, and education are the determining factors, not kinship. Decision-making by representative bodies or councils of headmen are governed by consensus. Herero headmen who have been appointed all hold non-hereditary positions and they may be replaced at any time if they fall out of favour with their followers. Thus, when Herero headmen and other representatives meet with government or other bodies, they are very cautious about taking decisions without going back and discussing matters with their followers (*omuhoko*). Herero charismatic individualism presents an ideal of

personhood that is attainable by all adults and not associated with either sex. Public politics, however, have always been treated as a male domain and while possessed of formidable character and personality, Herero women are reluctant to assert themselves as political leaders (Hendrickson 2000).

One of the most important tasks of Herero headmen is the administration of justice. The headmen are generally not able to enforce their judgments. In their uncentralized society, there are no higher courts of appeal. In the more difficult cases, a solution resorted to is to gather many prominent headmen and councillors. During such sessions, which are both open to the community and informal, the headmen and elders often become divided based on their subjective involvements and consensus can be difficult to achieve (Malan 1995).

Many disputes are settled in a social context within descent groups. A person in a dispute will first of all go to the highest authority within their kinship group, namely the grandfather. In the Herero village the highest authority is held by the eldest male member, who is usually also a grandfather. He is the most respected man in the group and his decisions are not challenged. Disputes among village members are settled by him. There is evidence that the role of matriclans is fading amongst the Herero and patriclans dominate economic and political transactions (Bollig & Gewald 2000).

Herero society has centered on cattle but hunting and gathering were always important, especially in drier seasons and during drought, as well as when conflicts such as those with the Nama, Oorlam Nama and Germans resulted in losses of cattle (Bollig & Gewald 2000).

The resurgence of Herero society following the ouster of the Germans was quite dramatic. Herero cattle herds increased to such an extent in central Namibia that the South African administration was pressured into establishing the Herero reserves, with the aim of maintaining Namibia as a settler colony. It was on the reserves, beyond the direct influences of the missionaries and the colonial administration, that the Herero re-awakened their truncated society. Beginning in the 1920s they re-introduced polygamy, circumcision and ancestor worship. A particularly distinctive development was the establishment of Herero *Otruppe* regiments or *Truppenspieler* (soldier players). Patterned after German colonial armies, Herero men and women marched in mass ranks dressed in uniforms. A prominent portrait of former headman Kephas Muzuma, in

such a uniform, adorns the school office in Otjokavare, my case study community. Initially, the *Otruppe* were a form of self-help support organization that evolved into a movement promoting norms, values and ideals of Herero society (Bollig & Gewald 2000).

Land tenure on the Herero reserves remained communal. Rights to graze and water livestock were allotted under Herero customary law by the communities themselves. The Herero herders made use of the African Sanga (*Bos tuarus*) and it is the dominant cattle breed in Kaokoland. The Sanga are well adapted to arid conditions of the region. Herero elite were reported by the early missionaries to have large oxen herds. Oxen were a prized trade item with colonizing German traders and settlers. Oxen are still well represented in the Herero herds of Kaokoland. Droughts have produced fluctuations in the rise and decline of herds.

Herero and Himba herding is marked by the distinction of a main homestead (*onganda*) and cattle camp (*ohambo*). The homestead ideally houses the holy fire and an organized spatial outlay around the holy fire consisting of a main cattle enclosure and the hut of the homestead head. Villages may contain from 3 to 50 extended family households.

Herero villages have remained in place for about 50 years (Bollig & Gewald 2000). Management of dry season pastures is a village activity and decisions are taken by the elders of the village. Herding is not intensive and cattle are not guarded all day round. In the absence of predators, cattle are driven from their enclosures in the morning and in the evening they will return on their own. It is the watering of cattle which becomes the main activity of herders during the dry season, not guarding the herds. Livestock herds are kept to produce milk and meat. Milking is reduced or stopped altogether during drought so the livestock have sufficient milk to promote survival of offspring. Most milk is left to sour and much is buttered. Cattle slaughter for meat is normally reserved for funerals and commemorative ceremonies. Day to day meat requirements are met from goats and sheep. As noted earlier, cattle are by no means the sole basis for subsistence among the Herero. They have resorted to hunting and horticulture as well to diversify and sustain livelihoods.

A striking social feature of the Herero is that chieftaincy is a quite recent phenomenon. The Otjiherero word for chief, *Omuhona*, is a recently derived from the Nama language (Bollig & Gewald 2000). Prior to the end of the 19th century there was no centralized leadership among the Hereros, beyond the patriclan head, the *Omukuru* and that which developed was in response to interactions with missionaries and colonizing powers. If the Omukuru failed to provide effective secular or religious services, followers could abandon him. Allied to this was the transhumance pastoralism necessary for survival in the harsh arid conditions that the Herero lived within. *Ozonganda*, the settlements organized around ecologically advantageous places providing water and graze shifted with the seasons.

This decentralized system changed with the role of the missionaries, Germans and South Africans and more sedentary communities developed, with paramount chiefs acting on behalf of all Hereros in relations with the colonizers. Nonetheless, double descent and non-hereditary leaderships remain powerful factors, requiring leadership to be charismatic and replaceable, if leaders did not measure up to expectations. Herero leadership was a contingent, publicly negotiated and tenuous condition and indeed, Herero egalitarianism still holds (Hendrickson 2000).

Ancestor worship is central to Herero beliefs. Belief in the powers of deceased ancestors has impacts on everyday life. The ancestral fire, *okuruwo*, frequently called the holy fire, is the spiritual and ritual centre of the village. All other buildings are oriented towards the ancestral fire. The fire is always tended to ensure it is not totally extinguished. The sacred fire is the place where the ancestors are addressed and consulted, and there are sacred objects that are used in ancestral veneration. Ritual activities relate to the fire and take place to the left or the right, depending on kinship relations to the ancestor. At the basis of religious thinking is a supreme being called *Ndjambi-Karunga* or *Mukuru*, who is generally considered the creator of all things. However, Mukuru is a vague and far off figure, who does not intervene in every day life. The ancestors are endowed with supernatural powers by Mukuru and they mediate between man and Mukuru (Malan 1995).

The aforementioned impacts of the rinderpest, German genocide, and missionary conversions upon the Herero, especially in the labour camps, led to increasing influences of Christian beliefs in Herero society. When South Africa ousted the Germans in 1915, the majority of Herero were professing Christianity, attached to the Rhenish

missionary society. When the Herero chief Samuel Maherero was buried in 1923, his four month long funeral galvanized a re-awaking of Herero traditions (Gewald 2000) and the belief that the natural and colonial disasters suffered by the Herero were connected to their abandonment of the ways of the forefathers. Herero left the missions and returned to the land, on the reserves established by the South African administration. The return to the land led to the re-institutions of Herero cultural and belief practices as earlier noted, but elements of Christianity were retained. By the conclusion of the Second World War, the Rhenish missionary society had fallen out of favour with the Herero due to their demands for funds, perceived indifference to Herero suffering under colonial rule, and their support for the German war effort. Faced also with South African apartheid policies, the Herero abandoned the Rhenish missionary society and they established their own *Oruano* church, which combines a reverence for God and Christ through the ancestral fire and a practice of living as guided by their deceased ancestors and the Old Testament (Bollig & Gewald 2000).

Herero sensitivity and awareness of their environment and wildlife is briefly illustrated to conclude this overview of Herero life and link it more directly to the topic of wildlife conservation. The hues and colours of cattle skins are highly differentiated by the Herero, since they need to know their cattle individually. Nearly two dozen terms have been developed to distinguish the colour and patterns of cattle skins. Of these, 13 are described in terms of wildlife, 3 in terms of wild plant and fruits, and 6 in terms of minerals and soil colour (Eckl 2000). This entire typology is fascinating in terms of how attuned the Herero are to their surroundings. As examples, *ombahe* are cattle skins the colour of a giraffe, *orukoze*, the colour and pattern of a hawk species, *imenje*, meaning spotted like the white belly of a springbok and *imbo*, the colour and pattern of an ostrich, dark-coloured with a white belly. Other cattle skins are named after plants; *imbonde*, as example, meaning the colour of camelthorn and yet others after minerals; *ondovazu*, meaning the blue-grey colour of mud. These concepts are central to research questions concerning relationships with wildlife and the significance of these relationships in the views and attitudes towards the use and conservation of wildlife.

Summary Reflections

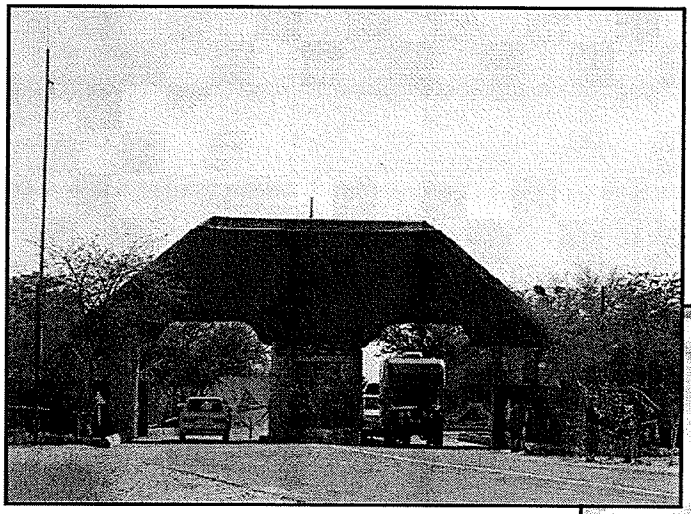
This chapter has introduced and highlighted an array of socio-political dimensions that present complexity and richness for the central investigation of protected areas management and community-based conservation relationships. An

examination of communities today must necessarily acknowledge that they are not manifest as some distant traditional societies, unaltered by the passage of time. Indeed, Namibia is both ethnically diverse and highly segregated, spawned by a complicated history of indigenous peoples, in-migrations of other ethnic groups, conflicts, colonialism and apartheid racism. The communities that are the subject of this research have undergone profound socio-political change and current forces such as HIV/AIDS, rapid urbanization, and globalization are producing further challenges and change. Yet, we see that there are embedded cultural practices, that may have ebbed and flowed in the lives of people like the Herero, but remain central to who they are as a people and that impart social resilience.

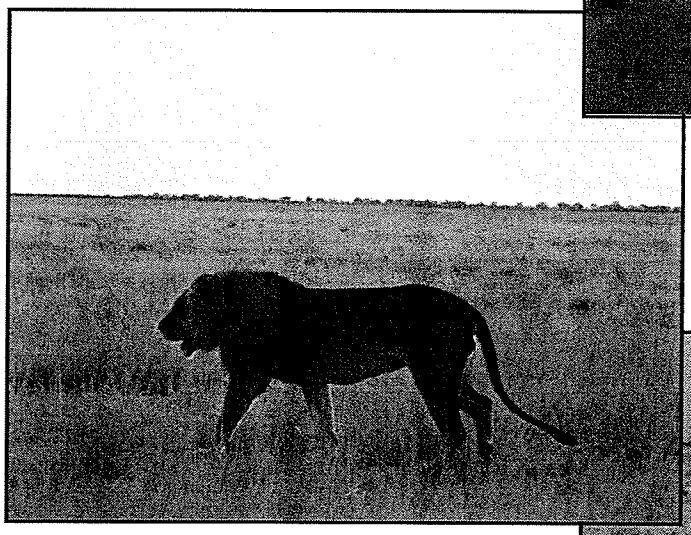
The Hereros, while being persecuted and almost eradicated from Namibia in the early 20th century have revived and today form the communities that are the focus of my case study research. They have a long collective experience living with, using and respecting wildlife, while centering their culture on the keeping of livestock.

There are parallel complexities and changes in the history of relationships between protected areas and people. These are now presented and discussed in the next chapter.

CHAPTER 5:
PROTECTED AREAS, LOCAL COMMUNITIES AND THE ETOSHA EXPERIENCE



Photos by Arthur Hoole



Clockwise, from top:
Etosha entry gate,
park fence at Ehi-rovipuka Conservancy,
springbok in Etosha,
morning riser.

Organization

This chapter focuses on the relationships between protected areas and local indigenous communities in Southern Africa. An overview is first provided of Southern African experience, before paying particular attention to Namibia's protected areas system and the Etosha National Park, which forms an important part of the case study investigation. A retrospective for Etosha National Park follows, as precursor to a consideration of current park policies and management practices. The history of wildlife management in Etosha is emphasized, as well as the relationships with local communities. The story of the forced removal of the Hai||om Bushmen from Etosha is then illuminated, illustrating and clarifying the meaning and metaphor of decoupled social-ecological linkages invoked in my research premise and objectives. The chapter is based upon legislative, policy and program analyses and also draws on key informant interviews and regional literature.

Southern African National Parks Management

Notwithstanding a recent evolution in protected areas management relationships with indigenous communities described in the opening chapter African national parks have generally excluded indigenous, mobile and local communities and this situation prevails to this day. In Southern Africa, 19th century colonial leaders like Cecil Rhodes bought up tracts of land and bequeathed these tracts to the state for wildlife conservation. This approach was sustained by successive white minority governments, such as Ian Smith's in Southern Rhodesia (Zimbabwe) and early black majority/independence governments, like Kenneth Kuanda's in Zambia, which continued to support wildlife estates and national parks. These protected areas closely followed the Yellowstone model with strict protection regimes, exclusion of local settlement and resource use, and the conservation of large animals. Indeed, wildlife conservation was the focus, protecting wildlife for viewing by elites, or serving as wildlife reservoirs for sport hunting on designated safari estates surrounding national parks (Western 2002). The 1968 Africa Convention on Nature and Natural Resources reaffirmed the application of the Yellowstone model in national parks (Phillips 2003).

Several distinct but interrelated phases in the management of protected areas in Southern Africa have been recognized (Child 2004b). A "military mentality" dominated early national parks management, with quasi-military, uniformed and disciplined

organizations, dominated by white minorities. A second phase was characterized as the "stock-raisers" mentality, building up the spectacle of large wildlife populations, emphasizing predator control. This was a direct outgrowth of stock raising by white colonial landowners and succeeding generations of white minority farmers and ranchers. For example, over 18,000 predators were eliminated in the early 1900s in Kruger National Park in South Africa and African wild dogs, now an endangered species, were shot in Hwange National Park, Zimbabwe up until 1960. Habitat was manipulated to increase the spectacle of wildlife. Artificial game waterholes are prevalent to this day in Zimbabwe's Hwange National Park and Namibia's Etosha National Park for instance.

Such distorting management approaches gave way to what has been termed the "era of ecologists," that emerged in the 1950s, with an emphasis on understanding and managing soil moisture, plant and animal relationships. Predator control was largely abandoned and management for wild ecosystems became more prevalent (Child 2004b). Attention to managing animals within range carrying capacities prompted actions like elephant culling.

More currently, national park management in Southern Africa has evolved to suggest that parks and protected areas are increasingly islands in seas of degraded resources, arising from population growth and intensified resource use. There is an emerging imperative for national parks to become "engines for rural development and the alleviation of poverty" (Child 2004b:18).

International and regional tourism emerged in southern African national parks following the Second World War, founded upon wildlife. A fabric of rest camps and roads was built and competition emerged among park services to provide the most attractive camps for tourists. Strict rules and controls for visitor use were introduced, including designated routes, stay in your vehicle policies, guided only walks, and curfews to be in designated camps by nightfall. Such regulations persist to this day (Child 2004b). Park zoning and classification of parks and reserves gained prominence in the 1970s, led by Zimbabwe's *Parks and Wildlife Act 1975*. These management systems reinforced the exclusion of local peoples from natural resource use in the national parks, and varying degrees and concentrations of visitor use, facilities and access across park landscapes. Private sector tourism in the form of safari camps and hotels became well established in or nearby the national parks.

With independence in Zimbabwe in 1980 and in other countries of the southern African region, the private sector involvement in tourism and parks began to outpace public sector management, since parks authorities were... "increasingly starved of finances and became mired in political dogma and intrigue" (Child 2004b:21). The comparative advantages of wildlife, safari hunting and non-consumptive tourism uses of wildlife over agriculture in the drought prone African savannahs was promoted. This became an influential resource management perspective, driving much experimentation in community-based management in the Southern African region.

The documented histories of the national parks in southern Africa make scarce reference to indigenous Africans. Local indigenous people have remained largely excluded from national parks and emerging trends in park management. Present day park management references and acknowledgement of indigenous Africans are largely confined to population growth and resource use demands, posing pressures and threats to the national parks.

Centrally and internationally conceived approaches in community-based conservation of wildlife emerged in the 1980s to preserve the national parks as wildlife reservoirs and protect wildlife as an economic resource alternative to dry land agriculture. These approaches have been premised on 'making wildlife pay,' with benefits exceeding the costs of living with wildlife. The central notion is that economic incentives and benefits can be derived from wildlife and will promote conservation by local indigenous people (Roe et al. 2000; Ashley & Barnes 1996; Barnes et al. 2001). Such approaches, while achieving some conservation success, have often been more co-opting than empowering and have largely failed to achieve enduring conservation or recognize traditional community conservation practices. There are few examples, where local community access, use or empowerment in the management of wildlife and other resources (i.e., water, forests, grasslands) within national parks has resulted. Equally scarce has been any substantive recognition and support for traditional and indigenous resource management institutions that can effectively support the biodiversity conservation agendas of protected areas.

Namibia's Protected Area Legislation and Policies

Namibia's protected areas are established and managed under the enabling authority and provisions of the *Nature Conservation Ordinance, No. 4 of 1975.* This legislation was promulgated for the South West Africa territory by the South West African Administration. It repealed and replaced earlier protected areas and wildlife management legislation of the South African colonial administration dating back to 1927. This legislation has yet to be repealed and replaced by legislation passed by the Government of Namibia since the country gained independence in 1990. Over the past few years new parks and wildlife legislation has been drafted but has not been promulgated. Therefore, national parks such as Etosha are managed and administered under legislation that is command-and-control in character and intent. This legislation has historically treated the indigenous peoples of Namibia as illegal users of parks and wildlife. A brief examination of the legislation serves to further illustrate these points.

The 1975 legislation provides for two types of state protected areas which are not distinguished in terms of protection purpose or management objectives: *game parks* and *nature reserves*. These two protected area categories are employed in conjunction and interchangeably in the legislation. The minister may declare any area a game park or a nature reserve "for the propagation, protection, study and preservation therein of the wild animal life, fisheries, wild plant life and objects of geological, ethnological, archaeological, historical and other scientific interest and for the benefit and enjoyment of the inhabitants of the Territory and other persons." Purposes for which permission may be granted to enter the game parks and nature reserves include "health, study and recreation, travel or transport along prescribed routes or transacting lawful business." Prohibitions include the hunting of animals, wilful or negligent injury, capture or disturbance of animals, eggs or nests, introduction of livestock or any domestic animal, picking any indigenous plant and chopping, cutting or destroying of any tree. Ministerial permission is required for exemptions to any of these prohibitions in the game parks and nature reserves. The minister may authorize the construction of various infrastructure to support visitor use, provide accommodation, meals and refreshments to visitors, carry on any business or trade for the convenience of visitors and supply any other service for the convenience of visitors. The minister must also ensure the safety of animal and plant life and fisheries and the conservation of the game park and nature reserve and the animals, plants and fish therein in a natural state.

Therefore, the pattern of protected areas establishment and management traced earlier for Southern Africa is reflected in Namibia's state protected areas as provided for under the *Nature Conservation Ordinance, No. 4 of 1975.* The Yellowstone model for national parks has been applied in Namibia, enabling a fabric of infrastructure and facilities in national parks to support controlled use by park visitors and excluding indigenous use of natural resources in order to conserve the 'natural state' of animals, plants and fish.

Local and indigenous peoples have been and remain essentially excluded from the parks. Of course, they may visit a park and use it for recreation pursuits like any other visitor, but the poverty stricken status of the majority preclude such access and use by local and indigenous peoples. Traditional uses of plants, animals, vegetation and water that may have been practiced prior to protected areas designation are treated as illegal uses under the law.

Beyond its provisions for protected areas the *Nature Conservation Ordinance, No. 4 of 1975* is largely devoted to prohibitions or prescriptions for permitted uses of wildlife. It sets out a series of rights to use and enjoy certain categories of wildlife by predominantly white landowners. These rights were not extended to communal area residents. Certain provisions of the legislation are illustrative. Different categories of wildlife are distinguished in the legislation as follows: *Specially Protected Game,* including 10 species such as mountain zebra, giraffe, elephant, rhinoceros, hippopotamus and black-faced impala; *Huntable Game* which includes bush pig, buffalo, eland, oryx, kudu and warthog; *Protected Game,* which includes 33 species such as cheetah, leopard, steenbok, blue wildebeest and Roan antelope, and all species of birds other than those listed as *Hüntable;* and *Huntable Game Birds,* which include 19 species including guinea fowl, Namaqua sandgrouse, redbilled francolin, Egyptian goose and cape teal.

The legislation provides that the owner or lessee of a farm or piece of land enclosed by an adequate fence or a piece of land that is not less than 1,000 hectares in extent and enclosed by a game-proof fence, owns the huntable game, the huntable game birds and any exotic game on the enclosed farm or piece of land. Furthermore, the owner or lessee may hunt any huntable game on such farm or piece of land throughout the year, without a permit.

Such provisions effectively contributed to a racial divide of rights in wildlife, since the landowners and lessees are predominately white, while the indigenous black populations were consigned to communal homelands under apartheid. Local and indigenous people in Namibia historically have had no legal rights to use traditional resource areas in the parks and protected areas, nor have they been granted equivalent rights to own and use huntable game on the communal areas they have occupied. Such blatant discrimination in rights to use wildlife is poignantly illustrated by the following excerpt from the legislation:

> *The owner or lessee of a farm or piece of land...may exercise the rights (ownership and hunting of huntable game) granted to him...personally and also through his wife or one or more of his children and his parents as well as through any employee permanently employed by him and resident on such farm or piece of land, provided such* ***white*** (emphasis mine) *employee has his written permission...* (Nature Conservation Ordinance 1975:25).

Not only have the black indigenous people been treated as illegal users of wildlife on the communal land they have occupied or were forcibly relocated to, but they have not enjoyed the same use of wildlife as white farm employees when they were employed by landowners or lessees.

This situation changed following Namibia's independence in 1990. During the early 1990s a convergence of factors occurred that led to the development of a national CBNRM program and the passage of *The Nature Conservation Amendment Act, 1996.* This legislation sought to devolve wildlife use rights to communal area residents, equivalent to those only enjoyed by white landowners and lessees under the South African administration. These included rights to hunt, capture, cull and sell 'huntable game" such as springbok, oryx, and kudu under quotas approved by the Ministry of Environment and Tourism, as well as the right to use quotas of specially protected game such as elephant for trophy hunting (World Resources Institute 2005). The convergence of factors that led to these changes is further elaborated in the Chapter 6.

There have been several other legislative and policy initiatives that may portend changes in the establishment and management of Namibia's protected areas. A draft *Parks and Wildlife Management Bill, 2005* is presently under preparation within the Ministry of Environment and Tourism by a 'working group committee' (Jones interview 2006; de Voss pers.comm. 2007). I experienced considerable difficulty in obtaining a

copy of this draft legislation, but was eventually successful in doing so. The version I consider here may bear little similarity to any eventually promulgated legislation.

The 2005 draft legislation adopts the language of sustainable use and management of wildlife and wildlife habitat. It recognizes community-based management of wildlife through the conservancies, as provided for under *The Nature Conservation Amendment Act, 1996.* It enunciates a policy that "management authority over wildlife should be passed to the appropriate level of our community." It sets forth a series of principles concerning biodiversity conservation, the maintenance and rehabilitation of essential ecological processes, sustainable use of wildlife, and equitable access to benefits from natural resources management. Requirements for a 'National Biodiversity Action Plan' are also stipulated and three categories of proposed protected area are proposed, with differentiated purposes:

- a *national park*, to protect ecological integrity and exclude exploitation or occupation inconsistent with protecting ecological integrity as well as providing for compatible spiritual, scientific, educational, recreational and visitor opportunities;

- a *nature reserve*, to secure and maintain by active intervention areas that ensure maintenance of habitats and/or meet the requirements of specific species and to facilitate research, environmental monitoring and public education relating to sustainable resource management;

- a *protected landscape,* to maintain the harmonious interaction of nature and culture, through the protection of areas where the interaction of people and nature has produced an area of distinct character with significant aesthetic, ecological and /or cultural values, and to promote the continuation of traditional human practices in such area.

The draft legislation further provides for agreements with owners of freehold land or the representatives of conservancies to have such lands declared as any of the three categories of protected area. As well, there is a proposed requirement for prior consultation with owners of land, regional, local and traditional authorities and conservancies in whose area a proposed protected area would be situated. Cooperative management agreements are also proposed with local, regional or traditional authorities

and conservancies for cooperative management of human activities, wildlife and/or wildlife habitats within a protected area.

The proposed protected area categories closely parallel certain of the IUCN categories of protected areas earlier described, and mirror certain contemporary thinking by protected area managers and scholars regarding protected landscapes and community-conserved areas. One the one hand, such proposed protected area classifications might help to promote a much wider acknowledgement of the roles of local and indigenous communities in conservation and enhance their related access and use of natural resources. On the other hand, such protected area categories could serve to reinforce a 'pigeon-hole' protected areas classification approach that could continue to effectively deny local and indigenous people access and empowerment in the sustainable uses of wildlife and other natural resources within national parks.

There have also been significant policy and program developments that could lead to changes in protected areas and local, indigenous people relationships. A draft policy was prepared by Namibia's Directorate of Environmental Affairs, Ministry for Environment and Tourism in 1997 that examined the situation of parks and resident peoples in Namibia and recommended bold new policy directions away from the command-and-control situation in protected areas management (Jones 1997). This draft policy adopted the term 'resident peoples' (Brechin et al. 1991) to refer to those individuals, families and communities – traditional or modern – that occupy, reside in, or otherwise use, on a regular basis a specific territory within or adjacent to an established or proposed protected area. This concept or definition of resident peoples is highly useful in the Namibian context where both indigenous and more recently arrived local peoples have occupied areas either adjacent to or in some cases within protected areas due to the disruptions of colonialism, inter-tribal conflicts and apartheid. The term resident peoples is thus employed in the present research to include local, indigenous and traditional peoples and focuses on indigenous and traditional African peoples, as distinct from resident peoples of European origin.

The 1997 draft policy was never adopted but there are indications that it is now under active consideration, as a part of the aforementioned legislative review and within a recently initiated donor project to strengthen the protected areas network (Jones interview 2006; Paxton interview 2006). The 1997 draft policy document provides useful insights into the history of resident peoples and protected areas in Namibia. It provides

comment on general conditions of alienation from land and resources as depicted elsewhere in this research, as well as several examples.

The 1997 draft policy cites the example of the Khaudom and Mahango game reserves in the Okavango region which were established with the agreement of 'tribal' authorities on an understanding that these authorities and communities would receive a share of park entry fees. But following independence, this arrangement was disbanded. Other attempts are noted in the draft policy document to create new protected areas in the bushman-occupied Tsumkwe District in northeastern Namibia and in the former Kaokoland of northwest Namibia that would have permitted subsistence farmers to remain in proposed protected areas. These arrangements were never given effect after 1990 by the post-independence government, due to suspicions about "old style game reserves" and concerns for establishing new protected areas at a time when rural residents were crying out for more land under land reform (Jones 1997:3). It was further noted in the 1997 draft policy document that there have been successive efforts to develop improved relations with neighbouring communal area residents around Etosha National Park, including providing 'surplus' animals from the park for meat, tourism and game ranching, as well as extension arrangements such as veterinary services. In yet another example presented in the draft policy document, a tourism concession was offered inside the park to a community next to the Mudumu National Park in the Caprivi Region. This was noted as an important precedent for a new concessions policy that could replicate such an arrangement in other national parks (Jones 1997; Jones 2006 interview). By contrast, the 1997 draft policy notes that when the Namib-Naukluft Park was proclaimed in 1907 it ignored a community of Topnaar people living inside the park. To this day, these people have not been acknowledged or integrated into the park. They live in "perpetual uncertainty and a land tenure and human rights limbo" (Jones 1997:4). A similar situation is reported for a community within the Caprivi Game Reserve.

Such varying circumstances prompted the preparation of draft policies and recommendations which have yet to be acted upon in 2007. The 1997 draft policy sought to address practical concerns arising out of hostile and resentful attitudes by resident peoples toward protected areas in Namibia, expressed or manifest in "illegal uses," hostile actions against park staff, claims for land proclaimed as game reserves, deliberate grazing or settlement attempts in game reserves and deliberate setting of fires in parks (Jones 1997). The draft policy also sought to address ethical concerns and a moral obligation on the part of governments and conservationists who have removed

people from their land to fairly compensate them. It further noted that rural people do not view the land simply as a commodity but also as a strong link to their culture. The presence of ancestral graves helps define the ownership of land in terms of a people's history particularly when there is no written history and written title deed to the land (Jones 1997:13). The draft policy recommendations contemplated a strategy that included: benefits sharing from protected areas that clearly linked benefits sharing to conservation and resident peoples making the key decisions on benefits distribution; compensation and substitution schemes for land and resources lost in protected areas establishment: buffer and support zones that would provide incentives for compatible land and resource use by resident peoples neighbouring protected areas; participatory approaches that would include involvement by resident peoples in decision-making processes concerning protected areas and co-management arrangements, including contractual parks and; the need for a continued enforcement capacity in protected areas management, but featuring an enforcement approach that uses community institutions and leadership (Jones 1997).

The 1997 draft policy, in sum, foresaw many possibilities for social and ecological linkages between community-based conservation and protected areas management that warrant further consideration in the present research. Certain of the suggested strategic policies are evident today in the national CBNRM program and conservancies. These are elaborated in Chapter 6. However, the various proposed strategic directions in parks and resident people relations are yet to be realized in new parks and wildlife legislation or modern parks management, still reflecting the command-and-control mentality of the apartheid period.

Most recently, the Global Environment Facility (GEF), through the United Nations Development Program (UNDP) has provided a 6 year grant to the Republic of Namibia to carry out a Strengthening the Protected Area Network Project (SPAN). This project envisions that Namibia's existing system of 20 protected areas can be 'woven together' to form a cohesive and effective network of protected areas providing an effective buffer against threats to biodiversity (Ministry of Environment and Tourism 2006). The SPAN project aims to strengthen enabling legislation, policies and financial mechanisms for protected areas, strengthen the institutional capacity for protected areas management, and demonstrate new ways and means for management, including partnerships with government agencies, local communities and the private sector (Ministry of Environment and Tourism 2006). The SPAN project purports to establish "sound park-neighbour

relationships, ensuring that benefits are shared equitably with local communities. It anticipates "systems for collaborative management" that will ensure greater participation of park residents and neighbouring communities in park management and income generation ventures within protected areas.

One of the priority areas for expanding and strengthening the protected areas network is the Kunene Region of NW Namibia. The vision is to restore the wildlife corridors along the ephemeral rivers, creating a continuous habitat of indigenous flora between Etosha National Park and Skeleton Coast Park, with interconnected protected areas.

The government recently proclaimed the three state tourism/hunting concession areas of Palmwag, Etendeka and Hobatere as a new protected area (Figure 8) and there has also been Cabinet approval for this new park area to include unsettled state lands connecting Hobatere concession to the remainder (Ministry of Environment and Tourism 2006:25).

While there is a recognition in the SPAN project that the conservancies adjacent to and between the two national parks can play "an essential role in harbouring, conserving and managing biodiversity of global and local importance (Ministry of Environment and Tourism 2006:16) it is also acknowledged that present coordination between the activities in protected areas and neighbouring conservancies is weak.

The initial action to proclaim protected areas by the government without meaningful prior community participation underscores this weakness. These proclamations were greeted with early distrust and suspicion by conservancy committees, who were scarcely consulted (Louis 2006 interview; Ujaha 2006 interview). This situation has reportedly changed over the course of the past year and a Kunene Working Group Committee has been appointed by the Ministry of Environment and Tourism that is holding consultations with regional conservancies and NGOs. It is now reported that these negotiations are proceeding very well. All adjacent conservancies and interested NGOs have had opportunities participate and the local people will be able to receive benefits and stay on the land (Owen-Smith 2007 interview).

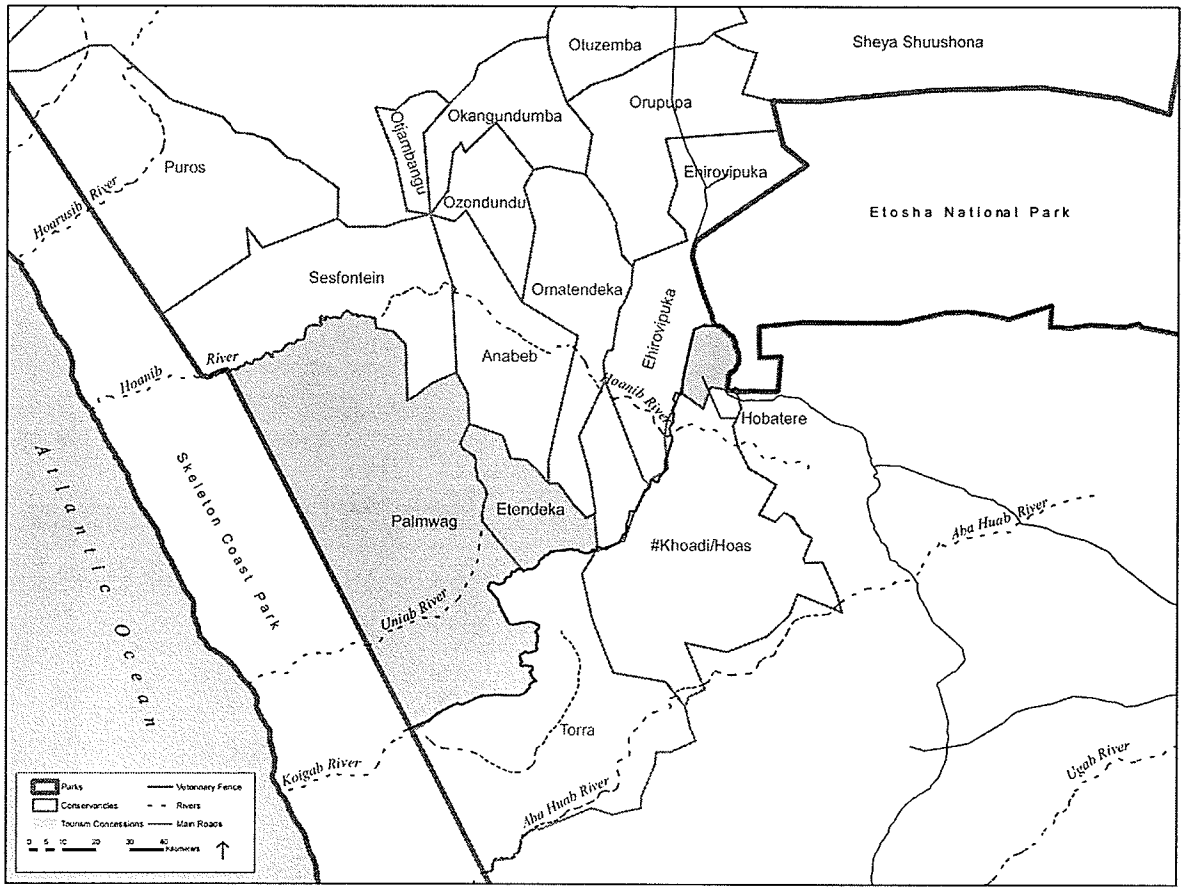


Figure 8. Concession Areas Proposed for New Protected Areas

The idea of a contractual park is being contemplated wherein traditional authorities and conservancies will be encouraged to promote compatible land uses in exchange for participation in and sharing of benefits in park development (Beytell 2007 interview). The contractual park concept would feature the Ministry of Environment and Tourism and communities parties having contractual obligations to share responsibilities and benefits (Paxton 2006 interview; Reid & Turner 2004).

The use of the Kunene region as a field demonstration site for the newly proposed approach under the contractual park concept, and a parallel Global Environment Facility (GEF) project to strengthen support of CBNRM by the Ministry of Environment and Tourism, the Integrated Community-Based Ecosystem Management Project (ICEMA) render the present research into social-ecological linkages between community-based conservation and protected areas management highly topical in Namibia.

Namibia's Protected Area System

There are 20 protected areas in Namibia occupying 13.8% of the country's land area (114,000 km²) comprised of 16 game parks, two nature reserves and two tourist recreation areas. The game parks and nature reserves have been established under the aforementioned *Nature Conservation Ordinance No. 4 of 1975.* Tourist recreation areas were established under the *Accommodation Establishments and Tourism Ordinance No. 20, 1973.* There are over 140 private reserves also established under the authority of the *Nature Conservation Ordinance No. 4 of 1975* (Ministry of Environment and Tourism 2006).

The two protected areas within the Kunene study region for this research are the Skeleton Coast Park and Etosha National Park. Both are categorized as game parks under the enabling legislation.

Etosha National Park is 22,270 km² in area and is Namibia's oldest park and second largest park, first proclaimed under the German colonial administration in 1907 as Game Reserve No. 2. Present day Etosha encompasses at least 114 mammal, 340 bird and 110 reptile species. Its vegetation communities include karstveld, pans, Western Kalahari Mopane shrubland, Etosha grass and dwarf shrubland, NE Kalahari Woodlands, Western Highlands and Cuvelai drainage.

The Skeleton Coast Park, at 16,390 km² in area, was first proclaimed in 1971 and is renowned for its remote wilderness appeal, rugged desert landscape and adapted wildlife, such as elephant. It contains vegetation types classified as Northern Desert, Central Desert, Northwestern Escarpment and Inselbergs (Ministry of Environment and Tourism 2006).

A currently prevailing Namibian conservation discourse for protected areas is especially noteworthy for the present research. The state protected areas of the game parks and nature reserves are "purposely geared to satisfy biodiversity conservation objectives." These areas provide "the lynchpin of the conservation strategy" since they protect larger blocks of habitat, enjoy higher land tenure security and allow for a "more intensive management regime to be employed than is generally possible in 'production landscapes'" (Ministry of Environment and Tourism 2006:4). They provide a...

> *...refuge for large and dangerous animals such as elephants, lions and buffalo which are unable to survive in settled areas. They also provide refuge for*

> *predators, which may be extirpated from hunting areas to protect game and livestock numbers. Conservancies and most private reserves cater simultaneously to conservation and production uses of land, such as livestock husbandry and farming. As a result...they cannot offer the same level of protection to flora and fauna. However, these areas act as buffers to the State PA system providing a transition zone from more intensive to less intensive land uses across production landscapes, thus providing spillover areas for wildlife where movements are not hindered by fences. Taken together, the combination of State PAs and conservancies and private reserves offers some of the best prospects for protecting biodiversity in southern Africa. However, because these areas currently operate as a patchwork rather than as an integrated system, their conservation potential is undermined* (Ministry of Environment and Tourism 2006:4).

This epitomizes a recently prevailing conservation discourse surrounding protected areas and adjacent community occupied landscapes in Namibia. Key dimensions are the recognition of a need for greater "integration" to better promote biodiversity conservation, while treating the landscapes that are used and occupied by people as "buffers" for the protected areas.

Such narratives echo some of the philosophy earlier recounted for protected landscapes and biosphere reserves in Chapter 2, conveniently omitting references to levels and forms of intensive land uses and intrusive management in the protected areas. Glossing over the extensive manipulations and alternations to functional ecosystems in national parks has been well chronicled for Yellowstone (Chase 1987), putting the lie to constructs of naturalness surrounding the Yellowstone national park model. Similar intensive uses and management interventions in Etosha have included artificial waterholes designed to attract and concentrate wildlife for public viewing; construction of perimeter fences that contain and concentrate wildlife on smaller areas than their natural ranges and; development of extensive road networks and accommodation to support park visits and the viewing of wildlife.

A prevailing conservation discourse glosses over the prospects for biodiversity conservation presented by local institutional arrangements for conservation, as represented by the conservancies. The premise that wildlife cannot survive in settled areas is debunked by the fact that wildlife not only have survived but have thrived in settled areas in Namibia. Most wildlife lives outside the national parks (Tarr 2006 interview). More attention needs to be paid to ecological linkages inherent in the landscapes shared by protected and communities and local institutional arrangements for conservation that could work more seamlessly with protected areas management.

The present discourse treats community-based conservation as a less robust institutional arrangement that at best can only "buffer" the purer protection regimes represented by national parks.

Etosha National Park: A Retrospective

Etosha National Park is considered the flagship of the Namibian protected areas system and is the most important international tourism destination in the country (Ministry of Environment and Tourism 2006; Lindeque 2006). Thus, the relevancy of this research is heightened by the consideration of Etosha National Park, both in terms of its significance for Namibia, but also as one of the world's great national parks.

Etosha National Park, at 22,270 km² is one of the largest national parks in Southern Africa and the second largest protected area in Namibia after the Namib-Naukluft Park. Both these protected areas are categorized as game parks under the Namibian legislation, yet Etosha is described in Namibia as a national park. IUCN recognizes Etosha as a Category II Protected Area or National Park (World Commission on Protected Areas 2007).

The idea of creating game reserves was considered by the German Colonial Government as early as 1902 and the district administrator of Outjo suggested declaring the Etosha area a game reserve for various reasons, but mainly to close the area to traffic in order to keep hunters out. On 2 October 1902, the *Bezirksamt Outjo* made known a proclamation according to which all traffic by vehicles of any kind through the Etosha area was prohibited as from January 1, 1903 (SWAA Nature Conservation and Tourism:iv). Hunting had become an economic enterprise in the region in the late 1800s and wildlife such as lion, rhino and elephant had become scarce (Dieckmann 2007:76). The last herd of elephants was killed at Klein Numatoni in 1881. By 1886, no white rhino were left and black rhino only survived in remote, isolated areas. The lion population had also been decimated.

The game reserves were proclaimed to protect the game, in recognition that game meat and products were a crucial resource for the colony (Dieckmann 2007:76). The idea was very much that the reserves would help build back the wildlife populations and since these reserves were unfenced, the wildlife would spill over into the surrounding farm areas where they could be harvested for meat and commercial

products. Importantly, the intent of the reserves was concerned with controlling hunting by colonialists, not the hunting and gathering of the Hai||om which was not considered a threat to the wildlife of the reserve (Dieckmann 2007:77). As we will further discover in Chapter 7, this *laissez-faire* policy with respect to hunting by indigenous peoples was applied to the Herero also and is at odds with a fundamental assumption of my research premise that protected areas designation produced an immediate disenfranchisement of people from their resource base. This was not the case in Namibia, as evidenced by the Hai||om experience or the Herero experience. The vast area of the territory, the limited use of firearms by indigenous people during this time and the very limited enforcement capacity of the Germans likely combined to produce a seeming indifference or tolerance to the hunting of wildlife by resident African people.

On April 1, 1907 three game reserves were declared: Game Reserve No. 1, lying to the east of Grootfontein; Game Reserve No. 2, the Etosha area, including northern Kaokoland up to the Kunene River, out to the Atlantic coast and south to the Hoarusib River and Game Reserve No. 3, east of Walvis Bay in the Namib Desert, between the Swakop River to south of the Kuiseb River in the Namib Desert (SWAA Nature Conservation and Tourism:iv). According to the German proclamation, hunting was prohibited, traffic of any vehicles was only possible by written government permission and a stiff fine of up to 5,000 marks could be imposed for contravention of the proclamation. Game Reserve No. 2, as precursor to present day Etosha, became the largest nature reserve in the world at the time (Ministry of Environment and Tourism 2007).

After the takeover of South West Africa from the Germans by the Union of South Africa in 1915, the German proclamation was repealed and provision was made for hunting licences. A special game licence could be obtained for £20, allowing for hunting of 2 females and 3 males of any game species up to a total of 20. Certain species, including elephant, hippopotamus, rhino, buffalo, giraffe, zebra, eland and various birds were declared "royal game" and could only be hunted for scientific reasons.

The South African administration further confirmed the borders of Game Reserve No. 2 through the Forbidden Areas Proclamation. This created the Police Zone or so-called "Red-Line," which could not be crossed without a permit (Dieckmann 2007). This was a direct consequence of the rinderpest epidemic of 1896/1897. The red-line was reinforced with the installation of the veterinary fence in the early 1960s running all the

way from Skeleton Coast Park to the west, forming the southern boundary of present day Etosha National Park and continuing on to Botswana. The intent was to prevent movement of African free ranging stock from the north, spreading disease into the commercial farm stock.

Private farms were allowed within Game Reserve No. 2 up until 1935 (Ministry of Environment and Tourism 2007). Three control posts were set up in the reserve to control the movement of stock and to exterminate wildlife as another spread agent for disease. Thus, wildlife suffered a severe blow during this period (de la Bat 1982).

Two of the three original control posts at Okaukuejo and Namutoni became police stations and were manned by police officers of the South West Africa (SWA) Administration, who controlled the game reserves and were responsible to the Bantu Affairs Commissioner in Ondangwa. The police also dealt with tourism, which was evidently starting to grow during this time (de la Bat 1982). In 1947, a first game warden was appointed. In 1955 the SWA Administration established a new Nature Conservation Section, and B.J.G. de la Bat was appointed Chief Warden based in Etosha. By 1956 a South West Africa Parks Board had been created (Ministry of Environment and Tourism 2007).

South Africa appointed a Commission of Inquiry into South West African Affairs, commonly known as the Odendaal Commission in 1962 (Dieckmann 2007:176) which delineated new apartheid homelands in South West Africa and changed the boundaries of the game reserves. All three of the original reserves were reduced significantly in size to make way for the new apartheid homelands (de la Bat 1982).

The initially proclaimed Game Reserve No. 2 totalled 93,240 km² in area (de la Bat 1982:12). Since its proclamation, Game Reserve No. 2 boundaries changed on at least 5 occasions (Berry 1980, as cited in Dieckmann 2003:53). From 1907 to 1947 only minor alterations were made to the reserve boundaries. From 1958 to 1970 the boundaries were further altered. As a result of the Odendaal Commission, the park area was drastically reduced by 71,972 km² in allocating 'homelands' for Owambo, Herero and Damara peoples (Ministry of Environment and Tourism 2007). Boundary alterations in this period brought the park to its present day configuration (Figure 9). The communities of Ombombo and Otjokavare are both included in Figure 9. The reason for this will be made clear in Chapter 7.

The early reserve boundaries apparently reflected the arid, unarable character of the region and the knowledge that the wildlife ranged over the entire area to the west and north of the present day park. Subsequent boundaries in the 1950s attempted to maintain some linkages to the Atlantic coast and the Skeleton Coast Park, but the aforementioned apartheid resettlement schemes of the Odendaal Commission led to the present day park. As earlier described in my review of present day park policies and projects, there is now renewed interest to reconnect Etosha to the coastal area, restoring wildlife and habitat corridors long recognized in the protected areas history of Namibia.

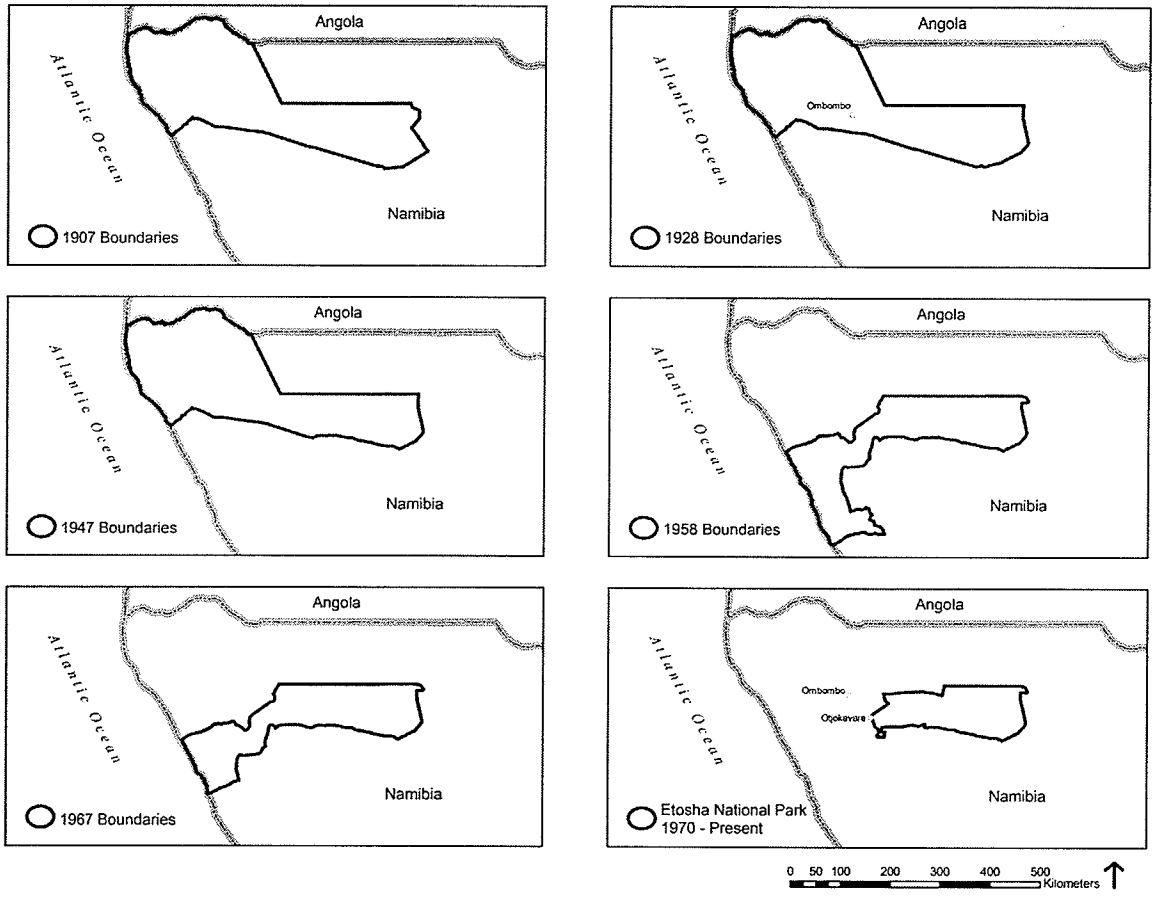


Figure 9. Boundary Alterations to Game Reserve No. 2 and Etosha National Park
Adapted with Permission: Dieckmann 2007:76

The history I recount here for Etosha National Park remains very much a thumbnail sketch. Etosha National Park had a chequered past dating much earlier than the 1907 game reserve declaration by German Governor von Lindequist (de la Bat 1982). Stone Age implements have been found in the park area. During the 18th century prior to its proclamation as a game reserve "Etosha was a flesh-pot to anybody owning a

horse or a riding ox, a bow and arrows or a gun (de la Bat 1982:11). It is further reported that the first white men to see the Etosha Pan, Sir Francis Galton and Charles Anderson, reached Numutoni in 1851 and were soon followed by assorted hunters, travellers and traders. Trek-routes went north and south around the Etosha Pan and land was actually purchased from the Wambo chief Kambonda to accommodate impoverished trekkers in 1885 in what is today part of the Etosha National Park, between Okaukuejo to Numatoni (de la Bat 1982). The Herero leader, Maherero, described elsewhere in these pages, tried to nullify the contract because he also laid claim to the lands. These lands were eventually abandoned because of "problems with lung sickness, malaria and difficulties with the blacks" (de la Bat 1982:11). It is further noted in de la Bat's account that the Bushmen lived on the south side of the Etosha Pan and often robbed or murdered travellers through the area, but were in turn punished by armed "Wambo expeditions."

What emerges from these brief anecdotal accounts is that the Etosha National Park area was occupied, used, or laid claim to by at least three indigenous peoples; the Owambos residing to the north, the Hai||om Bushmen to the south of the Etosha Pan and the Herero, who had historically occupied various parts of the surrounding area and who had been dislocated by the German genocide following the Herero Uprising of 1904 (Gall 2002). This upheaval is further elaborated upon in Chapter 7.

It is beyond the scope of the present research to fully understand how different ethnic groups occupied and interacted over the 93,240 km² constituting Game Reserve No. 2 of 1907, or how these different resident peoples were variously influenced, re-distributed or displaced by colonial forces and different iterations of park boundaries, first under the Germans and then under the SWA Administration of South Africa. There has been little coherent account of the history of Etosha National Park or Kaokoland (Hillebrecht pers.comm. 2006; NAO 11/1). What is noteworthy is that there were complexities of resource access, use and occupancy by local and indigenous peoples, long prior to and following protected area establishment. All of these happenings occurred in Etosha at different times. There were well developed and institutionalized social and cultural relationships with ecological systems that had provided resource goods and services for resident peoples inside the present day Etosha National Park area.

Wildlife populations in the Etosha area have fluctuated greatly over the history of the protected area in response to over exploitation, natural disturbance and

management practices such as translocations, water management, park fencing and culling. Prior to the German proclamation of the game reserves in the early 20th century the wildlife, as already noted, had been decimated. Lions were not recorded until 1912 at Numatoni and the earliest census of large animals in South West Africa records no elephant, rhino or roan antelope in the current Etosha area, nor are there any elephants recorded in a 1934 survey (Ministry of Environment and Tourism 2007). In 1951, the first culling of animals was carried out due to concerns of overgrazing and nearly 300 zebra and over 100 wildebeest were culled. By the mid 1960s the elephant population was estimated at 500 and in 1970 there were an estimated 48 black rhino and 500 lions in the park. In the 1960s and 1970s, several translocations of animals were made into the park, including black rhino, black-faced impala and roan antelope (Ministry of Environment and Tourism 2007). In 1980, an aerial census of wildebeest revealed an extreme decline in numbers attributed to the erection of the park fences that cut off the animals from their migration routes. There were an estimated 2,500 wildebeest, 2,300 elephant, 3,000 gemsbok, 350 to 400 lion, 100 cheetah, 800 giraffe and 350 different bird species (Ministry of Environment and Tourism 2007). A severe drought in 1980/81 resulted in emergency measures including the translocation, capture, sale and culling of animals. Trees and perennial grasses died off in western parts of Etosha due to the drought and elephant browsing and grazing. A thousand zebra were removed from western Etosha and several hundred oryx and springbok and zebra were culled from 1981 to 1983. Over 500 elephant were also culled in 1983 and another 220 in 1985, due to persistent drought, coinciding with a growing elephant population. By 1987, drastic declines in the populations of zebra, wildebeest, gemsbok and eland were noted.

An anti-poaching unit was formed in 1988 amidst a growing trend in international marketing of wildlife parts, and in 1989, twenty-three black rhino were lost to poachers. In this same period rhino were dehorned to deter poaching. In 1994 greater flamingo chicks were rescued from drying out in the Etosha Pan. White rhino were introduced into the park from South Africa in the mid-1990s. In 2006, black-faced impala were caught in western Etosha and translocated to neighbouring conservancies in Kunene region as part of a part of project to restore populations to former areas of occupancy (Ministry of Environment and Tourism 2007).

These few historical highlights of wildlife in Etosha reflect the importance of natural disturbance, overexploitation, deliberate management and conservation efforts and perhaps most compellingly, the impact of the park fencing.

Etosha National Park in its Centennial Year

Etosha National Park is Namibia's principal international and regional destination for tourism based on wildlife viewing (Ministry of Environment and Tourism 1997). The centenary of its precursor, Game Reserve No. 2, was celebrated in April 2007. The park contains the great Etosha Pan, covering some 4,731 km². The Etosha Pan is mainly dry except following heavy rains when it is flooded from the north by the Ekuma and Oshigambo rivers. Water is held in the pan better than in the surrounding territory in and beyond the park. Hence, wildlife concentrates in the vicinity of the pan during the dry season, especially at the many waterholes along the south side of the main pan.

There are three main visitor camps in the park at Okaukuejo, Halali and Namutoni. These are situated from west to east along the south side of the Etosha Pan and this is where most park visitor traffic is concentrated. A series of self-drive gravel roads and circle loops have been created that connect different waterholes and springs where wildlife concentrate and reliable opportunities are afforded to view many different species. The western part of the park, which forms part of the study area for this research, is serviced by gravel loop roads, which can only be used under special permit.

Etosha attracts by far the greatest number of visitors of any Namibian destination; about 156,000 in 2003 (Turpie et al. 2004). Indeed, tourism is being increasingly promoted across Namibia and Etosha National Park is considered to contribute significantly to the tourism sector, with opportunities for greater growth and new tourist products (Sibalatani 2007 interview). Nature-based tourism activities are the top ranked reasons for visitors coming to Namibia, including game viewing, bird-watching and nature and landscape touring (Turpie et al. 2004). There is an emerging policy of actively growing the role of Etosha as a national tourism destination. For instance, the western part of the park was originally conceived as a natural area but now some 400 to 500 tour operator permits per year are issued to 20 to 25 different operators to take tours through this part of the park (Sibalatani 2007 interview). Present management priorities for Etosha were explored in a key informant interview with the park's chief control warden. He indicated that park and visitor security, water provision, tourism infrastructure provision, and park neighbours/problem animal control were top priorities (Sibalatani 2007 interview). There are four management stations in the park, with one at Otjovasandu in the western part of Etosha that forms part of the case study area for this research. At Otjovasandu the park staff is engaged in anti-poaching, water

provision, fence maintenance, and problem wildlife management (Simataa 2007 interview).

Although recently drafted parks and wildlife legislation makes provision for the preparation of park management plans, no such plans have yet been approved for national parks in Namibia, although several have been drafted (Paxton 2006 interview). A draft management plan for the Etosha National Park was prepared in 2005 (Ministry of Environment and Tourism 2005). While this document has no official status it does provide some additional insight for an emerging policy environment for Etosha.

The draft management plan suggests that the core elements for Etosha's management are the conservation of biodiversity and creation of socio-economic benefits from tourism. A proposed strategic objective for the park is to actively engage park neighbour communities to ensure that the concerns that they may have regarding the park are dealt with and associated socio-economic opportunities are "optimized." The draft plan does not elaborate on what the concerns or associated economic opportunities might be. It notes that human and wildlife conflicts have been a major concern and that tourism will contribute to the economy of the region surrounding the park. The draft plan is very reinforcing of the central role and authority of the ministry in park management. It proposes a zero tolerance approach to illegal harvesting, use or poaching of any natural resources within the park and notes that domestic livestock must be strictly prohibited from the park area. The plan employs the language of collaboration and partnership, but suggests that such arrangements must only be considered when the need is identified and initiated by the ministry. There is no mention of any other party to be involved in park administration and management other than the ministry, no description of the history of local and resident peoples in the park and scarcely a mention is made of the local conservancies that have proliferated around the park.

The draft management plan document is also revealing about the highly managed nature of the park. It describes how water is managed and manipulated to influence game concentrations and movements to benefit wildlife viewing. It describes the wide distribution of gravel quarries throughout the park for the purposes of road building and various construction projects.

The draft management plan asserts that there are few known cultural, historical and archaeological sites and artefacts in Etosha, compared to other areas in Namibia

and that the onus should be on communities to "identify and demonstrate" why any areas of cultural or historical significance need to be conserved. There is no discussion of any potential for ecotourism represented by the history and culture of local communities in or near the park. Furthermore, the draft management plan recommends that any tourism development rights granted to communities adjacent to the park should be contingent on exchanges for conservation management activities on "significant parcels of adjacent community land and must contribute to alleviating management problems or achieving conservation." The draft management plan insists that the entire boundary of the park must continue to be fenced and acknowledges the high costs to develop and maintain the fencing.

A Story of Decoupled Social-Ecological Systems

The present research more fully examines the particular relationships of Herero peoples living in the present day Ehi-rovipuka Conservancy with Etosha National Park in Chapter 7. A useful adjunct to this primary investigation is provided by the story of the Hai||om Bushmen, who lived in the Etosha Pan area and who interacted with both the Hereros and the Owambos.

The Hai||om Bushmen occupied parts of the area of present day Etosha National Park for centuries before Game Reserve No. 2 was first established. Remnant groups of Hai||om Bushmen lived in the reserve for much of the period following reserve establishment and then were ultimately forced out of the reserve in the 1950s. Their experience represents an important body of evidence for protected areas de-coupling social-ecological systems.

The Hai||om are 1 of 3 remnant Bushmen groups in Namibia today (Gall 2002). These groups are differentiated by language dialect and also include the Kung along the Angolan border and the Juwa, in the Tsumkwe area of northeastern Namibia. The Bushmen of Southern Africa have lived in this region for thousands of years and their exact origins remain uncertain. There are about 100,000 Bushmen left in Southern Africa – just under 50,000 in Botswana, about 35,000 in Namibia, about 4,500 in South Africa and several thousand dispersed within Zimbabwe, Zambia and Angola (Gall 2002).

The area south of Etosha Pan in the Etosha National Park, where most park roads and visitor use is concentrated today, has long been home to the Hai||om hunter-

gather community. At the beginning of the 20th century, just prior to the proclamation of Game Reserve No. 2, the Hai||om lived in the region stretching from Owamboland, Etosha, Grootfontein, Tsumeb, Otavi and Outjo, south to Otjiworongo (Dieckmann 2003:43). By 1905, "...the life of a Bushman...had come to be considered as of less value than that of any other black or coloured in the colony" (Gall 2002:110). Bushmen were conscripted into the colonial economy as farm labourers and mine workers. German patrols regularly arrested them and forced them into what was essentially slave labour. At Numatoni, in today's Etosha National Park, German patrols were sent out regularly to round up Bushmen and forcibly remove them to white farms (Gall 2002). Prior to the proclamation of Game Reserve No. 2, a Bushman named Aribib, recognized as a chief by the Germans (although Bushmen did not really have chiefs and Aribib's authority among the Bushmen themselves has been questioned) ceded a huge area, including the Etosha Pan, to the Germans in return for protection and a permanent right to forage for bush foods (Gall 2002:112). However, following proclamation of the game reserve, the Bushmen living there were to be expelled and forced to work for white farmers. In 1911, the Bushmen rebelled, leading to raids on farms, stealing of cattle and attacks on Owambo and Kavango travelers who were working for or trading with the Germans (Gall 2002).

In spite of efforts by the German colonial government to round-up the Bushmen, many of the Hai||om living in the Etosha area were not displaced and residual populations remained at the waterholes in the vicinity of the Etosha Pan. In 1910, for instance, the German District Chief asked for more police patrols to round up the Hai||om at different waterholes and bring them to Numatoni "where they should work and be fed with maize, in order to protect the game living in the reserve." However, this plan was never implemented (Dieckmann 2007:45).

The Hai||om lived in family groups near the various waterholes inside the park. Every group occupied a specific area that may have included several waterholes, specific bush food areas or hunting grounds, comparable to social organization of other San groups (Bernard 1986, as cited in Dieckmann 2003:46). "They had to be asked permission by people from other areas for hunting and gathering rights. Usually, people moved within their area according to the season and extended family networks guaranteed access to natural resource in other areas" (Dieckmann 2003:46). Dieckmann also notes that the Hai||om exchanged meat, salt or ostrich eggs for tobacco with the Owambo to the north. In other words, the Hai||om had long established common

property resource institutional arrangements that governed their use and sharing of wildlife, water and plants that they depended on for their livelihoods and which formed inextricable parts of their culture. Evidently too, they carried out their traditional practices in ways that did not preclude their coexistence with the abundant wildlife populations.

The South African government, as a part of the British Empire, ousted the German colonial administration in South West Africa in 1915. Following South Africa's occupation there was a period when things reportedly improved for the Bushmen. In Etosha, the reserve came under the "enlightened control" of two administrators who apparently sympathized with the plight of the Bushmen. In the beginning, a Captain Nelson assumed the post of game ranger for Game Reserve No. 2. Then in 1928, the game ranger post was abolished and the native commissioner of Owamboland, Major Hahn took over and acted as part time game warden (Dieckmann 2003). The Hai||om were permitted to stay on in the reserve and hunt with bow and arrow, so long as they did not poison water and trespass on surrounding farmlands. The Bushmen became recognized as part of the sanctuary. Hahn wrote that:

> *...the wild Bushmen resident there ... form part and parcel of this sanctuary and afford an interesting study for those anxious to acquaint themselves with their life and pursuits. For small quantities of tobacco these Bushmen will keenly collect firewood, help visitors establish their camps and are most useful and clever in erecting 'skerms' [hides] for close-up game photography* (Hahn, as cited in Gall 2002:135).

Dieckmann (2007) clarifies that the 'wild' Bushmen referred to by the SWA administrators were those living beyond the Police Zone to the north and 'tame' Bushmen were those permanently employed on white farms. Regardless, some few hundred to a 1,000 Hai||om lived in the reserve, mainly inhabiting the southern part of the Etosha Pan. The policy towards the Hai||om followed by the SWA Administration offered two alternatives – employment on farms and integration into colonial life or, living as hunters and gatherers inside the park (Dieckmann 2007). The Hai||om were restricted to hunting without firearms and dogs, and were not allowed to shoot giraffe, kudu, eland, impala and elephant. However, violations were both infrequent and infrequently punished. The perspective seems to have been that it was better to let the Hai||om hunt and gather by traditional means than to have them moving out of the reserve disturbing the farms (Dieckmann 2007). Many Hai||om living in the reserve later became employed in the construction of park roads or maintenance of waterholes and became gradually integrated into the economy related to park development and administration.

The most dramatic removal of the Hai||om from their traditional territory occurred following the Second World War. This part of their story is recounted in Box 1.

Box 1. Hai||om Alienation from Traditional Territory in Etosha National Park

In 1948, after 20 years of no change in the laws governing the Hai||om Bushmen living in Etosha, the Hai||om were restricted to hunting zebra and wildebeest only. This seems to have coincided with the appointment of a new fulltime game warden and a growing interest in nature-based tourism (Dieckmann 2007).

A Commission for the Preservation of the Bushmen was appointed in 1949 and P.A. Schoeman, an architect of apartheid, was among its members. He had been made responsible for Etosha as a full time game warden and, recognizing Etosha's tourism potential, he started to develop tourist bungalows, road improvements and new boreholes (de la Bat 1982:15). The commission recommended the expulsion of the Hai||om from Etosha. All Hai||om, except for 12 families employed by the park, were to leave the game reserve and move to Owamboland or to farms south of the park (Dieckmann 2003:61-62).

In May 1954, Hai||om families were gathered at Namutoni and Okaukuejo and were ordered to move out of the reserve on the pretext that they were "destroying the game." If they did not move out they would be arrested and put in gaol (SWAA A50/67b, as cited in Dieckmann 2003:64) and they were not to return to the game reserve without a permit.

Thus, a period of nearly 40 years drew to a close where the 'wild' Hai||om Bushmen living in the reserve had come to be regarded as 'part and parcel' of it. The early tourists that had visited the reserve had been greeted by the Hai||om at the waterholes where they lived, took pictures of the Hai||om as part of the park scene and the Hai||om received informal remuneration from the visitors such as sweets and fruits for being 'looked at" (Dieckmann 2003:66). However, with the deliberate promotion of 'nature conservation for tourism' in Etosha and the imposition of apartheid in the SWA territory, the Hai||om were to be moved from the reserve and further assimilated into the surrounding colonial culture of private farms, mines and trade as labourers. They were rendered landless, not even re-located to distinct areas of communal lands like other tribal groups. The small number of Hai||om who remained in the reserve "...were induced....to settle at the rest camps where proper housing, medical care and work opportunities were available. They became our trackers, builders, camp workers and later our road grader and bulldozer operators" (de la Bat 1982:16). Thus, an assimilation was made complete and the Hai||om who stayed on in the reserve were no longer living traditionally as bow hunters and gatherers at their favoured waterholes, but rather were employed in development and operations geared to nature-based tourism. Instead of hunting and gathering their own wild meat and plants, they were given rations of meat and tobacco as enticements. It has been noted that since this rationing is always mentioned in the context of the removal, apparently the people interpreted the rations as one step in the bigger plan of expulsion (Dieckmann 2003:66).

After 1958 Game Reserve No. 2 became Etosha National Park (Berry 1980, as cited in Dieckmann 2003:72). A profound change was wrought on the landscape of the park and its surrounding region during this time. The first fences were erected by European farmers on the southern boundary between 1955 and 1960, but these fences were reportedly discontinuous and easily broken. In 1961, a foot and mouth disease outbreak led to a 'game-proof fence' along the eastern and southern boundaries. Etosha was completely fenced in by 1973 (Berry 1980, as cited in Dieckmann 2003:72; Berry 1997). The Hai||om that remained in the park were further integrated into the construction of roads and facilities for tourists, the women employed as cleaning staff in the rest camps and as domestic workers for park wardens. A noteworthy aspect of this tourism development period of the late 1950s and 1960s in Etosha was the engagement of

Hai||om as tourist attractions, wearing traditional clothing and performing traditional dances twice a week at the Okaukuejo rest camp (SWAA A511/1 n.d., as cited in Dieckmann 2003:73). In other words, the colonial occupiers and masters came to a recognition that there was some commercial value of the Hai||om, despite having systematically tried to eliminate their presence.

Another noteworthy aspect of this period were early attempts by Hai||om who had been relocated to farms to return 'home' to hunt for meat. Although this was illegal, it was difficult to enforce against this practice without park fences and gates. Once these were in place, returning 'home' to the park area, except to work for the colonial administration, was virtually impossible. A comment made by one park's official of the day concerning the movement of wild animals applies equally to the Hai||om: "initially the definition of Etosha's boundaries made virtually no impact on the movement of wild animals. Physically the boundaries consisted of surveyed points and later firebreaks were cleared along some of them" (Berry 1980, as cited in Dieckmann 2003:74). Once the fences and park gates were in place, profound impacts occurred on the movements of wildlife and resident peoples. Fences both symbolized and in fact produced a direct and pervasive decoupling of social and ecological relationships in the study area.

One tourist attraction is noteworthy from the late 1950s and early 1960s. On the same evenings that the Hai||om performed traditional dances for the tourists at Okaukuejo, park staff would slaughter a zebra, and the tourists would watch as lions were drawn in by the carcass to devour the meat. These were called "lion parties" and were staged up to 1963 (Ministry of Environment and Tourism 2007). Presumably, these fell out of fashion, as more ecologically sensitive park management policies took hold.

The Hai||om experience in Etosha is well characterized by a comment about the Kruger National Park in South Africa that applies equally to Namibia: "in the African version of wildlife conservation history, the experience has been that game reserves are White inventions, which elevate wildlife above humanity and which have served as instruments of dispossession and subjugation" (Carruthers 1995, as cited in Dieckmann 2003:77).

The alienation of the Hai||om Bushmen from their ancestral territory in Etosha National Park provides meaning to my metaphor of decoupled social and ecological systems. The Hai||om had well established institutions for the sustainable use of an area around the Etosha Pan, inside the park. Their society was integrally part of and interdependent with the water holes, wildlife and plants of this area. Then, changing parks management policies and practices determined that they be forcibly removed from this territory and their resources. The Hai||om, their social customs, cultural practices and common property resource institutions, were 'decoupled' from ecological systems. This decoupling was not a mere mechanical, linear process, like a freight train car being decoupled from another on a rail siding. Rather, coupled social-ecological systems became decoupled, profoundly changing the objects of the decoupling: the Hai||om people, as well as the ecological processes and features that they were a part of. The remnant Hai||om now live on the private commercial farms outside Etosha, or in the towns of the wider Kunene and Otjozondjupa regions. But, they still regard Etosha as

their 'homeland.' Decoupling has meant a strong sense of lost place, as well as a loss of knowledge and community memory to perpetuate a past way of life.

In 1997, a demonstration at the gates of Etosha National Park was organized by the Hai||om to re-claim their ancestral land (Dieckmann 2003:78-79). Nothing came of this except some jail time and eventual dropped charges for the participants. Most recently, there are reports that the government is purchasing some commercial farms south of Etosha National Park and assigning them to the Hai||om (Ministry of Environment and Tourism 2007:11; Odendaal 2007 interview) in compensation for their removal from Etosha.

A different outcome for Bushmen and national park relationships has recently unfolded in South Africa. In 1931, the South African government created the Kalahari Gemsbok National Park. In 1938, the British Protectorate of Bechuanaland declared the Gemsbok National Park, in what is now Botswana. Since 1992, this region has been administered as a single entity, the Kgalagadi Transfrontier Park (Gall 2002). Bushmen had been forcibly removed from the Kalahari Gemsbok National Park, but in 1999 the newly democratic South African government agreed to a Bushmen land claim in the Kalahari Gemsbok National Park. Khomani Bushmen were given a land claim of over 100,000 acres, totalling 4 farms.

Such a land claim could serve as a precedent for indigenous peoples receiving restitution for past injustices elsewhere in the region. However, accounts regarding the implementation of the land claim and the present desperate state of the Khomani Bushmen, including their destitution, social breakdown and alcoholism, all underscore the complexities of human conditions that forced relocations from traditional lands and other racist policies have wrought (Bregin & Kruiper 2004).

This is a sobering consideration for the present research. It suggests that communities that are recoupled in some fashion with ecological systems in protected areas may have undergone dramatic social change from their ancestors who previously occupied and used protected areas. Cultural integrity and social cohesion may have been so severely disrupted or destroyed by colonizing and racist policies and practices that they cannot be effectively restored. Regardless, this does not necessarily preclude new forms of recoupling that might contribute to strengthening social systems,

livelihoods and biodiversity conservation. This will be further explored in Chapter 7 and Chapter 8.

Summary Reflections

Reflection on the history of game reserve establishment and management in Namibia, as represented by Etosha, reveals strong affinities to the generalized eras or phases of protected areas management recognized for Southern Africa (Child 2004b). One can detect an early military-like period, first featuring German military patrols and then the police patrols and stations of the SWA Administration. A second phase featuring the 'stock-raiser mentality' is distinguishable, during which commercial farms grew around the reserve, predators were wantonly slaughtered to protect livestock and favoured 'royal game' was protected, while a spectacle of wildlife viewing was building up in the reserve. Then a so-called 'era of ecologists' emerges in the 1950s and 1960s as understanding of predator-relationships and managing wildlife habitats gains attention, but with little to no regard to the resident peoples – their cultures being displaced or disrupted by the nature conservation agenda. The prevailing discourse now is that of parks as islands in seas of degraded resources, including the emerging narrative of protected areas as 'engines for rural development and alleviation of poverty' (Child 2004b:18; Ministry of Environment and Tourism, 2006; Paxton 2006 interview; Jones 2006 interview).

Further reflection on the research objectives, in the light of the Hai||om Bushmen experience, suggests that the complexities of social and political change impacting indigenous societies and their conservation institutions militate against a recoupling of social-ecological systems as they may have existed prior to protected areas establishment and management. Any notion of recoupling must acknowledge the blurring or obliteration of earlier indigenous conservation institutions and the need to redefine or recouple linkages in a much modified and modern context.

The present state of relationships between the management of Etosha National Park and neighbouring communities and communal conservancies suggests that the relationships are fundamentally defined by the fences. The fences, at 2.6 m in height and with a 15 m cleared corridor on either side (Ministry of Environment and Tourism 2007). are to keep local people and their livestock out, and to keep the wildlife in, such as lion, elephant and hyena that are thought to pose only human and wildlife conflicts.

Notwithstanding the recently drafted legislation in 2005 suggesting a fuller recognition of CBNRM, communal conservancies and enlightened park 'neighbour' policies, the management of wildlife within Etosha and the newly emerging conservancies effectively remains isolated in two different spheres. This will be further demonstrated by the primary research findings reported in Chapter 7. While regional ecological linkages within wildlife and ephemeral river corridors are fully acknowledged by Namibia's park and wildlife managers, it remains a puzzling contradiction that there is an apparent gulf between resident peoples and park management. This is especially so when both CBNRM and national parks are housed within the same Ministry of Environment and Tourism.

This chapter has documented that the central premise of the research is applicable in Southern Africa, Namibia and Etosha National Park. There has been a systemic decoupling of social-ecological systems by Southern African national parks *vis à vis* local communities and resident peoples. In Namibia's Etosha National Park, it has been shown that Hai||om Bushmen hunter-gatherers were displaced and disenfranchised from the wildlife and plants that they depended upon within the park. The Hai||om had moved with and adapted to seasonal variations in water, wildlife, and plant distribution, instituting systems of resource use and management that sustained themselves and the animals and plants they depended upon for their livelihoods and cultural practices. They were then successively re-located outside the park since reserve designation and over different park management eras, ultimately being denied access from the 1950s to the present day to resources they had used for centuries prior to reserve/park designation.

Legislation, policies and practices for park designation and management have systemically reinforced the exclusion of local community use and participation in Namibian national parks to this day. This will be further examined in Chapter 7 for Herero communities forming the Ehi-rovipuka Conservancy portion of the field case study, bordering Etosha.

Newly emerging draft parks and wildlife legislation and programs portend potential changes in park and local community relations that may provide a foundation for a recoupling of social and ecological systems in parks. However, such prospects are yet to be fulfilled in any meaningful way, demanding further attention in the present research.

A key portent for change is the recent institution of CBNRM and conservancies in Namibia, which devolve wildlife management opportunities to communities occupying communal lands surrounding the Etosha National Park. The evolution of Namibia's CBNRM program and the conservancies enabled under this program are now detailed in the Chapter 6, providing another pillar for investigating the principal research objectives and questions.

CHAPTER 6:
COMMUNITY-BASED CONSERVATION IN AFRICA

Organization

This chapter 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. Conservancies were recently established in Namibia and have grown in number exponentially since 1998. A premise of the research is that these 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, notwithstanding the paradigm shift earlier portrayed increasingly recognizing needed conservation partnerships and cooperation between local and indigenous communities and protected areas (Borrini-Feyerabend et al. 2004; Phillips 2003). Institutional arrangements for community-based conservation by local and indigenous communities in Southern Africa and in particular for Namibia, are assessed through the lens of common property theory. The community-based conservation cases dealt with all occur on communal lands. 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 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 (Fabricius 2004). 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 the 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. This factor and an inability of national wildlife agencies to cope with the growing problems of poaching and an international illicit trade in wildlife parts and products led to CBNRM programs.

There have been other community-based conservation programs in the Southern African region, beyond the experiences in Zimbabwe and Zambia. Botswana and Malawi both introduced programs devolving certain rights in resource management to communities (Fabricius et al. 2004). In Botswana as example, a Participatory Rural Appraisal approach was followed with communities that led to their identification of CBNRM projects, the first one being the Chobe Enclave Conservation Trust (Arntzen et al. 2003; Hazam 2007 interview). USAID was the major international donor for CBNRM in Botswana, in common with Zimbabwe and Namibia, but there was not the same attention paid in Botswana to the development and coordination of supporting NGOs. A number of community-based organizations (CBOs) were ultimately registered with the Botswana government, many of which generated revenue from joint venture agreements (Arntzen et al. 2003).

Within the confines of this research, two cases of CBNRM in Southern Africa are further elaborated because they were especially influential in the design of Namibia's CBNRM program (Nott & Jacobsohn 2004; Jones & Murphree 2001; Jones 2006 interview) to which the balance of the chapter is devoted.

Zimbabwe's CAMPFIRE Program

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 and varying accounts have been made of its successes and shortcomings (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 from 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% 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 state 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 (Murombedzi 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 (Sangarwe 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 the 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 ADMADE 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 licences, 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% 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 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 (Marks 1991; Gibson & Marks 1995; Marks 1999). 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 1995).

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 (Marks 1999). 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.

Namibia's CBNRM program and conservancies originated in the early 1980s, influenced by the experiences in Zimbabwe and Zambia. Namibia's approach to community-based conservation is now described and design principles for common property resource institutions are applied to compare and contrast approaches in Zimbabwe, Zambia and Namibia.

Namibia's Conservancies and CBNRM

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. Smith collaborated with Chris Eyre, a like-minded government wildlife conservation official, and they engaged local headmen, who shared a concern about the loss of wildlife (Owen-Smith 2006 interview). 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 (Jacobsohn 2006 interview) 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 considered a major factor in stopping poaching and allowing wildlife to recover. Increasing demands for the program 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 been granted only 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; Brown 2006 interview; Jones 2006 interview). IRDNC Directors Garth Owen-Smith and Dr. Margaret Jacobsohn, based on their knowledge and experience 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; Jones 2006 interview; Owen-Smith 2006 interview). 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 for 14 years, although other international donors have come in.

The resultant enabling 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 'huntable game" such as springbok, oryx, and kudu under quotas established by the Ministry of Environment and Tourism, as well as the right to use quotas of specially 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 (Jones 2006 interview).

Key linkages and partnerships have been created in Namibia's CBNRM program, 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 NGOs, 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 (Weaver 2006 interview). National NGOs such as IRDNC, the Namibian Association of CBNRM Support Organizations (NACSO), the Namibia Nature Foundation, and the Namibia Community Based Tourism Organization (NACOBTA) provide various technical support and capacity-building services to conservancies.

NACSO is an umbrella organization for a dozen 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 (Louis 2006 interview). The Ministry of Environment and Tourism is as an observer on all NACSO working groups; reflecting its overarching approval and registration role for conservancies. This role is reportedly evolving into greater direct funding support for NACSO coordinated CBNRM support programs (Louis 2007 interview). 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 a 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).

There has been a rapid scaling up of conservancies in Namibia, from an initial 4 registered in 1998, to 50 in 2007. Certain of these conservancies are now quite well established, while others are in various stages of development. Indeed, the IRDNC, as lead conservation NGO in the study region, categorizes conservancies as Fast Track, Medium Track and Long Track for the purposes of determining the levels and types of support it is prepared to give in its facilitating role to conservancies. 'Fast Track' conservancies are judged to possess a good and diverse resource base for wildlife and tourism; 'Medium Track' conservancies have some wildlife and tourism potential, and 'Long Track' conservancies are judged to have quite limited wildlife and tourism potential (Nott 2006 interview).

Further attention is now be given to Torra Conservancy as an example of a 'Fast Track' conservancy that has enjoyed success and recognition and which is looked to as a model for more newly emerging conservancies.

Torra Conservancy as Model

The Torra Conservancy in NW Namibia and Namibia's CBNRM program have received international recognition as a successful approach to community-based conservation (World Resources Institute 2005; UNDP 2004a) as earlier described. Torra Conservancy is situated in the case study region (Figure 10) and as noted in Chapter 1, was originally considered for the community case study in this research. While Ehi-rovipuka Conservancy was ultimately selected for my case study, some attention to Torra has been retained here, given its strong influence in the evolution of CBNRM and the conservancy system.

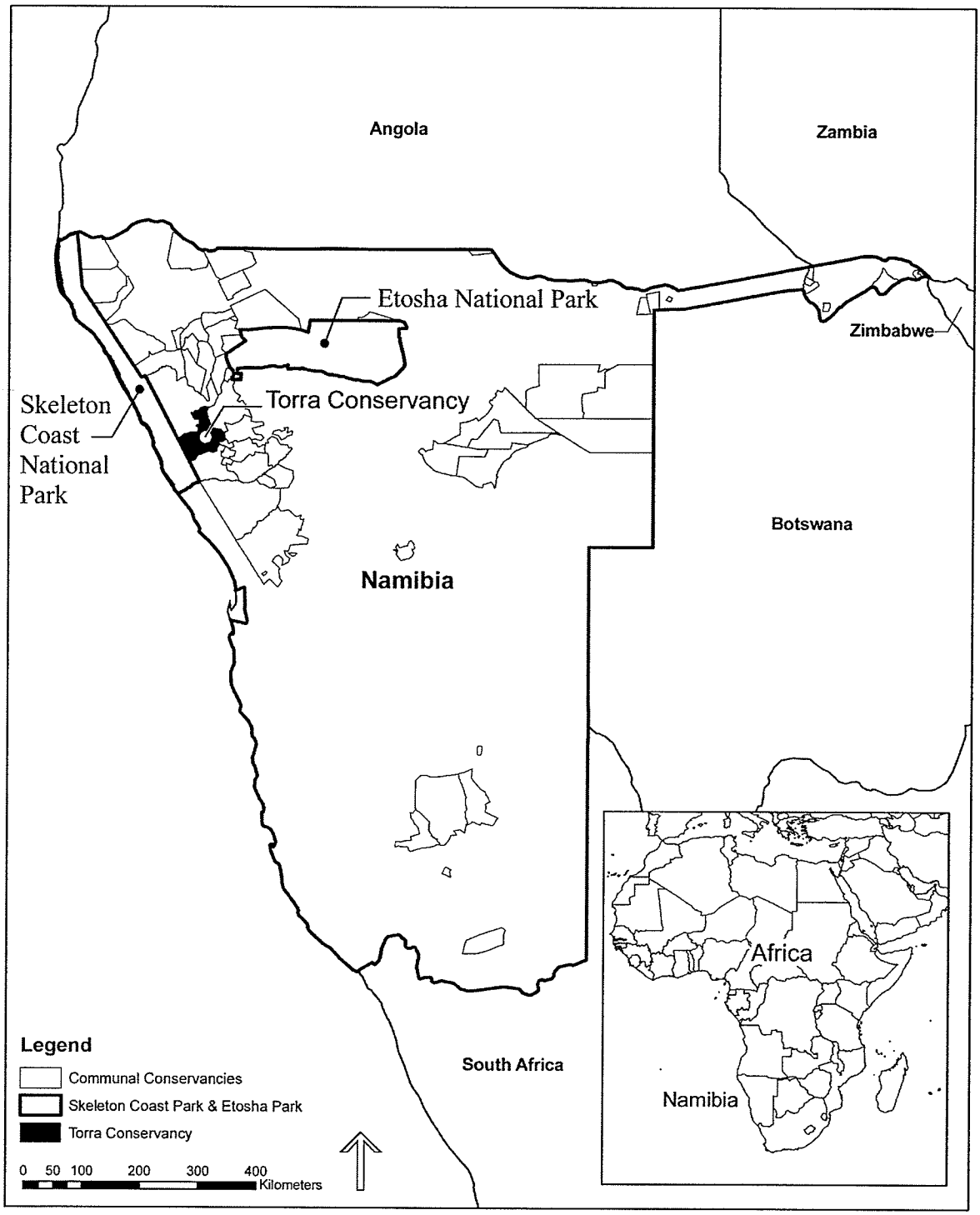


Figure 10. Location of Torra Conservancy in Study Region

Torra Conservancy encompasses 352,200 hectares of semi-desert and sparse savanna, with an annual rainfall of less 100 mm/year. Its small population of 1200 includes Damara and Riemvasmaaker tribal groups, with fewer Herero and Owambo 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 the Kunene region occurred in the late 1970s and early 1980s due to a major drought, exacerbated by the proliferation of firearms in a liberation war for Namibia, commercial demand for ivory, rhino horn, cheetah, leopard and zebra skins, and subsistence wildlife harvest. 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 1,200 in 1970 and Black Rhino from 300 in 1970 to 65. Other populations were estimated to have been reduced by 60 to 90% (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, 1996*. This legislation enabled the national Community-Based Natural Resource Management Programme (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 1 of 50 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 5 men and 1 woman and employs 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 (NACSO 2005).

Damaraland Camp is operated by Wilderness Safaris, a South African tour company, under a partnership agreement with Torra Conservancy. It is the main revenue-generating enterprise, providing annual land rent revenue, monthly bed levy revenue and 22 full time jobs for conservancy members (Long 2004; Florry 2006 interview). Some 35 to 40 other jobs are held by conservancy members in other lodges that have been developed in the Wilderness Safari system (Florry 2006 interview; Weaver 2007 interview).

A key feature of the joint venture is the land tenure arrangement for the ecotourism lodge. Wilderness Safaris was first introduced to local community representatives in 1994, through IRDNC. IRDNC served as a broker and facilitated 'role playing' with a local community committee, to practice negotiations with Wilderness Safaris (Owen-Smith 2007 interview). In 1994, the Bergsig-De Reit Residents' Trust was created and a permission to occupy (PTO) for a tourist lodge was obtained from central government by the community trust. Wilderness Safaris in turn, obtained a lease from the community trust and in 1996, the Damaraland Camp was developed as a joint venture with the community trust (Roman 2007 interview; Salole 2003). This relationship continued once the communities, with IRDNC's further assistance, had attained conservancy status in 1998.

The private enterprise receives its lease tenure from the communal 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 2006; Van Smeerdik 2006 interview). This partnership with an international tour company provides the conservancy with access to an international, upscale tourist market, that it would otherwise not have been able 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; Weaver 2006 interview). Torra Conservancy has been characterized as a 'flagship' of the national CBNRM program in Namibia and its joint venture with the Damaraland Camp has served as a model that other conservancies have aspired to replicate.

Features for Success and Lessons Learned

Reflection on Namibia's overall experience with CBNRM and the Torra Conservancy model reveals an evolution of community-based conservation institutions covering 25 years. Salient factors for success, challenges faced and lessons learned in Namibia's conservancies and CBNRM system are identifiable.

Community economic benefits from ecotourism and trophy hunting based upon wildlife and wilderness appeal, 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 CGG 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" (Owen-Smith 2006 interview). 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 (Hinz 1998; Owen-Smith 2006 interview). The first local conservation actions in Kunene region in the 1980s reflect a willingness to conserve, before any tangible 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 a feature in Namibia's approach to community-based conservation. 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 served as wildlife monitors, providing knowledge and information that management authorities external to the communities used 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 fire, poaching incidents, problem animal incidents, and wildlife mortality (Hill et al. 2005). This system is reportedly 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 (Tagg 2006 interview).

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 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 6 summarizes comparative features in the CAMPFIRE, ADMADE and Namibian cases.

Table 6. Institutional Comparisons in Southern African Community-Based Conservation

Design Principles for Enduring Common Property Resource Institutions (Ostrom 1990)	**Zimbabwe's CAMPFIRE Program**	**Zambia's ADMADE Program**	**Namibia's CBNRM Program and Conservancies**
Clearly Defined Boundaries for Resources Used or Managed	Wildlife is migratory and distributions do not conform to boundaries of rural district wards and protected areas	Wildlife is migratory and distributions do not conform to Game Management Areas and protected areas	Wildlife is 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 and revenues shared between central government and community chiefs	Conservancies monitor wildlife and propose quotas for government approval; all revenues and 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 and 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 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 local rights to organize by the 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.

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; Owen-Smith 2006 interview).

As registered conservancies in Namibia have proliferated exponentially over the relatively short period from 1998 to 2007, 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 (Owen-Smith 2006 interview; Ujaha 2007 interview). Boundary disputes have reflected complexities of ethnicity, resource use practices, early tendencies to favour smaller, more manageable management units, and changing power relationships within 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; Jensen 2006 interview). Future 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 (Odendaal 2006 interview; Hazam 2006 interview). Therefore, prospects appear high for the conservancy model as originally designed to be misapplied by some local communities and politicians alike, leading to unrealistic and unfulfilled poverty alleviation and community development expectations (Odendaal 2006 interview).

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 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 (Odendaal 2006 interview).

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. Vertical and horizontal 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 (Brown 2006 interview; Jones 2006 interview; Weaver 2006 interview).

The evolution of institutional linkages, both horizontal and vertical, in Namibian community-based conservation is summarized in Figure 11. This is not a literal representation of all the institutions at the different levels of organization (for example, there are 50 registered conservancies in 2007, at least a dozen national NGOs active in CBNRM and several other international donors funding different national NGOs). What is evident, even at this schematic level, is an 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 11 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. The prominence of IDRNC as the longest serving and only NGO dedicated entirely to facilitating CBNRM is also illustrated in Figure 11, as well as a central and consistent role played by USAID as an international donor. The central role of the Government of Namibia, through its Ministry of Environment and Tourism, in legal recognition of conservancies and devolution of rights in wildlife use and management is also depicted. Other international donors support single NGOs and there is a regionalization of NGO support for conservancies. This system of regional facilitating NGOs for CBNRM is particularly noteworthy. For example, in the Kunene study region, IRDNC serves as the lead NGO and other NGOs and NACSO channel their support through IRDNC. This will be further discussed in Chapter 7. This has been an institutional arrangement that can offset competition among NGOs for donor funding and coalitions of NGOs have emerged to tap more limited donor funds (Louis 2007 interview).

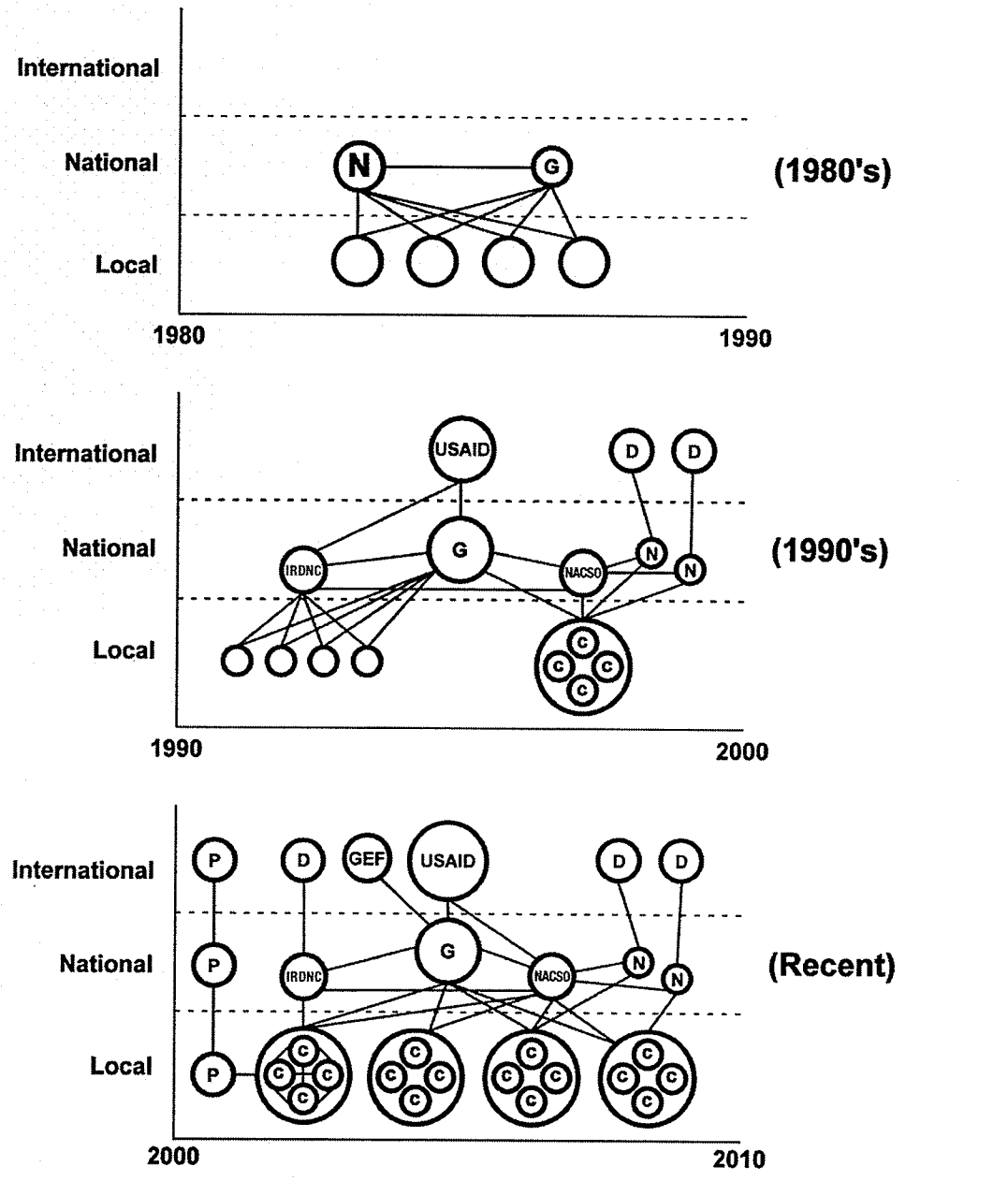


Figure 11. Evolution of Community-Based Conservation in Namibia

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. 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 earlier noted. Distinct and varying ethnic groups comprise conservancy membership and some community members are not registered conservancy members. Moreover, the national history of social upheaval and segregation under ethnic and colonial conflicts and apartheid-imposed homelands 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 (Odendaal 2006 interview).

Certain research has argued that conservancies are very limiting institutions, 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: e.g., the use of smaller animals, medicinal plants, wild fruits and vegetables, graze and water for cattle. While this may be valid critique, its 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, I personally observed at quarterly planning meetings for conservancy programs 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, for example, through its partnership with Wilderness Safaris, has secured jobs for both men and women from its membership. Indeed, the manager of the Damaraland Camp is a woman from the local community.

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 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 (Hazam interview 2006; NACSO 2004; NACSO 2006). Their viability as sustainable community institutions when donor funding ceases has been questioned (Hazam interview 2006; Katjiuongua 2007 interview). Distribution of wildlife benefits beyond the community level to the poorest households has also been limited (Long 2004; World Resources Institute 2005; Odendaal 2006 interview). The situation of both registered members and non-members living within the conservancies is related to the benefits distribution issue. Constitutionally, benefits are to be distributed only to conservancy members. The 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 where wildlife population increases from conservation effort have resulted in increased losses and damage caused by wildlife.

Transparency and accountability of conservancy management committees in their management of revenue received from wildlife and tourism projects, representativeness of conservancy committees, and the participation and voice of community members in conservancy governance are some of the emerging issues over the short period that conservancies have been established (Hazam 2006 interview.; Louis 2006 interview; Odendaal 2006 interview). Other emerging issues include the growing recognition that community revenues and employment from CBNRM are implicated in social and environmental problems such as alcoholism, unprotected sex, increasing HIV/AIDS rates and the sapping of human capacities to sustain CBNRM (Louis 2007 interview).

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, 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 presents ecological and social characteristics invoking the need for varying scale perspectives in conservation and natural resources management (Margules & Pressey 2000). The wildlife that is 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.

Summary Reflections for Community-Based Conservation

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 CBC is noteworthy. It has taken 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 have evidently triggered collective action at the local levels and across levels of organization. Such critical convergences have included:

- 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;

- 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;

- 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. Bottom-up dimensions included 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 have included promulgation and administration of national law and policies for conservancy registration and legal gazetting, as well as the approval 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 at national and regional levels (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 social and institutional networks would seem to bode well for the robustness of the conservancy model for wildlife conservation.

A recent and useful model of causal processes for resource outcomes (Stern et al. 2002:450; Ostrom 2004:9) has been modified and adapted based on this review of Southern African and Namibian experience. The adapted model suggests the attributes of resource users and resources that may effect the achievement of biodiversity conservation and sustainable development at community level (Figure 12). Certain resource user attributes from the original model have been retained, including dense social networks and reciprocities. Other attributes have been added or elaborated, including appropriate scale match, cultural recognition, respectful reciprocities, institutional capacity and leadership. I postulate that biodiversity conservation and sustainable community development necessitate positive institutional 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 what I have termed critical convergences. The monitoring of resource use and users remains pivotal, and offers promise as a key process for building partnerships between western science and local and traditional knowledge. Effective incentives and sanctions for rules compliance are pivotal as well.

Resource attributes in this adapted model recognize the necessity of scale considerations for biodiversity conservation, in addition to stationarity and storage (Agrawal 2002; Stern et al. 2002). 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 model.

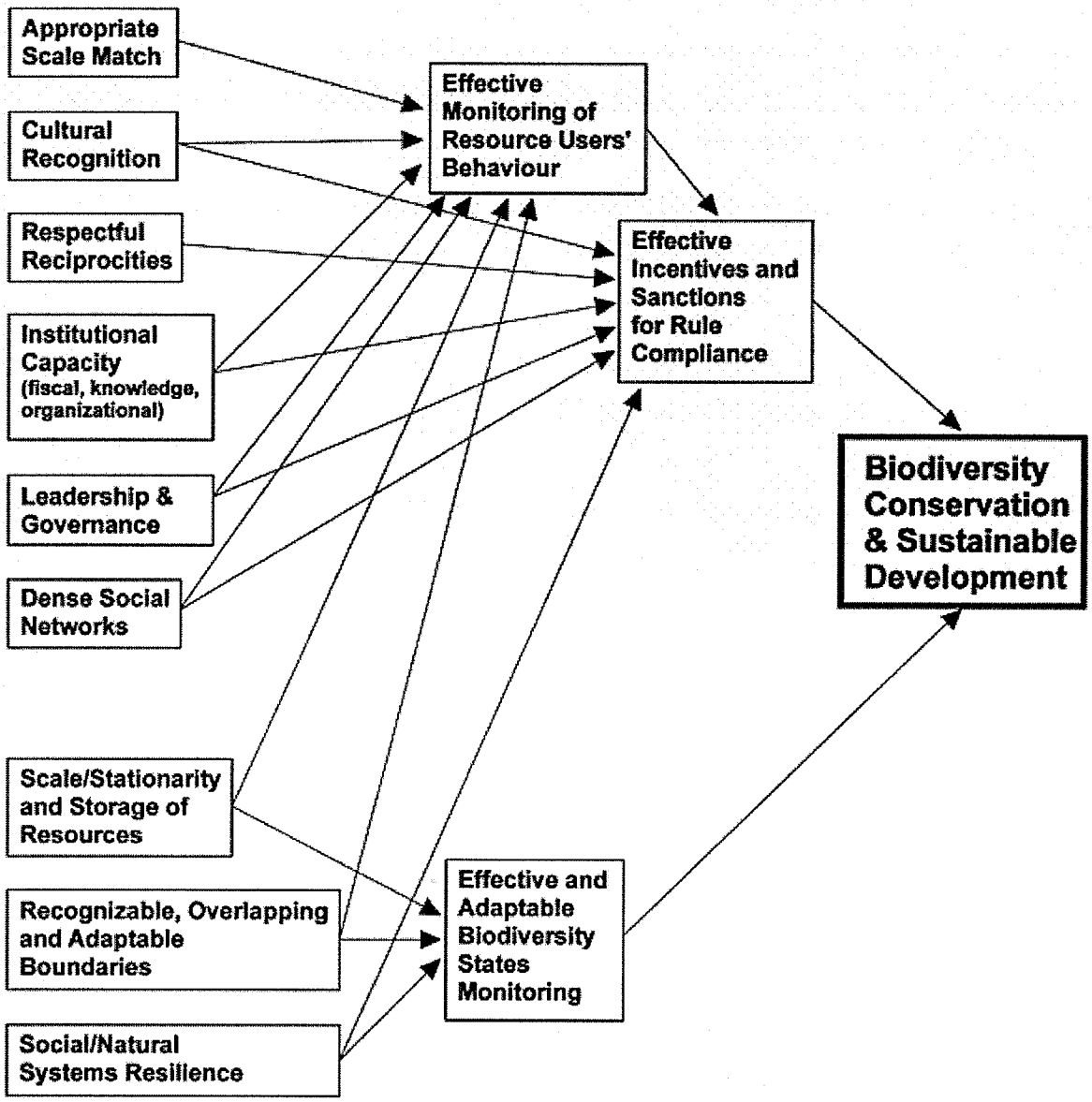


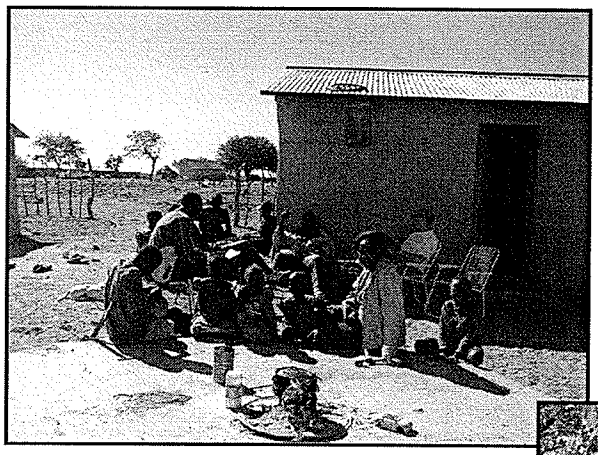
Figure 12. Attributes for Cross-Cultural/Cross-Institutional Conservation of Biodiversity and Sustainable Development
Adapted from: Stern et al. 2002:450

In Namibia's CBNRM and the Torra Conservancy, benefits from wildlife have promoted conservation, but evident challenges remain in benefits distribution and governance. Managing power relations and creating capacities to retain the place and voice of the 'community' remain big challenges (Lachapelle et al. 2004). 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

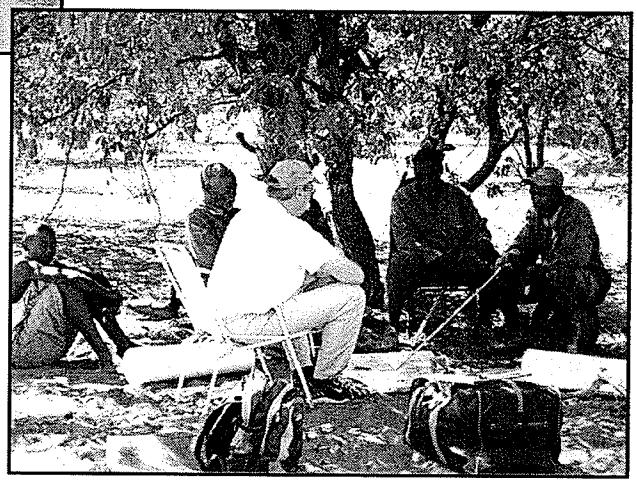
one hand, but who can also push or control communities in certain directions or decisions, through how they may allocate or withhold funds and technical support (Jones & Mosimane 2000; Mosimane 2006 interview).

This chapter presented a picture and argument that Namibia's conservancies and their strong network of NGOs, government and donor support provide a viable institutional framework for biodiversity conservation and integrated community development. Questions remain about the opportunities for conservancies to link directly with and serve as partners with protected areas management in biodiversity conservation. Chapter 7 presents findings from community-based participatory research that reveal an existing gap between community-based conservation and national parks management, as well as opportunities for prospective linkages.

CHAPTER 7:
THE STORY OF A PEOPLE AND A PARK



Photos by Leslie Hoole



Above: villager interview – Otjokavare.
Right: elders' memory mapping review.

Organization

This chapter, together with Chapter 8, presents primary findings from case study and PRA research in Ehi-rovipuka Conservancy and the village of Otjokavare. The focus is the research premise of national parks decoupling social-ecological systems and my related research objective to determine the nature and consequences of this decoupling. A story told by three village elders and their mapping of related memories forms the centerpiece of the findings. As well, structured villager interview results concerning present day life next to the Etosha National Park are presented, along with key informant semi-structured interview results. Ehi-rovipuka Conservancy and the case study community of Otjokavare are first described, as necessary context to consider the research findings presented in this chapter and Chapter 8.

Profile of the Ehi-rovipuka Conservancy

Ehi-rovipuka was officially registered as a conservancy in January 2001. Ehi-rovipuka means 'the place of wildlife' in Otjiherero. The overall area of the conservancy is 1,975 km² (NACSO 2005). The conservancy is irregular in shape and covers a distance of over 100 km from north to south, with a variable width of up to about 20 km (Figure 13).

The population is approximately 2,500, with densities ranging from less than 1 person/km² to about 10 persons/km² in the larger village areas such as Otjokavare. There are approximately 30 different villages, many of which are distributed in the north half of the conservancy and a lesser number in the south. Most of the villages are very small, with between 50 to 100 persons, comprising only a few extended family groups. Villagers live mainly in rectangular huts, framed with mopane poles, walled with a cattle dung/mud mixture and roofed with galvanized metal sheeting. A few families still live in more traditional, smaller huts that are fashioned from the same materials, but which have circular grass thatched roofs. Some of the larger villages along the main road have shops but no other services, excepting a water borehole. There are no electricity or water distribution systems in the villages. People use the bush for toilets and there are no provisions for solid waste disposal. The main primary school is located in Otjokavare and there is 1 other primary school serving the north part of the conservancy.

People will move from village to village, depending on marriage and family relationships, as well as localized drought conditions and available graze for their cattle. Ehi-rovipuka Conservancy has about 700 registered members currently (Ujaha 2007 interview). Membership is open on a voluntary basis to all adults 18 years old or older who have lived in the conservancy for at least 3 years (Ehi-rovipuka Conservancy 2000). Members must also hold Namibian citizenship, be permanent residents of the conservancy area, and cannot be members of another conservancy. Membership is gained by signing a registration form that signifies that the member accepts the conservancy constitution, land use and wildlife management plans and is willing to uphold them.

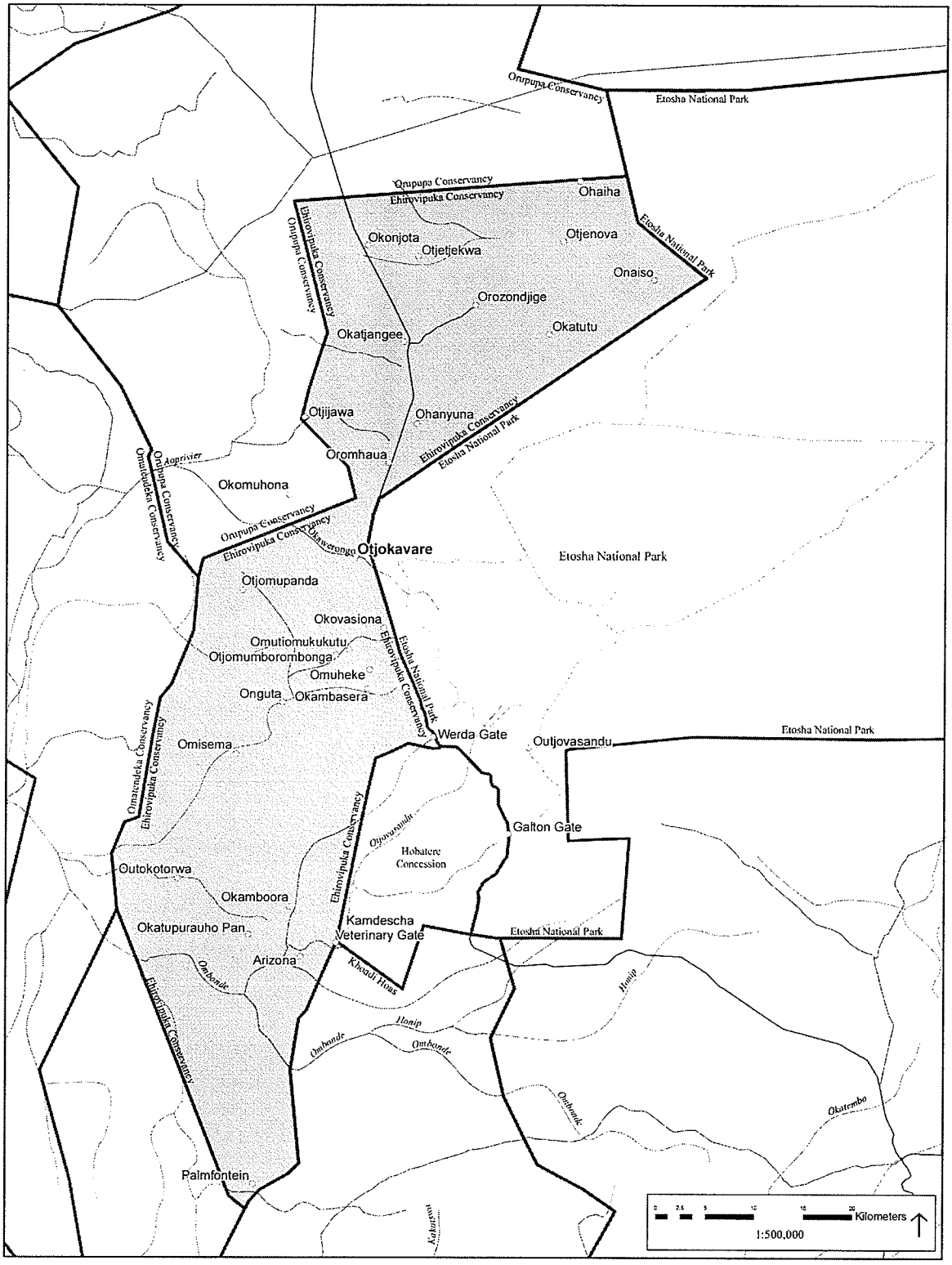


Figure 13. Location of Ehi-rovipuka Conservancy, Otjokavare and Other Villages

Ehi-rovipuka Conservancy is situated on an upland plateau lying east of the Northwestern Escarpment and along the western boundary of Etosha National Park. Elevations range from about 1,400 m above sea level along the western boundaries, marked by dissected, rolling and scenic hills, to more gentle terrain about 1,200 m above sea level along the eastern boundary shared with Etosha National Park. Virtually the entire area lies within the upper reaches of the Hoanib River watershed. Several tributaries of the Hoanib River drain from east to west, notably the Ombombe River and its tributary the Otjovasandu River, as well as the Otkawerongo River further north. These are ephemeral streams as described in Chapter 3, providing important corridors for wildlife, livestock, and people, where springs and riparian vegetation are concentrated. Otjokavare, the main village of the conservancy, is situated near springs on the Otkawerongo River. Annual precipitation ranges from about 250 to 350 mm/ annum (Jacobson et al. 1995) with higher rainfalls on the eastern margins, declining to the west as described earlier for the west-east regional rainfall gradient. Drought is a regular occurrence and the entire area of the conservancy is semi-arid. Soils are very thin and poorly developed, with many areas of exposed bedrock. The dominant vegetation community is mopane savanna, with mopane and mixed shrublands, mixed broadleaf woodlands, and interspersed smaller areas of perennial grasses. Small pans are irregularly dispersed throughout the conservancy and these trap local runoff during the rains, providing important seasonal water sources for wildlife.

The conservancy derives its Herero name from its variety and relative abundance of wildlife including but not limited to springbok, mountain zebra, ostrich, eland, kudu, giraffe, oryx, duiker, warthog, steenbok, elephant, lion, leopard, cheetah, and hyena. Recent population estimates for several of these species are presented later in this chapter.

Ehi-rovipuka Conservancy is criss-crossed with cattle tracks and footpaths, as well as dirt tracks that are infrequently used by 4x4 vehicles. A main north-south gravel road passes along the western boundary of Etosha National Park and through the northerly portion of the conservancy (Figure 13). The road provides a connection to the major service centres of Opuwo to the north and Kamanjab to the south. In 2007, the road was under construction improvements and was being tarred, reportedly to accommodate the shipment of goods from the north to the southern coastal port of Walvis Bay. There is very limited traffic on the road, given the remote location relative to main population centres in Namibia.

Ehi-rovipuka Conservancy shares its boundaries with Etosha National Park and the Hobatere Concession to the east, #Khoadi||Hôas Conservancy and Etendeka Concession to the south, Omatendeka Conservancy and Orupupa Conservancy to the west and north (Figure 13). The boundaries of the conservancy were negotiated with the neighbouring communities and more will be said about this in Chapter 8.

Profile of Otjokavare

The village of Otjokavare was selected as the case study community for the reasons outlined in Chapter 1. Otjokavare is situated near the centre of Ehi-rovipuka Conservancy, immediately next to Etosha National Park. The park boundary fence and the north-south road along the east boundary of the conservancy pass right by the village. The village has been in its present location since 1970 and owes its location to nearby springs and a borehole developed by the South African administration, as well as the history of decision-making by the headman of that time, Kephas Muzuma. This story will unfold momentarily.

An informal census, as described in Chapter 2, was conducted for Otjokavare with my community assistant and interpreter at the beginning of my fieldwork in the community. A total of 152 dwelling units were counted and the total population was 556: 248 males and 308 females. While the average occupancy per dwelling unit was 3.7, the numbers of persons living in huts ranged from 1 to 12, with many dwellings occupied by 5 to 6 persons. The number of adults over 18 is 288 and the number of children under 18 is 268. Thus, about 48% of the population is under 18, revealing a youthful population. A total of 19 different extended families live in the village (Ujaha 2007 interview). The extended family households are patrilocal. When women marry, they live in the household of their husband. There are also many unmarried women with children still living with 1 or both of their own parents. Each extended family household occupies several dwelling units and there is a single holy fire for each extended family grouping. Only the family household head, the oldest male, can go to the holy fire and communicate through the fire with the deceased ancestors (Hilotoka 2007 interview; Ujaha 2007 interview).

The present headman, Langman Muzuma, lives with his extended family in Otjokavare and has his holy fire there. There are two traditional authorities (TAs) that overlap the boundaries of Ehi-rovipuka Conservancy (Figure 14). The traditional authority headed by Langman Muzuma covers most of the conservancy area and is comprised of the headman, a chairman/secretary and six councillors. In addition to the headman, the chairman/secretary and two of the councillors live in Otjokavare.

The typical layout of dwellings for each extended family is in rough straight lines, fronted by livestock kraals and the site of the extended family's holy fire (Figure 15 photos). Cattle, goats, a few sheep and chickens also populate the village scene. The village area is extremely rocky, with bedrock outcrops at and near the surface in many places. There is a discontinuous tree cover of mopane trees and the ground is heavily worn and trampled, with limited to no grazing value for cattle. There is a rough network of criss-crossing pedestrian and cart tracks, some serving as rough roads for motor vehicles. There are a very few motor vehicles and most of these are associated with government field offices or the conservancy, although a very few households have old vehicles in poor repair. The prevalent modes of travel are by foot and donkey cart.

The village infrastructure is poor. There is no electrical or water distribution to dwelling huts and no toilets or organized solid waste disposal. There are diesel generators for the borehole, clinic and school. Water is drawn by powered pump from the community borehole and hauled to dwellings. One water line serves the houses of the school teachers and another, the newly constructed health clinic and nearby government buildings. A water line also runs to a standpipe next to the conservancy office. Telephone service is supplied to the school, clinic and government field offices. Two small shops stock limited supplies of maize meal, canned goods, confectionary, bottled drinks and liquor. The small conservancy office has recently been built at the north edge of the village, in a site off by itself.

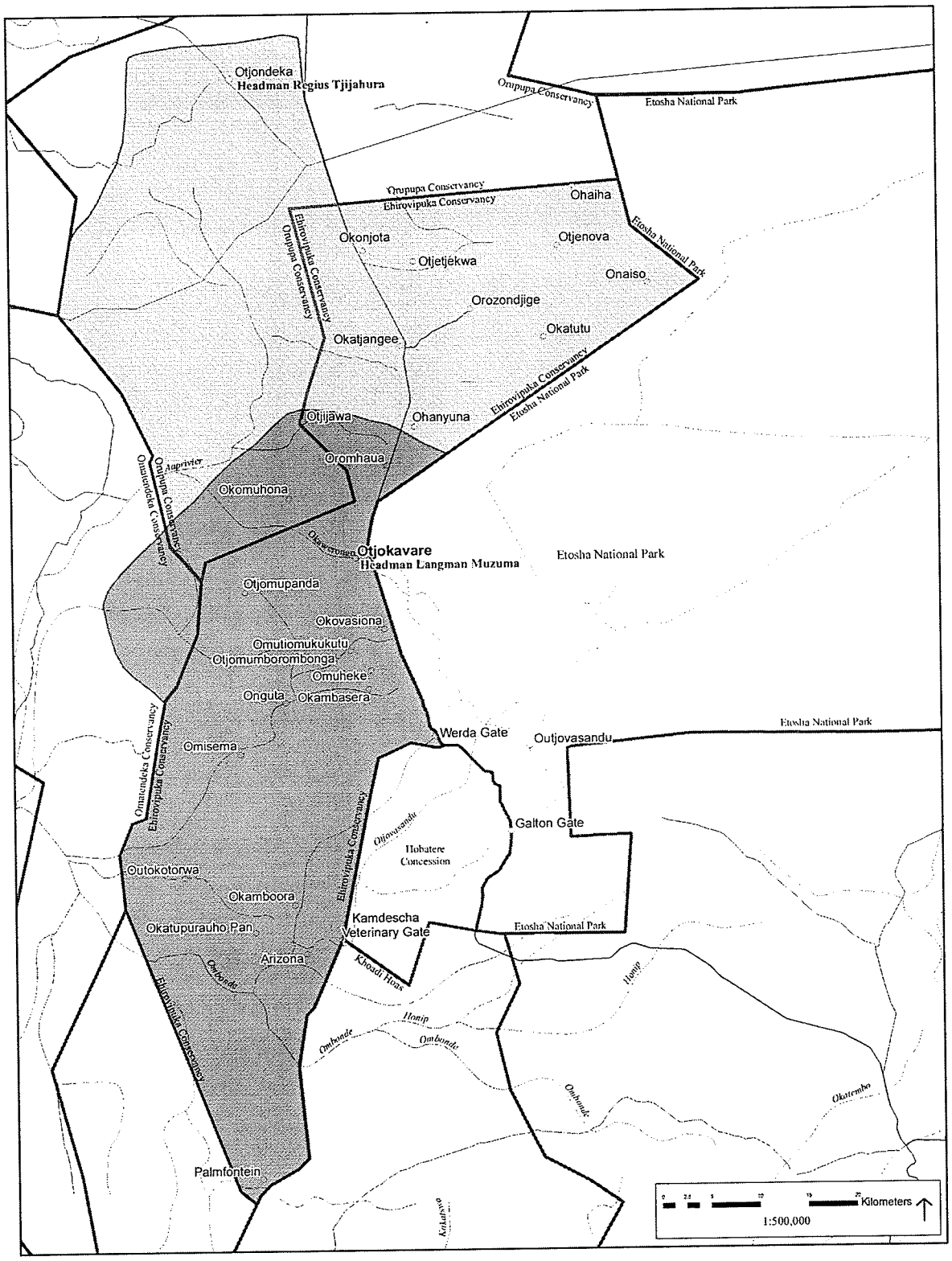
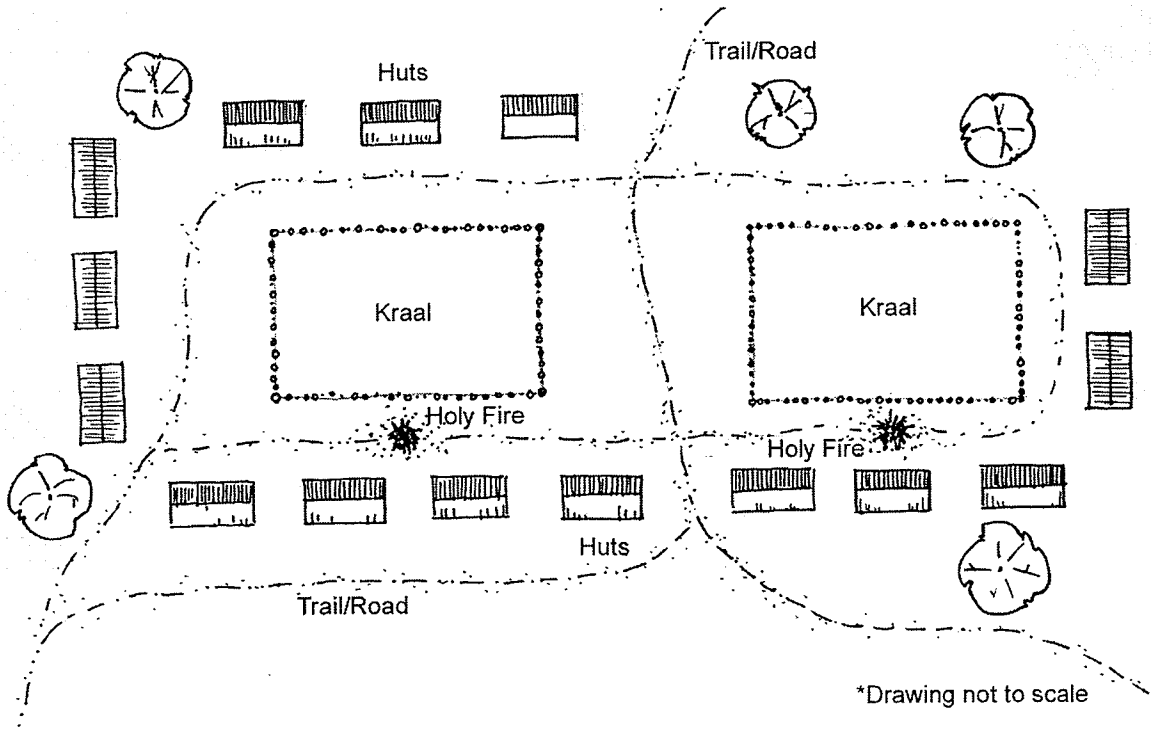
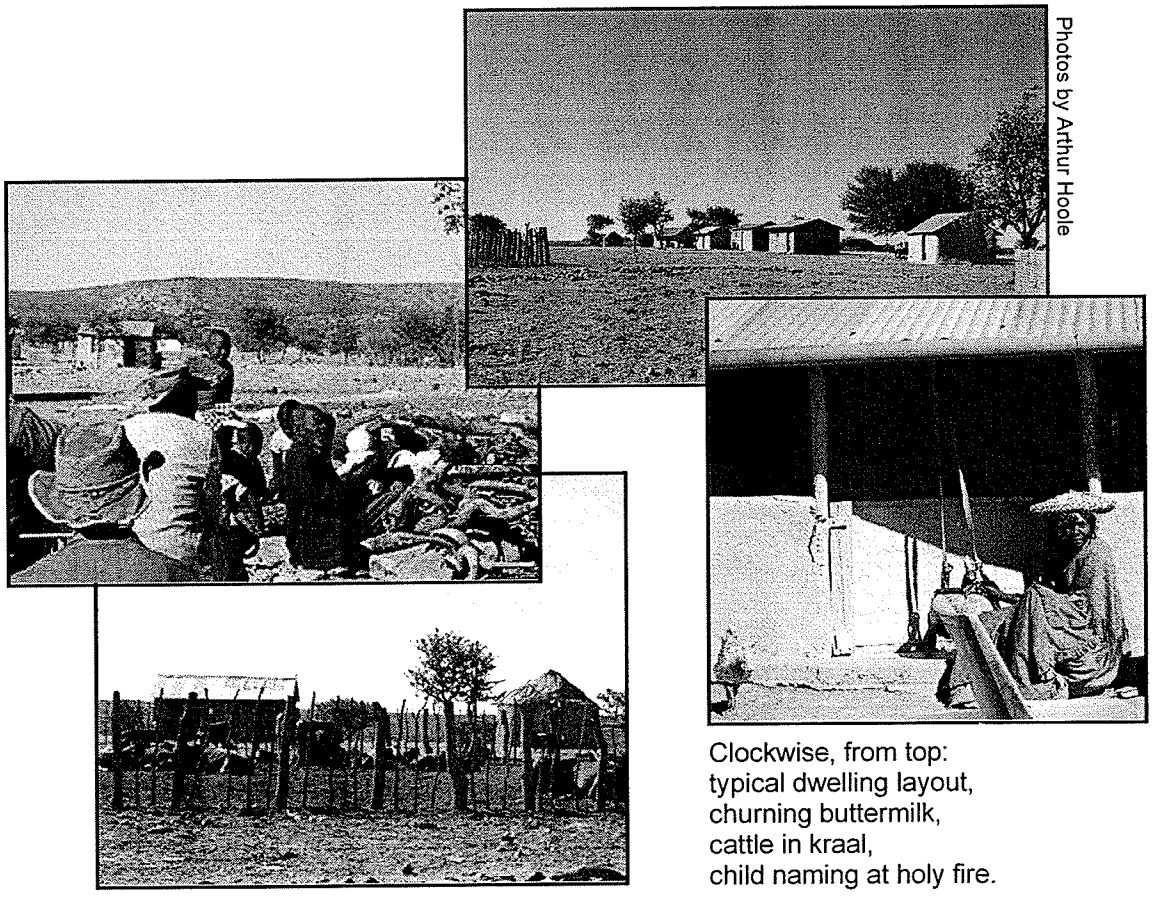


Figure 14. Traditional Authority Areas Overlapping with Ehi-rovipuka Conservancy
Ujaha 2007 interview





Clockwise, from top:
typical dwelling layout,
churning buttermilk,
cattle in kraal,
child naming at holy fire.

Figure 15. Scenes from Otjokavare

Kephas Muzuma Primary School (grades 1 to 7) is centrally located in the village. The majority of the 243 students enrolled in 2007 (180) are residential pupils who walk to school every Sunday afternoon and return to their villages on Friday afternoons. A total of 8 teachers work at the school. Most stay in houses and a trailer located next to the school yard. Most of the teachers do not live year round in the village and leave during school breaks. There are communal pit toilets provided for the pupils, but there are no showers, beds or furnishings in the hostels. The pupils sleep on bare concrete floors. The living conditions for the pupils at the school are deplorable by any standard. My wife and I have spent time in a number of rural African schools and the conditions at the Kephas Muzuma Primary School, and also at the school in Bergsig within Torra Conservancy, are some of the worst we have encountered in our travels.

The teachers make do with very limited numbers of textbooks, few teaching materials and large numbers of students (>30) in each class. The school received a modern, high speed photocopier from a donor, but no toner cartridges. The school cannot afford to buy toner cartridges and the photocopier sits gathering dust, a small icon of well-intentioned but ill-considered foreign aid. The hostels or dormitories are concrete block structures, with no interior furnishings. The pupils ('learners') sleep on their own blankets on the concrete floors and the hostels are not protected from any wildlife that might pass through the school yard. Snakebites at night in the hostels have been a very real problem (Hilotoka 2007 interview). The banded spitting cobra or zebra snake is especially notorious for entering the school hostels and grounds. Its bite can be fatal if not swiftly treated. Several students have suffered severe bites and permanent injuries from zebra snakes (Hilotoka 2007 interview).

Villagers collect firewood and cook over open fires, on hearths located at the front of their dwelling units. A very few huts have propane tanks for hotplates or small coolers. Most dwellings have very rudimentary furnishings, with no appliances and refrigeration.

A typical day in community life consists of the morning milking of cattle and goats by the women and children. Animals are turned out to pasture and they are left on their own for the most part, returning to the kraals in the evening. Milking also takes place in the early evening. Many cattle will travel out a few kilometres to graze and will not return for several evenings. There is some herding of cattle and goats, but this is not a daily occurrence as in the past. Today, life is more sedentary in the semi-permanent to

permanent villages located at government-drilled boreholes. Household chores are performed by the women, such as churning buttermilk, cooking and firewood collection. The men observed around dwelling units appear relatively idle compared to the women. Male socializing at dwellings seems constant, while many other men are absent as wage labourers outside the community. As an example, many young men from the community were away working as labourers on a nearby regional road construction project in progress during the research period.

Recent research in the Kunene region has found that livelihoods are primarily based on stock keeping, gardening, and limited employment. These activities were found to be supplemented by use of natural resources for food, medicines and occasional sale. Goats are critical assets for both consumption and sales (Long 2004). For income earning households, the average annual household income was just over N $8,000 (about CAD $1,300) and individual income averaged N $4,500 (about CAD $750). Sources of income included crop sales, live livestock and meat sales, tourism employment, natural resource products sales, cash payouts from the conservancy, in the case of Torra, and government pensions (Long 2004:70). My research did not gather similar data, but I infer from personal observations and other data I did acquire that Otjokavare households are highly impoverished, with incomes below those reported for the regional households as a whole. Those households earning income most likely do so from livestock sales, some wage employment, employment with the conservancy operations or trophy hunter, as well as government pensions. While some households have gardens, they are not a secure source of livelihood, given recurring drought and the absence of local water distribution. Certainly, the regular consumption of goat meat, as well as cattle meat on more special occasions such as marriages and funerals, is very important.

The life of the school pupils bears particular reiteration to complete this brief profile of community life. Most of the pupils are residential and stay in the hostels described above. They walk to their home villages, as distant as 20 km away every Friday, returning to school on Sunday afternoon for the start of classes on Monday mornings. Classes begin at 7:00 a.m. and finish at 1:00 p.m. The children receive a breakfast consisting of a bowl of maize meal porridge mixed with milk at 10:30 a.m. and are fed the same again at 6:00 p.m. Occasionally, they are fed springbok meat from the conservancy quota. In the last year, the school received 7 springbok to feed the 243 pupils (Hilotoka 2007 interview). I would observe that the deplorable living conditions of

the school pupils underscores the highly impoverished conditions of life in Ehi-rovipuka communities overall. It seems difficult to argue that conservation and development programs as represented by CBNRM and the conservancies have really achieved sustainable development and secure livelihoods (Turner 2004) as long as such community living conditions persist.

Memories, Maps and a Dream

One of several PRA methods used in the community-based research was the preparation of memory maps by village elders. The resultant maps were supplemented with interviews with the elders who prepared the maps. The resultant maps and stories that accompany them are presented here.

Figures 16 and 17 are memory maps prepared by three elders: Langman Muzuma, 95, who is the present headman in Otjokavare and who was born inside the Etosha National Park at Otjovasandu in 1912; Festus Kaijao Vejorerako, 80, born near Ombombo, outside the present day park and who is the half-brother of former headman Kephas Muzuma and the present headman Langman Muzuma and; Fanwell Ndjiva, 66, who was born in 1941 at Ombombo and who is a councillor with the Traditional Authority.

The memory maps were prepared by the elders with the assistance of Asser Ujaha. I was not present when they were drawn. They show places inside the present day park that the elders remembered, birthplaces and grave sites of persons that they recalled and the routes that members of the community followed with their cattle between grazing posts and villages during two periods: circa 1907/08 to 1928/29 and circa 1967 to 1974.

Concurrent with these maps being prepared I interviewed Festus Kaijao Vejorerako alone and then together with Fanwell Ndijva. I also interviewed the headman, Langman Muzuma, on a separate occasion. These interviews were essentially story telling by the elders in their Herero language, which were translated as they spoke and recorded in handwriting. Box 2 is a verbatim translation of two meetings. No attempt has been made to edit these for tense or sentence construction. They are the words of the speakers as translated by my community interpreter Asser Ujaha during the meetings. My summary interpretations follow the quotation.

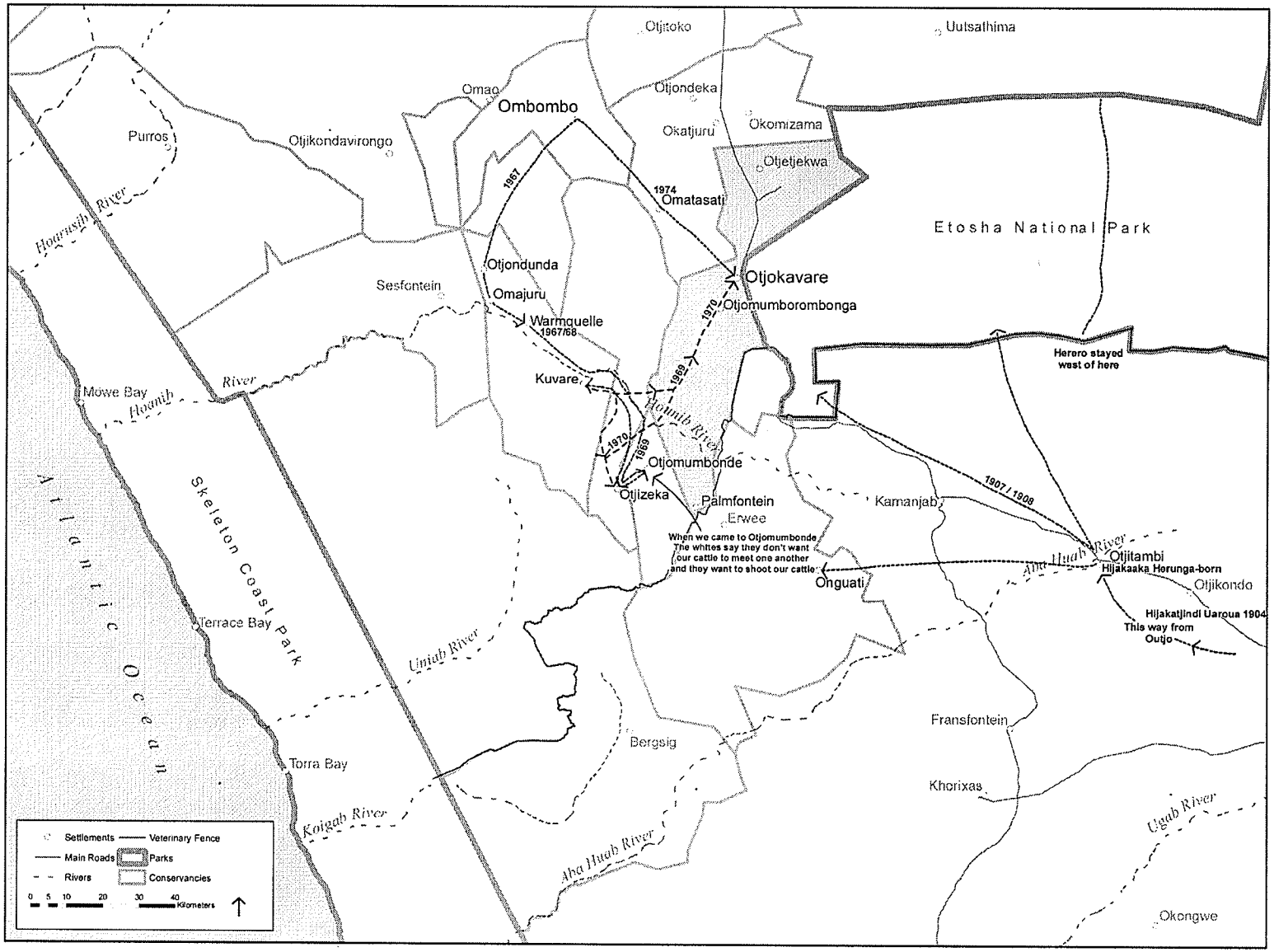


Figure 16. Regional Memory Map of Langman Muzuma, Festus Kaijao Vejorerako and Fanwell Ndjiva

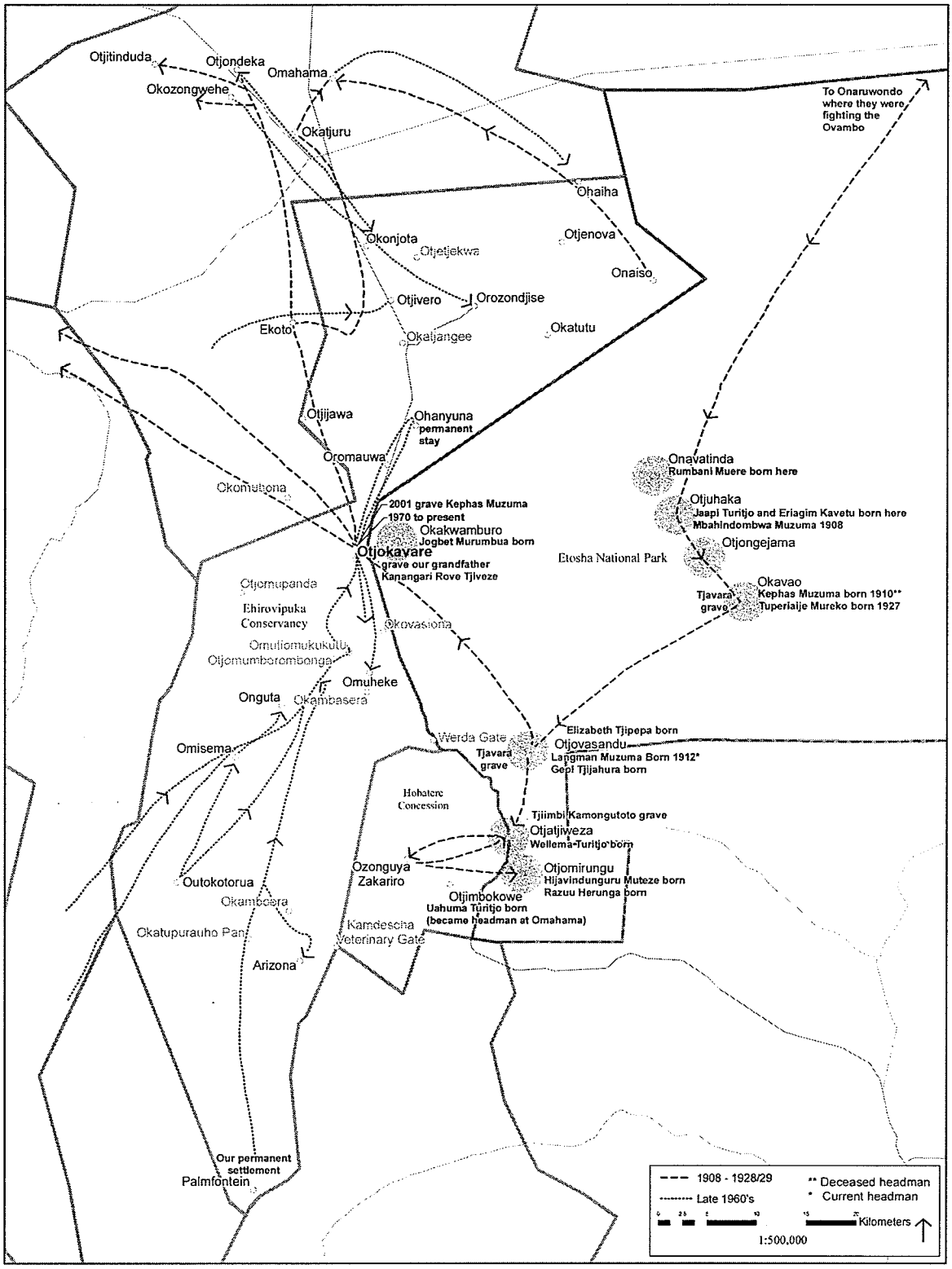


Figure 17. Conservancy Area Memory Map of Langman Muzuma, Festus Kaijao Vejorerako and Fanwell Ndjiva

Box 2. A Story of the Hereros in Etosha

Festus Kaijao Vejorerako (alone in first meeting, April 24, 2007)

Etosha is a place of my families. My grandfather and grandmother were born there; also my father and my mother. My older brother, Kephas Muzuma, former headman, was born at Okavao and Langman Muzuma, the present headman, was born at Otjovasandu. During that time the headmen had some power to control the area but the Hereros were killed by the Germans and we were split up as families and not too many were left. We were chased out of the park when the whites came from Angola to settle on farmlands in 1928/29. The South African Administration pushed us out.

Some of the headmen from other settlements today also lived inside the park. It was all Herero land. The Bushmen and the Herero lived inside the park. The Herero had their cattle there and the Bushmen killed our livestock if they couldn't get enough wild animals. The Herero planted maize and the Bushmen did not.

We moved from the places in the park in 1928/29 to Ombombo. My parents and others first went to see if Ombombo would be a good place and I was born there in 1927. We moved back to Otjokavare when the whites moved out in 1969. We moved up to where we are today. Our headman (Kephas Muzuma) was rich and had lots of cattle at Ombombo. More cattle were being born and he decided to come back to settle where he was born at Okavao. He asked permission from South African Administration and at that time this was a land of wildlife and at that time he was not allowed to go inside the park. When we came back some whitemen cattle were still here but officials said it was not healthy for the cattle to mix.

Festus Kaijao Vejorerako and Fanwell Ndjiva (meeting on April 27, 2007)

Festus spoke briefly at the beginning of this second meeting and then remained silent as Fanwell Ndija picked up the story.

From 1929 up to now he stayed where his brothers were (I asked him, based on our first meeting, why people moved from the present park area in 1928/29 to Ombombo). He indicated again that the people were told they must move away as the area was given to whites from Angola to move in there. An advanced party went to Ombombo in 1927 and found natural springs there. His parents were part of this group and he was born in that area in 1927.

The people had moved into the park area in 1907/08 from the south, provoked by the Herero/German war and his parents were caught up in the fighting. People escaped from the Omaruru area to Outjo and west to Onguati. They spread out from cattle posts between Outjo and Kamanjab. From there they moved north into Kaross and the west part of the park area.

Fanwell Njiva then speaks and tells the rest of the story.

My mother and father gave birth of me on the west side of the Ombombo area in 1941 on July 4. As a boy I started herding goats and sheep. At age 18 my father takes me to herd cattle. In 1967, the former headman, Kephas Muzuma, part of my father's family was a rich man and took our cattle and his together. I stayed close with Kephas Muzuma while I herded – he was born in the park. His parents were chased out by the South African government because the area was given to settlers coming from Angola and South Africa. The South African administration pushed people out of the Okavao area making way for the whites to come but they didn't really settle in this area as there were not enough of them.

In 1967 we moved from Ombombo to the area by Sesfontein and Warmquelle. The South African governor came to Warmquelle and told the headman that our cattle are not healthy and that we cannot move across the Hoanib River – next to the big mountain people cannot move cattle. Langman Muzuma stayed at Otjondeka and could not move his cattle. Over a certain line he could not go below it in the area between Otjvero and Warmquelle he couldn't go south of that.

When this news came to Kephas Muzuma, who was head of all the headmen of Kaokoland, he went to Opuwo to meet the South West African Administration Governor, who was a white man. Before Kephas Muzuma met with the governor he called to all the communities of Kaokoland and told them that that they chased me away from the land that I am born in and they wanted to bring in Angolans and South Africans. He felt they had enough land south of the park to farm on. Now I want to go back to the place where I was born but my cattle are said to be not healthy enough and my cattles' blood must be tested so that I can go back where I was born. The area I am born in will now be in Etosha National Park. This is the message that he wanted to take to the governor in Opuwo – that he wanted to move back there where I came from.

At the meeting with communities some people disagreed with Kephas Muzuma to take his cattle for blood tests to go back to where he was born to finish his life there. Some herders went south of the Hoanib River and moved south to Otjomumbonde before the blood testing was done. When they came to Otjomumbonde there was a white person farming in the area who saw the cattle and told the governor at Opuwo about the cattle. Kephas Muzuma was in Windhoek at this time and when he received this message from the South African governor he refused to move the cattle. He said the South African government can go and shoot the cattle and you will pay for the blood of those cattles. In 1969 this happened. Fanwell was a herder with these cattles and they were shamed to hear this news so they took the cattle and went back to the area of Warmquelle.

In 1969 when Kephas Muzuma came back from Windhoek the cattle were already back in the Warmquelle area. He asked why the cattle had not been left there and said to take them back so that the whites could come and shoot them if they want – we will bring more and start another herd. Kephas Muzuma really wanted to occupy this area. They took cattle back but only ones not breeding at the time and left others behind. Kephas Muzuma came to the herders again, including Fanwell, and told them to go and investigate places with enough water for our cattle and they went to Onguta, Otjomumborombonga and Otjokavare in 1970.

I asked at this point why Kephas Muzuma didn't direct them to go back Okavao. Fanwell Njiva continued:

There was no spring there – in old times dry for water. The distance was too far so we go step by step. This whole area was part of the park in those days and larger than now. They did eventually want to get back to the area where Kephas Muzuma was born. They needed an area with springs to water the cattle.

In 1970 the government drilled a borehole at Ohanjuna and didn't use it. Kephas Muzuma went to the government to put a pump there for the cattle and the government did that and 2000 oxen went to Ohanjuna.

In 1970, the MET shot your dogs sleeping right next to you because they were in part of the park and the dogs could catch wildlife. You could not have a gun, or a bow and arrow.

Kephas Muzuma's permanent house was at Ombombo but he moved around to visit the cattle posts because he was the chief of all. This place was in the middle of all and he was the chief of all. In 1975, after cattle is settled more people moved south with their cattle and Kephas. Muzuma brought his holy fire to Otjokavare to settle permanently here.

The park fence was built – a survey was done in 1972. At that time the Hereros disagreed with the fence and reported this to the chief of the Hereros. They took cattle across the survey line to test ground minerals. The government caught Kephas Muzuma and put him in custody at Kamanjab.

When Kephas Muzuma was at Otjokavare he asked the government to go back into the park and they said no. The government gave grazing rights north of the Ombonde River and south of Hobatere. Headman Muzuma met with the chief of the Damara and traded the grazing area to the Damara for the area south of the Ombonde River to Palmfontein.

Kephas Muzuma said to the South African government that he could not die with a good heart without returning to his birthplace inside Etosha. In 1980, there was a big drought and Kephas Muzuma ordered his people to cut the park fence and let cattle into the park. People from

the MET asked who cut the fence and Kephas Muzuma said it was him. Another delegation came from Windhoek and asked Kephas Muzuma, if we give you minerals, salt and grass for your cattle will you stop cutting the fence? Kephas Muzuma said yes and there was no more cutting of the fence.

Kephas Muzuma died and was buried at Otjokavare in July 2001, next to the road. A lot of chiefs come and say he is very brave and must bury him where all brave people are buried. But we buried him in an area taken by force by the South African government and everyone can see it from all directions – the owner of this area.

Interpreting the Elders' Stories and Memory Maps

The stories told by the elders and the 2 memory maps that they produced of their memories and reflections provide evidence to support the central research premise of indigenous local residents being displaced from a national park and becoming decoupled from resources that they had used and formed dependant relationships with. Indeed, the stories tell of how Herero people occupied and used the western part of present day Etosha National Park from at least circa 1908 until 1928/29. Living members of the present day community were a part of this history, including two of the elders who participated in the story telling and mapping. Moreover, Festus Kaijao Vejorerako, an 80 year old man, states that his grandparents and his parents were born in the park area, suggesting that Herero people lived in the park area, perhaps prior to moving into central Namibia and then their descendants returned during the German-Herero war. The elders report that their families moved back into the western part of Etosha in 1907/08 period (Figure 16), doubtless a part of the Herero diaspora that resulted from the German genocide described in Chapter 3. The elders indicated a north-south line in the western part of Etosha (Figure 16) that the Hereros stayed west of. This sense of Herero territory in Etosha may be attributable in part to the presence of the Hai||om Bushmen who were concentrated around the pans to the east.

An especially significant revelation from these stories is the reason given for the displacement of the Hereros from present day Etosha. Specifically, the people were "chased out of the park" when whites came from Angola in 1928/29. These whites were the Dorsland Trekkers; Boers who had escaped from the British at the Cape Colony in South Africa, trekked northwards through Botswana and into Namibia, eventually settling in southern Angola in the late 19th century. They were offered the opportunity to re-settle in Namibia by the South West African Administration. In 1928/29 the Herero were moved out because the trekkers were moving back from Angola and the SWAA wanted to create a free zone from African cattle which were thought to carry hoof and mouth

disease and lung disease (www.Sandscapes Namibia.com 2007; Owen-Smith 2007 interview). In other words, it was the competition for place and space with colonial settlers that was the pretext for re-locating the Hereros from present day Etosha, not an African manifestation of the Yellowstone Park model described in the opening chapter.

This fact is at odds with an underlying research assumption that local residents were initially displaced by a national park conservation agenda. In fact, as the elders' stories unfold further, we learn that the Hereros were relocated to the Ombombo area, which at the time, was still within Game Reserve No. 2 (Figure 9). As I noted in Chapter 5 when discussing the history of different boundaries for Etosha and its precursor Game Reserve No. 2, the rationale for including Ombombo in Figure 9 would be revealed. The Hereros were not in fact removed from the game reserve of the day but were relocated to a more remote part of it, away from a place and space intended for colonial farm settlement and cattle production. The concern about African cattle mixing with colonial farm cattle runs throughout the entire story and explains in part why the intended return to old traditional territories led by headman Kephas Muzuma in the 1960s was spurned by the South African administration.

It was only with the evolution of a park conservation agenda following the Second World War and the fencing of Etosha in the early 1970s described in Chapter 5 that the Hereros were denied access to the park area based on wildlife conservation. Until that time, similar to the experience of the Hai||om Bushmen also described in Chapter 5, wildlife harvest by the Hereros was tolerated in the historical game reserve areas, notwithstanding that written colonial laws suggested otherwise. This correlates well with responses to a question posed in the structured villager interviews inquiring about wildlife the ancestors may have used inside the park. Most of the responses (65%) from 40 villagers interviewed indicated it was the same animals they use today outside the park for meat. A further 23% of responses indicated that the ancestors had hunted animals inside the park for meat, skins and animal parts, while several noted some species that they cannot find outside the park today that were hunted by ancestors inside the park, such as red hartebeest and wildebeest. A few others mentioned the gathering of field foods inside the park by ancestors.

The vast and remote Kaokoland region was patrolled by only a handful of personnel, militating against indigenous wildlife use being denied or penalized by the government. Also, firearms were not widely used by the Hereros during this time and the

wildlife was harvested for subsistence use in association with semi-nomadic pastoralism. These various factors explain why the Herero use of wildlife remained largely uninterrupted by the early colonial administration.

A clear theme in the elders' stories and their mapping is Kephas Muzuma's vision to return his people to the place of his birth at Okavao in Etosha National Park. Kephas Muzuma was born at Okavao in 1910 and he had lived in the park area until being forced out with his parents in 1928/29. So, he was a young man when his family was pushed north to Ombombo and beyond the present day park boundaries. He had come to know the western part of Etosha National Park as his home and he never forgot the area. His father, Kamuhona Muzuma was the headman at that time and in 1946 (Ujaha 2007 interview) Kephas succeeded his father as chief. Figure 17 reveals the movement of the Muzuma family, along with others, to different grazing stations in the western part of Etosha. Kephas Muzuma's brother Langman Muzuma is born at Otjovasandu in 1912 (Figure 17). Langman Muzuma is the present day headman, succeeding Kephas Muzuma upon his death in 2001. Langman Muzuma and the other elders participating in the mapping chose to show the places that they remembered people being born or buried at. A strong sense of place emerges from the movements of people and the various sites depicted. It will be shown that villager interview results further reinforce this picture.

When Kephas Muzuma decided to move back to the park area in the late 1960s we see the various movements remembered by the elders and we learn that his goal is ultimately denied. By the time his advanced parties reach present day Otjokavare, they are frustrated in their attempts to move into the park area by the South African administration. Soon the park fences are built and efforts to move cattle back into the traditional areas are met with denials by the government and sanctions, including the temporary imprisonment of Kephas Muzuma when he directs his people to defy the park fence line. As the story draws to a close we are brought to the recent past and Kephas Muzuma's death in 2001. He never sees his people returned to the park area but his followers deliberately choose to bury him as close to the park boundary as possible. In a separate interview with his brother and the present headman, Langman Muzuma, he tells me that he wants to be buried inside the park at his birthplace of Otjovasandu. He also says that he wants the bones of his deceased brother and former headman Kephas Muzuma, to be moved to his final resting place at Okavao inside the park. Other villagers indicate in their interviews that they want to move the bones of the deceased headman

back to Okavao. There is a strong sense of a need for the community to recouple with its ancestral territory and cultural heritage inside the park.

Before elaborating further on findings pertaining to present community relationships with Etosha, some brief attention is warranted for the Herero place names depicted by the Elders inside the park (Figure 17). The meanings of some these place names were obtained from discussions with two of my community key informants, Asser Ujaha and Gerson Uaroua. Other meanings were obtained from a published source for place names in Etosha National Park (Berry et al. 1997).

There are four grazing stations or cattle posts depicted by the elders in a northwest alignment inside the park (Figure 17). Onavatinda means the family place of the family named Tinda and Otjuhaka means the place of the beasts (cattle) with white stomachs and hooves. Otjongejama is the place of lions and Okavao, is the place of the shield. Further to the south, Otjovasandu is the place of young men and a perennial spring made it an outpost for watering cattle in the winter months. The presence of lion, rhino and elephants required the fittest and most fearless young men to protect the cattle (Berry et al. 1997). Otjatjiweza is the place of the family Tjiweza and Otjomirungu is a place of meeting and people coming together. Otjimbokowe is a rocky place used as refuge during fighting. Okawamburo is a place of the small spring and Otjokavare is the place of small palms and much water. Onaruwondo is the place of small round houses. Thus, we see in the Herero meanings given to places, references to families, cattle, wild animals, water sources, vegetation, and terrain, all meaningful elements in the cultural life that took place in western Etosha.

Living Next to Etosha National Park

The structured interviews with 40 villagers in Otjokavare featured a series of questions that aimed to understand present day relationships between the community and the park (Appendix 2).

A fundamental first question asked villagers what it is like to live next to the park. Table 7 summarizes the responses obtained, revealing a high affinity with the elders' story telling and mapping.

Table 7. Living Next to Etosha National Park

Villager Responses	Frequency Mentioned	Percent of Respondents
Some people or their relatives were born inside the park, were chased out and want to return to their birthplaces	22	55
Followed our headman to return to his birthplace but the park was formed, fenced and "we couldn't move inside; South Africa Administration stopped us"	12	30
A good experience and a privilege: can see animals; learners can see wildlife, can use in the curriculum; promotes a positive awareness of conservation	10	25
Move the fence back 10-20 km, to provide more graze for our cattle and access to historically important areas and springs	6	15
Park and fence were not here first; the people were here first	6	15
It makes us angry – "we can't even get access to water in a drought"	3	7.5
Government will not let us graze in the park	3	7.5
Non-response	3	7.5

N=40

Most respondents (55%) reported the story of the people being chased from the park and the desire to return to the birthplaces of their ancestors inside the park. Almost a third (30%) referred to following their headman back to his birthplace, but being stopped by the park formation and fencing. Most of the remaining responses referred to frustrations dealing with denial of access to grazing and water in the park, while a small proportion (7.5%) did not reply to the question. A significant number (25%) noted the value of the park for seeing animals and for educating learners (pupils). A good deal of this response came from the school teachers and pupils interviewed. Virtually all respondents (98%) indicated that their ancestors had lived in Etosha National Park. I also conducted briefer interviews with a few people from other villages in the conservancy and some of the school students interviewed were from other communities. All respondents from other communities indicated that they had ancestors who had lived in the park.

When asked what people do in the park today, the vast majority (83%) said that they did *"nothing."* The remainder noted that some villagers had obtained jobs in the park. Two comments were particularly illustrative: "We cannot even bury our dead there any more" and; "The fence defines the relationship. We cannot go past it." When asked what benefits are received from Etosha National Park today, 35 of the 40 villagers interviewed (88%) indicated no benefits were received and 10% noted that jobs were provided by the park. Meat supply, conservation, translocation of animals, and the protection of villagers from predators each received only 1 or 2 mentions. One quote is especially illustrative: "The colonial system gave a lot of pain. We had hoped with the new government after Independence that we might get some rights but nothing has come. We are still crying from the past until now."

A final park-related question asked villagers what benefits they would like to receive from Etosha National Park. The most frequent reply was a desire for grazing rights, especially for emergency grazing (62.5%) during drought, followed by involvement in joint tourism development ventures inside the park (47.5%). A variety of other potential benefits were identified (Figure 18), including re-settlement in traditional areas, fences to protect the school hostel and yard in Otjokavare, the ability to visit traditional areas and burial areas inside the park and the translocation of some park animals for community use and revenue generation. As well, some villagers actually suggested removing the park fence to allow animals and people to move freely, the harvest of field foods and medicinal plants inside the park as in the past, with fewer responses also mentioning jobs, meat sharing, safe transport for learners to school, and burials in the park with ancestors.

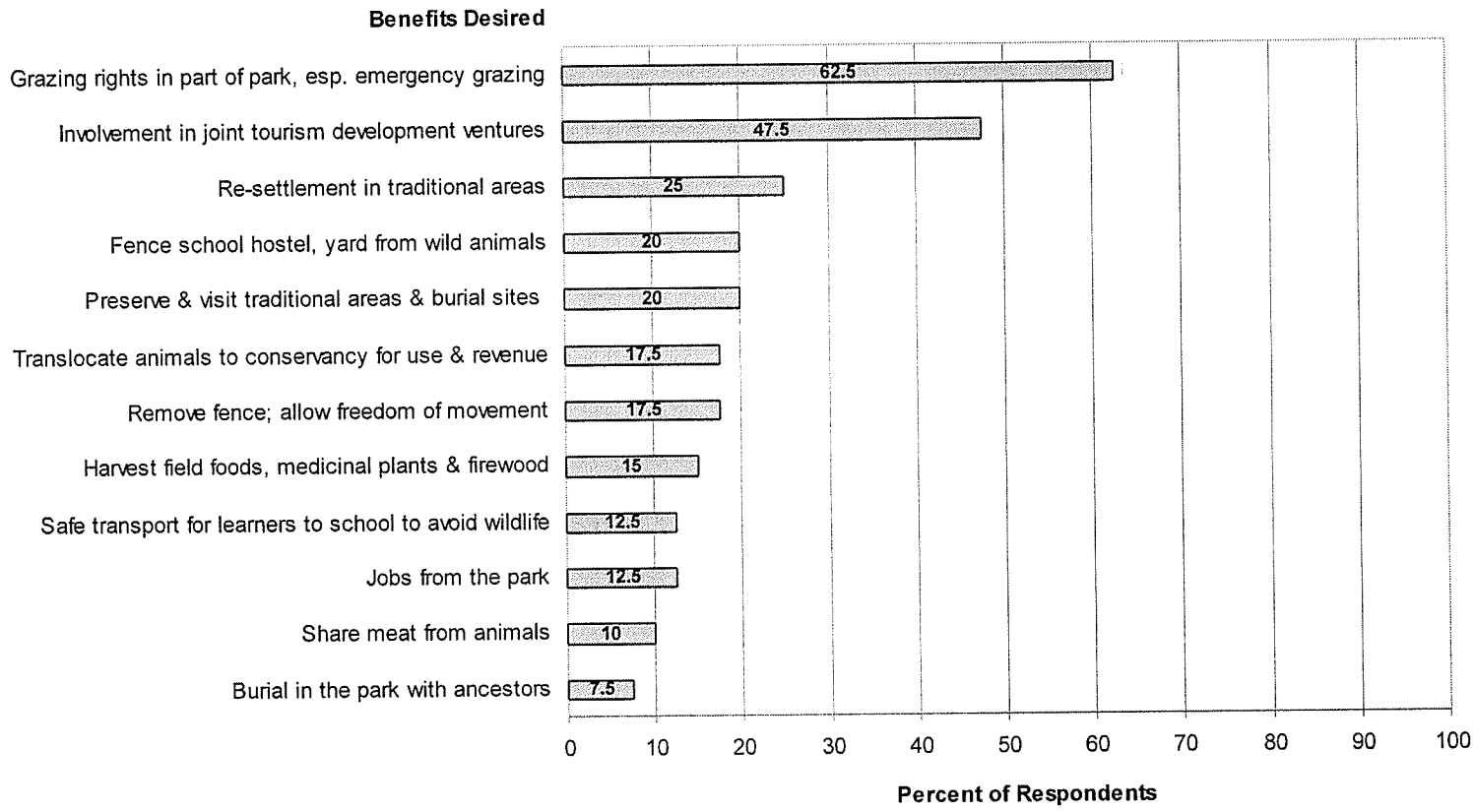


Figure 18. Benefits Villagers Would Like to Receive from Etosha National Park (N=40)

Summary Reflections on Park and Community Relationships

The findings of the community-based research concerning the relationships between the Herero of Ehi-rovipuka Conservancy and the Etosha National Park confirm the decoupling of a people previously resident in the present day national park from their ancestral territory and resource base in 1928/29. The consequences of this decoupling in terms of a sense of denial to place and the legacy of truncated relationships with the present day park area are clearly evident. The initial decoupling was not related to a conservation agenda imposed by game reserve precursors to the present day national park. Rather, the protection of space for colonial settlement and cattle farming prompted the removal of the indigenous Herero people to another part of the original game reserve, where they carried on semi-nomadic pastoralism, including the regular harvest and subsistence use of wildlife. A strong sense of original place in the present day Etosha National Park held by headman Kephas Muzuma produced his dream to return his people to the area of his birth at Okavao, inside Etosha. His vision is put into motion in the 1960s but is ultimately frustrated by a conservation agenda for Etosha that evolved after the Second World War, contributing to an ongoing sense of community antagonism towards the Etosha National Park. The park fence is erected in the early 1970s and successive Herero efforts to enter the park are thwarted by the government.

Present day villagers recall this story of their ancestors' struggle vividly and they describe a situation in which they have virtually no access to the park or institutional relationships that produce community benefits from the park. When I introduced the topic of living next to Etosha National Park in the villager interviews, one villager's response typifies the tone of responses: "There you come to the wound. People get much pain when they hear of the park."

Yet, villagers identify a number of potential community benefits that they could enjoy from living next to Etosha National Park. These will be more thoroughly considered following the presentation in Chapter 8 of results from other parts of the community case study concerning community attitudes to and relationships with wildlife and experiences with Ehi-rovipuka Conservancy as a common property institution. One villager invoked an idea that I will return to in the conclusions for this research. "I want to be in the area that we were in and the fences to be taken away so that we can move up and down and the wild animals can move where they are supposed to move."

Table 8 summarizes decoupling and recoupling mechanisms for social-ecological linkages between the Herero communities of Ehi-rovipuka Conservancy and Etosha National Park. The recoupling mechanisms are based on the prospective benefits that villagers identified in their interviews. Decoupling and recoupling processes are not merely mechanical, as stressed in the discussion of the Hai||om Bushmen in Chapter 5. Social and ecological systems that were decoupled have changed. Recoupling must occur in different forms, and include different dynamic processes. These are complex, non-linear, and will necessitate adaptive management for social and ecological resilience. These concepts are further illustrated in the concluding chapter.

Table 8. Decoupling and Recoupling Mechanisms Between Herero Communities and Etosha National Park

Decoupling Mechanisms	Prospective Recoupling Mechanisms
Forced relocation from park area to Ombombo; fences and fines later deny return to park areas	Complete removal or selective gating of park fence to permit community access and wildlife connectivity corridors – more porous park boundary for people and wildlife
Loss of reliable water and graze for livestock inside the park	Managed emergency grazing for community livestock during drought periods
Lost cultural access to ancestral graves inside the park	Community access into park to visit, tend and commemorate ancestral graves
Lost opportunities to hunt wildlife for domestic use and cultural sustenance inside the park	Park wildlife translocations and meat sharing; no need to hunt inside park with the conservancy in place
Lost opportunities to gather field foods and medicinal plants inside the park	Managed community access into park to harvest field foods
Loss of social memory for traditional rules of resource use and environmental knowledge of the park	Management collaboration between the park and conservancy – a real 'voice' in park management; employment in the park
Increased vulnerability to wildlife due to sedentarism	Increased local security around school sites, livestock kraals, water boreholes in collaboration with park management
Loss of community memory and park area community-based management practices	Empowerment through conservancy common property institutions; collaborations in park management
Lost and foregone opportunities for livelihoods inside the park	Partnerships in ecotourism enterprises within Etosha National Park; wildlife management
Social injustice of forced relocation from the park	Social justice for past wrongs by the state; community empowerment, access and collaborative resource/park management

CHAPTER 8:
COMMUNITY-BASED CONSERVATION AND EHI-ROVIPUKA CONSERVANCY

Organization

This chapter continues with the presentation of findings from the community case study. PRA methods were employed in Otjokavare and the Ehi-rovipuka Conservancy to illuminate villager attitudes and perceptions about wildlife, as well as their understanding and experience with the conservancy institution itself. The results of structured interviews, community mapping processes and key informant interviews are presented to create a picture of the place of the community in community-based wildlife conservation. Related details are elaborated for community wildlife monitoring and census processes, as well as governance and administrative organization features, to provide additional context for understanding and interpreting overall findings. Summary reflections are then offered, including further reference to a potential model of attributes for successful community-based conservation presented first in Chapter 6.

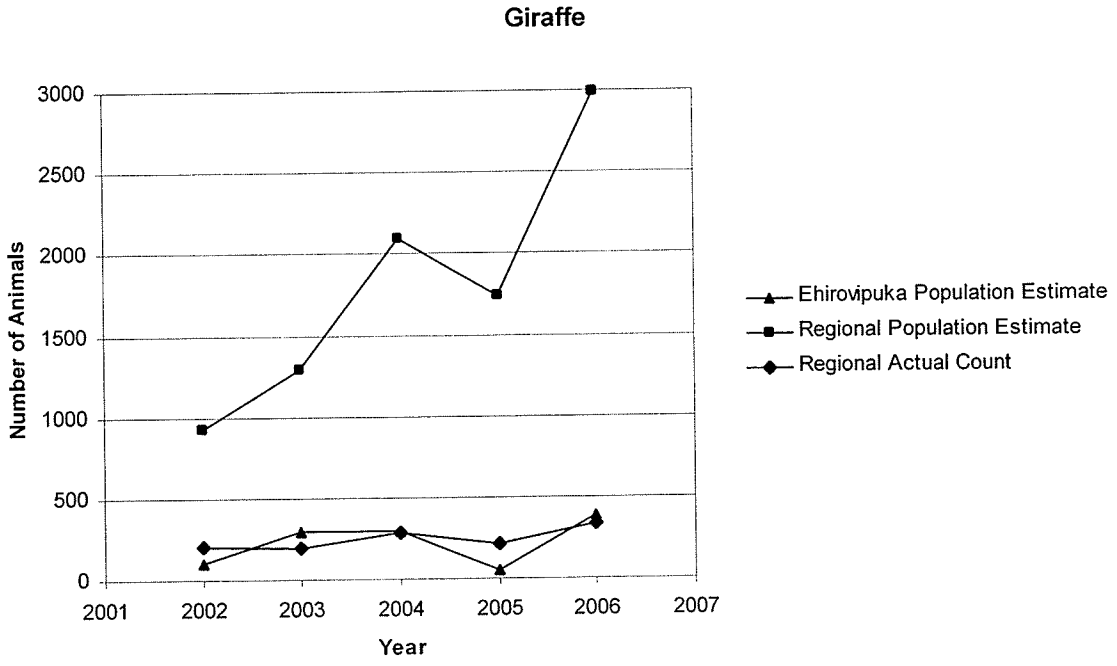
Community Perceptions of Wildlife and Conservation

Part of the community-based research aimed to better understand community attitudes and perceptions towards wildlife and conservation. The literature of CBNRM and the conservancies in Namibia is replete with the success of conservancies restoring wildlife populations and producing significant national and community benefits from wildlife in terms of conservancy revenues and employment (NACSO 2004; NACSO 2005, World Resources Institute 2005). The presentation of CBNRM in Chapter 6 has emphasized the national and NGO dimensions of CBNRM and the conservancy model for community-based conservation. The conservation efforts and role of the national parks is largely predicated on wildlife and ecotourism based on the wildlife spectacle. I wanted to better understand villager attitudes towards wildlife, as a basis for evaluating the robustness of the conservancies as institutions for wildlife conservation, as well as the prospects for biodiversity conservation linkages with protected areas management.

The community-based wildlife census process is briefly described, as precursor to findings about community wildlife values and attitudes. Considerable importance and staff resources are attached to this wildlife monitoring process by the conservancy and the national CBNRM system. The monitoring of wildlife populations and development of trend data rest at the heart of conservancy conservation activities.

Each June, conservancies, in cooperation with national conservation NGOs and Ministry of Environment and Tourism personnel, conduct annual game censuses. The monitoring process is community-based, led by the community game guards, with technical support. A vehicle-based road count is made along 5 different routes in Ehi-rovipuka Conservancy. The average strip width of these routes is 0.32 km and the area represented by the different route zones is approximately 1,417 km². Areas of mountainous or rough terrain are excluded in the preparation of population estimates and in the case of Ehi-rovipuka, this area is about 28% of the overall conservancy area, or 562 km². Thus, the population numbers derived are underestimated for the overall conservancy area and are considered conservative by the agencies involved, building in a safety factor when quotas are ultimately set.

Once animals are counted along a strip route, the length and width of the strip route are used to calculate the strip area; then it estimated how many times the strip area 'fits' within the route zone area that it transects. The actual number of animals counted is then "corrected" (multiplied) by this factor of the number of strip areas that can fit within the zone. Resultant route zone estimates are further refined by information from other monitoring methods such as foot patrols by community game guards, specialist species studies conducted from time to time, and local knowledge, to arrive at a consensus for the annual population estimate. Further modelling and adjustments to animal estimates are carried out by a supporting natural resources working group in Windhoek, as input to the annual quota setting process with the Ministry of Environment and Tourism (Matongo 2007 pers.comm.; Stuart-Hill 2007 pers.comm.). Data for four species are illustrated in Figures 19a and 19b. Actual regional count numbers and resultant population estimates, as well as Ehi-rovipuka Conservancy population estimates are shown in each graph.



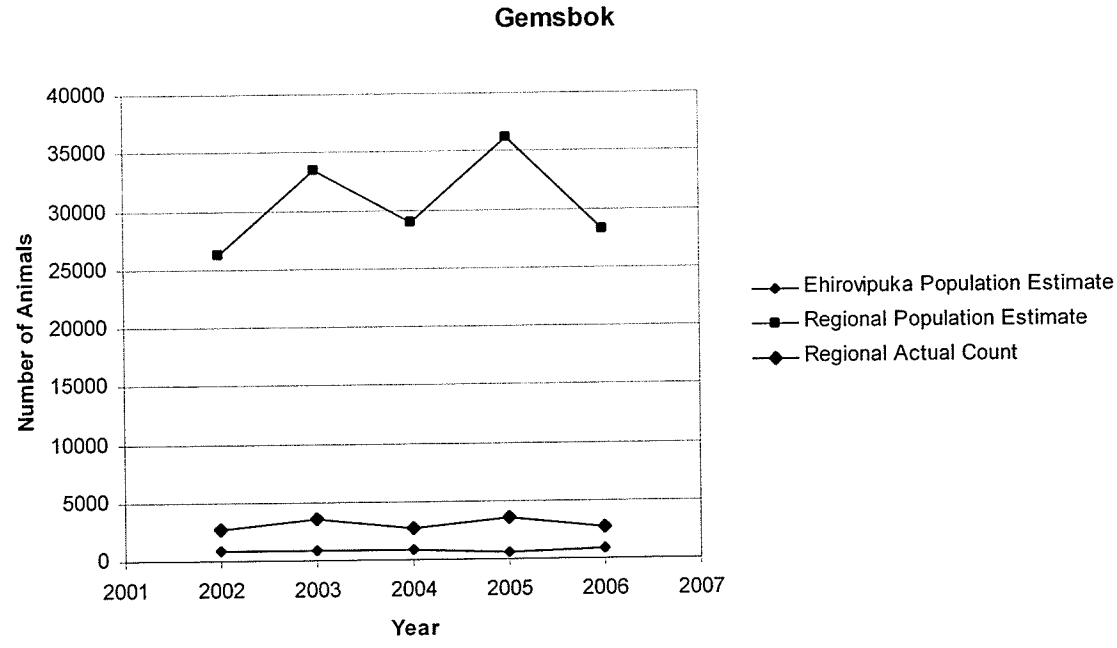
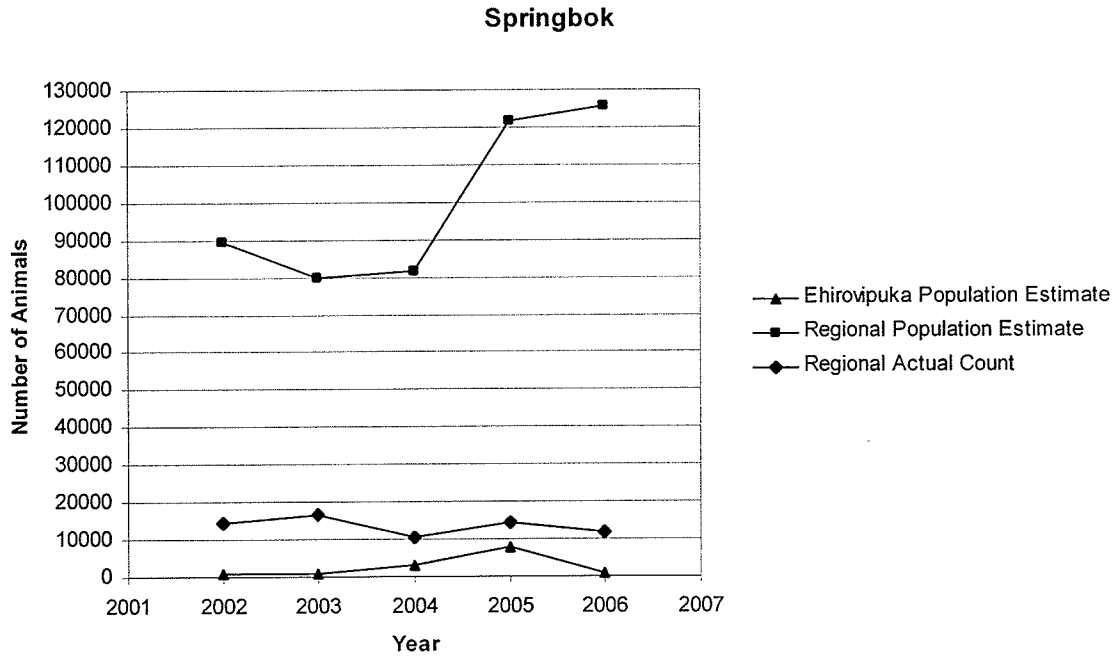


Figure 19a. Regional and Ehi-rovipuka Wildlife Census Data

Adapted from: CONINFO Information System 2006



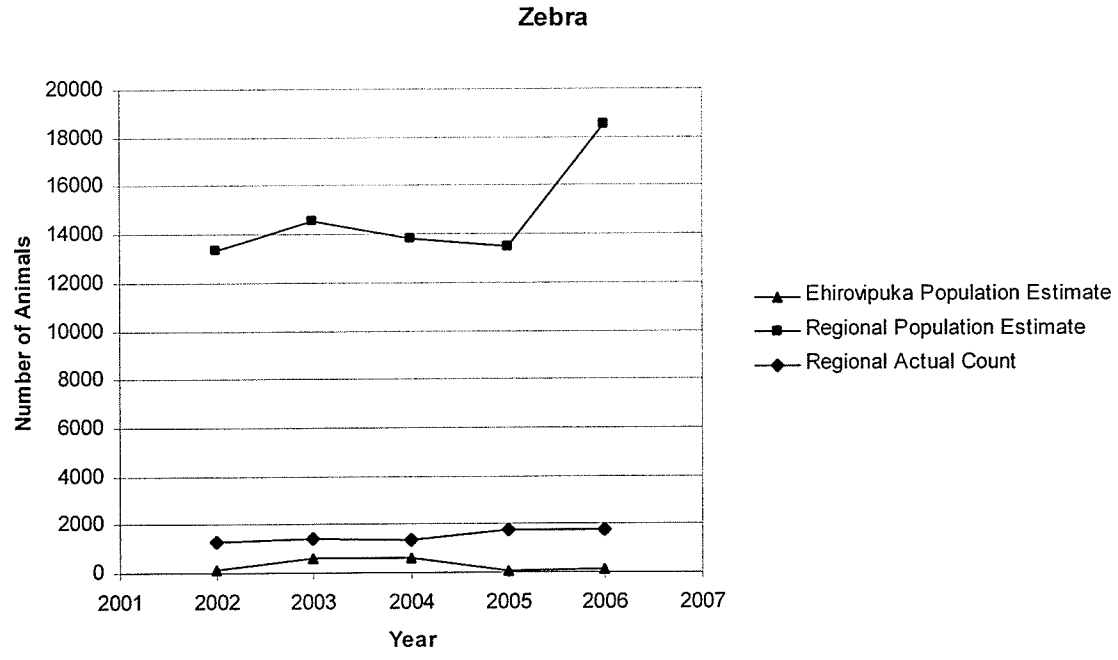


Figure 19b. Regional and Ehi-rovipuka Wildlife Census Data

Adapted from: CONINFO Information System 2006

These data show that trends vary from species to species, as well as from local levels to regional level, primarily attributable to varying movement patterns for different species. For Ehi-rovipuka, gemsbok populations remained relatively stable, with 900 estimated in 2002 and 882 in 2006. For giraffe, the conservancy estimated population increased, from 100 in 2002 to 382 in 2006. For springbok, the estimated population also grew from 700 in 2002 to 914 in 2006. There was an inexplicably high number of 7951 reported for Ehi-rovipuka's springbok population in 2005. For Hartmann's mountain zebra, estimates remained relatively stable again, with 150 in 2002 and 131 in 2006. I inquired about rainfall over this period and it was reported that rains were generally pretty good (Stuart-Hill 2007 pers.comm.). The only explanations I received for large spikes in population estimates such as the 2005 springbok count, was the impact of the area excluded feature in the estimation process, the wide movements of animals and unknown field changes in sampling method and intensity (Stuart-Hill 2007 pers.comm.).

Ehi-rovipuka Conservancy's boundaries represent the area in which the conservancy has recognized authority to manage wildlife and derive benefits from the wildlife resource. Registered members of the conservancy share in the benefits that may be derived from wildlife and the boundaries exclude anyone else from the use of the conservancy's wildlife. Related aspects of these provisions such as membership requirements were described at the beginning of Chapter 7. The conservancy is responsible for the monitoring of populations as illustrated above. Based on the wildlife numbers resulting from the annual censuses, the conservancy makes a request for annual quotas to the Ministry of Environment and Tourism. The ministry reviews the census results with a technical group of supporting conservation NGOs and grants the annual quotas based on this process towards the end of each calendar year. The ministry also sets a five year quota framework for the conservancy.

Turning to attitudes and values villagers place on wildlife, a series of questions were posed (Appendix 2) to probe these topics and results are now presented, before giving more focussed attention to Ehi-rovipuka Conservancy as a community-based wildlife conservation institution.

My first question inquired about the importance of wildlife to household life. The question was closed-ended, and asked respondents to select one of three possible choices – wildlife is 'important'; 'somewhat important'; or 'unimportant.' Respondents

effectively changed this range of possible responses, totally avoiding the 'somewhat important' choice and adding another response – 'very important.'

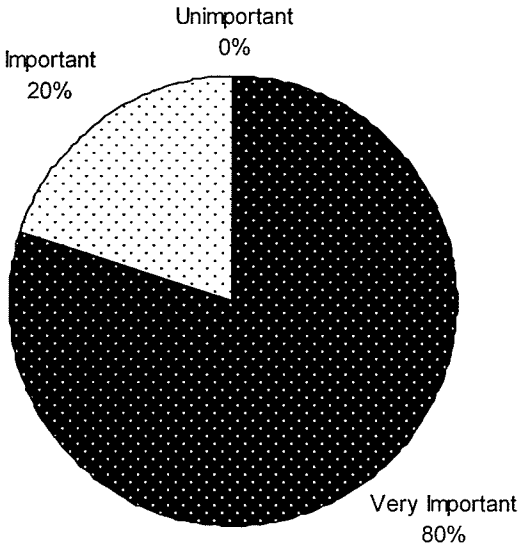


Figure 20. Importance Ratings of Wildlife to Community Households
N=40

Villagers gave a variety of reasons about why wildlife is important to them (Figure 21).

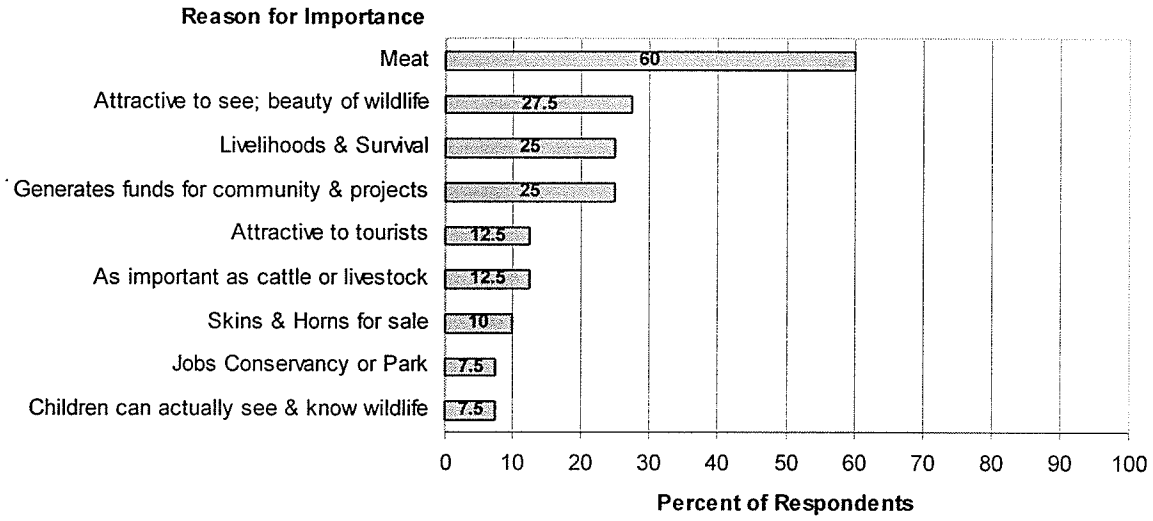


Figure 21. Reasons for Wildlife Importance
N=40

Most (60%) indicated that the meat from wildlife was the reason for its importance to households. A closely related factor was the importance of wildlife for livelihoods and survival. The inherent beauty of wildlife, as well as its role in generating revenues for community projects, was also important.

Villagers were asked which wild animals they liked or disliked and the reasons for their preferences (Figures 22&23). It is mainly the herbivores that were favoured, although 28% of the respondents indicated that they liked all wildlife. A few other wild animals were mentioned only once as being liked by respondents, including warthog, hares, leopard, rhino and mopane worms. The main reasons given for liking wildlife included their appearance and other traits of the species, meat value and generation of income. It is somewhat surprising that the appearance and characteristics of animals ranked ahead of benefits derived from wildlife.

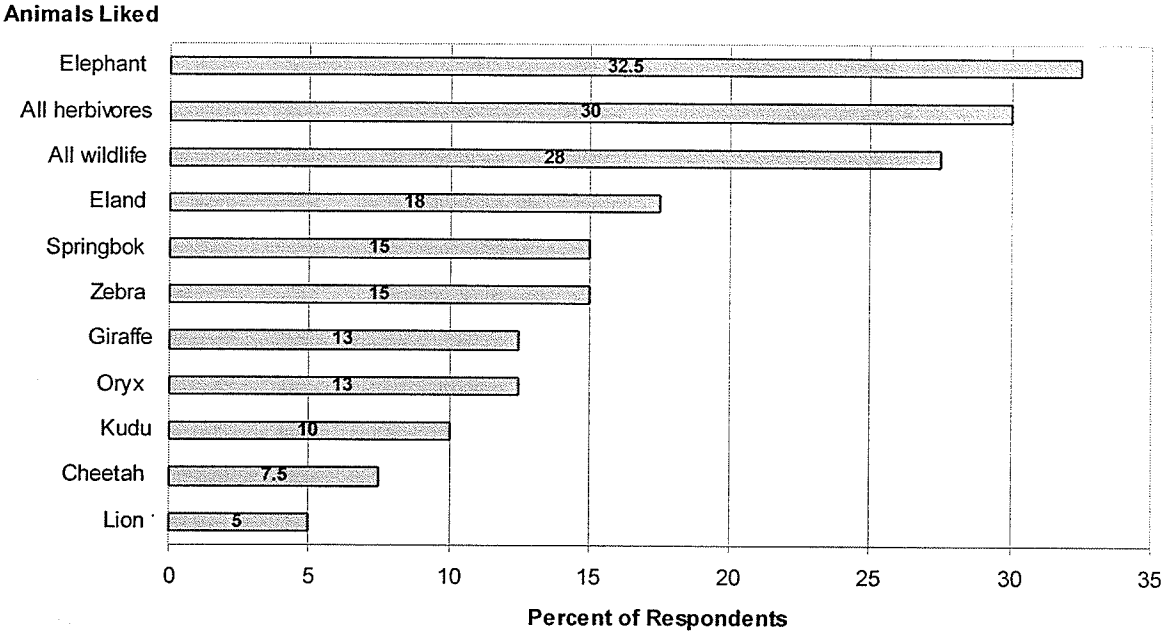


Figure 22. Wild Animals that are Liked by Villagers
N=40

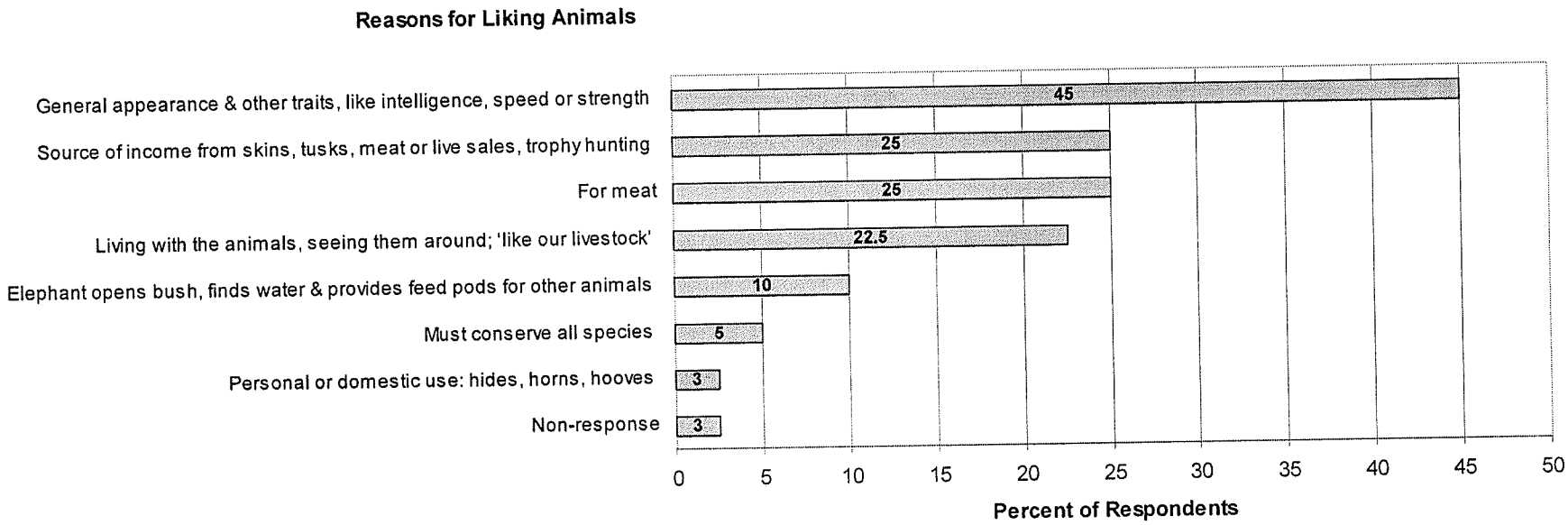


Figure 23. Villager Reasons for Liking Wild Animals

N=40

The wild animals that are disliked are mainly the predators (Figure 24), with 40% of the villager respondents noting they disliked all predators. Lions were specifically disliked more than any other individual species, followed by elephant. Baboons, ostrich, kudu, oryx and springbok were each mentioned only once as disliked animals. The reasons given for disliking wild animals (Figure 25) predictably center on danger to humans (52.5%), livestock destruction (45%) and loss of property (32.5%).

It is interesting to note the ambivalence towards elephant. Almost a third of the respondents identified elephant as an animal they liked and 17.5% indicated they disliked elephant. This finding is at odds with some of the human-wildlife conflict literature in Namibia that suggests elephants are only a problem for communities. Perhaps inherent traits of elephant such as their dominant size, intelligence, as well as their ecological roles of creating habitats and water sources for other wildlife explain their relatively high ranking as an animal appreciated by villagers. Another noteworthy finding is the level of antipathy towards predators. While not unexpected in terms of perceived and real threats posed by predators, this finding may have implications for accounting for the role of predators in overall ecosystems function and indeed, as animals of particular interest and attraction in wildlife viewing by tourists.

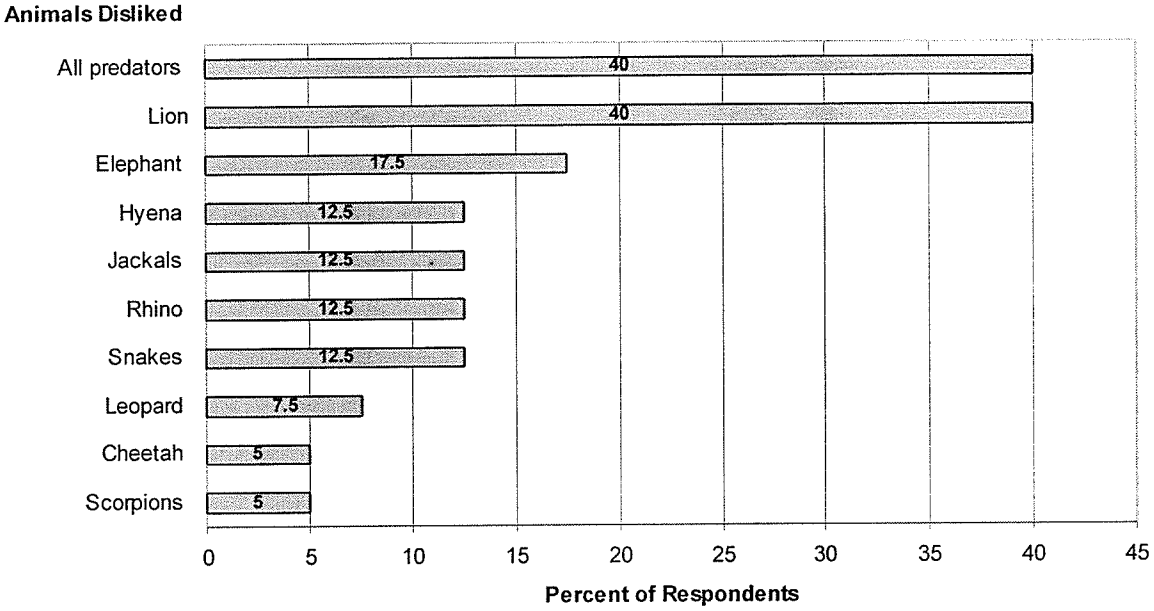


Figure 24. Wild Animals Disliked by Villagers
N=40

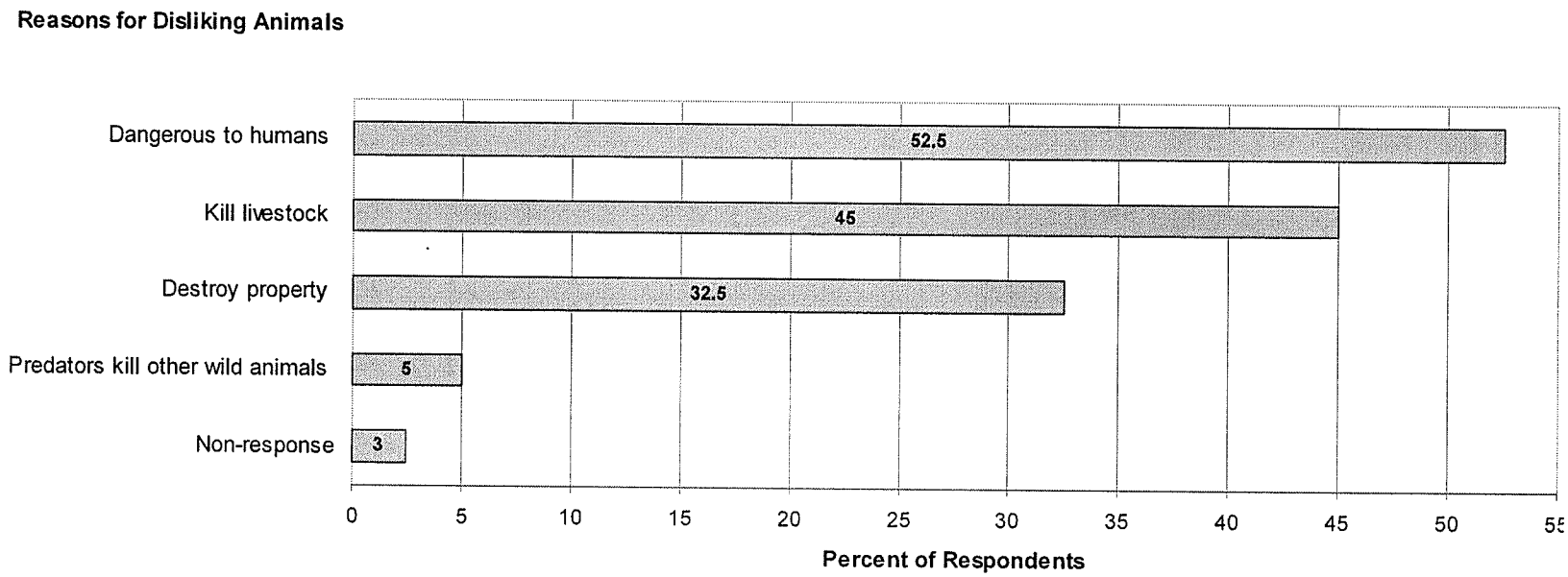


Figure 25. Reasons Given for the Dislike of Wild Animals

N=40

Villagers were asked what causes increases and decreases in the numbers of wild animals. The vast majority (78%) identified rainfall as the main cause of increases, along with conservation practices including the control of hunting, conservancies and parks, monetary rewards, community game guards and monitoring (53%). Natural reproduction was mentioned once. Decreases were largely attributed to drought (85%) and uncontrolled hunting/poaching (33%). Predation, uncontrolled settlement, translocations of animals like black rhino away from the conservancy and trophy hunting of prime male animals were each mentioned once or twice as other factors causing decreases. Overall, villager responses show the prevailing role of reliable rainfalls and drought as principal determinants of wildlife numbers.

Another topic related to problem animals. Villagers were asked how their ancestors had protected their livestock from wild animals and results are summarized in Table 9. Responses reveal important differences in past practices from the much more sedentary present day community life. Most respondents (73%) identified that herders stayed with the livestock and brought them into kraals at night in the past. Other responses emphasized a more active knowledge of predators by the ancestors that helped protect livestock.

The following comments made by some villagers further capture the essence of the contrasts between present day care of livestock with past practices:

- "Today, no one herds the cattle. They are sent out on their own and the children are in school";
- "Well, you can see, the people are just sitting around here in the village and the cattle move out into the fields by themselves";
- "When there were problems with cheetah, they would take the calf of a donkey and put it in the kraals with the goats so that when the cheetah came, the mother donkey would make a lot of noise to protect her calf."

Table 9. Methods Employed by Ancestors to Protect Livestock from Wild Animals

Villager Responses	Frequency Mentioned	Percent of Respondents
Herders stayed all day in the fields with the animals, bringing them back to the kraal at night	29	73
Animals kept in kraals at night	13	33
Kill predators with bows and arrows that attacked livestock	11	28
Wait, watch and kill predators attracted by carcass or livestock bait	5	13
Knowledge of wild animals was better in the past: knew where predators were; knew spoor of problem predators, tracked and killed; kept cattle moving	5	13
Youth herded goats and adult men looked after the cattle	5	13
Trained dogs to look after goats and sheep	3	8
Set traps for predators in the fields	3	8
Young boys slept by fires around the kraals at night to guard animals	3	8
Non-response	2	5

N=40

Local Knowledge of Wildlife

Several other methods were employed in the community-based field research to further illuminate community perceptions and knowledge of wildlife, as described in Chapter 1. Local knowledge maps for seasonal wildlife distributions and poaching/ problem wildlife incidents were prepared by three knowledgeable villagers engaged in wildlife management responsibilities with Ehi-rovipuka Conservancy. Local knowledge maps of field foods and medicinal plant distributions were also prepared by three village women. Finally, an exercise was conducted with the Grade 7 pupils of Kephas Muzuma Primary School completed an exercise to learn about wildlife and park perceptions among young people.

The local knowledge mapping of wildlife data at the conservancy level aimed to determine if changes in the seasonal distribution and movements of wildlife as described in Chapter 3 were detectable by villagers at conservancy scale. As well, I wanted to learn from knowledgeable villagers about the levels of poaching and problem wildlife occurrences experienced and how these might have changed from the start-up of Ehi-rovipuka Conservancy in 2001/2002 to the present day (Figure 25). I also asked

participants to draw regional wildlife distribution maps (Figure 26). My request for the wildlife mapping specified five species to be mapped as shown in the map legends. Brief mapping instructions were also provided to the participants for the symbols and colours to be used to distinguish species, two different seasons, and the point data of wildlife incidents. I asked the participants to show the best areas for seeing the different species for the two different seasons. Each participant received the mapping guidelines through my community field interpreter, who was one of the mapping participants himself, and they completed the maps independent of me and one another. Then we met as a group to verify the maps. The resultant maps (Figures 26 & 27) display considerable variability in level of detail and I did not attempt to reconcile such differences. It was evident in the group discussion and verification session that each participant had paid different attention to details, especially in the regional wildlife distribution maps. It was acknowledged by the participants that Asser Ujaha's maps of wildlife distributions were the most detailed and the others did not contest those additional details.

Changes in seasonal distributions of wildlife from summer to winter seasons are detectable at the conservancy level. This is evident for lion, as example, with greater movement and dispersal in the dry winter period compared to the wetter summer period. Dispersal changes are also evident for elephant. Springbok, as described in Chapter 2, reverse the usual pattern of more species dispersal during the summer rainy season. They concentrate on short green pastures during the rains and disperse into smaller herds during the dry season. This is evident in the local knowledge maps, especially those of Asser Ujaha.

Notwithstanding the variability in individual mapping details, all maps display some common patterns of species occurrence. For example, springbok are consistently shown as dominant in the north part of the conservancy. This is a more open, less rugged area, consistent with the description of preferred habitat conditions for springbok described in Chapter 2. Areas where lions are best seen are consistently shown along the southeast side of the conservancy. These observations are consistent with findings of a recent study that reported four lion prides living in western Etosha National Park, with two prides regularly breaking through the park boundary fence (Stander & Esterhuizen n.d.).

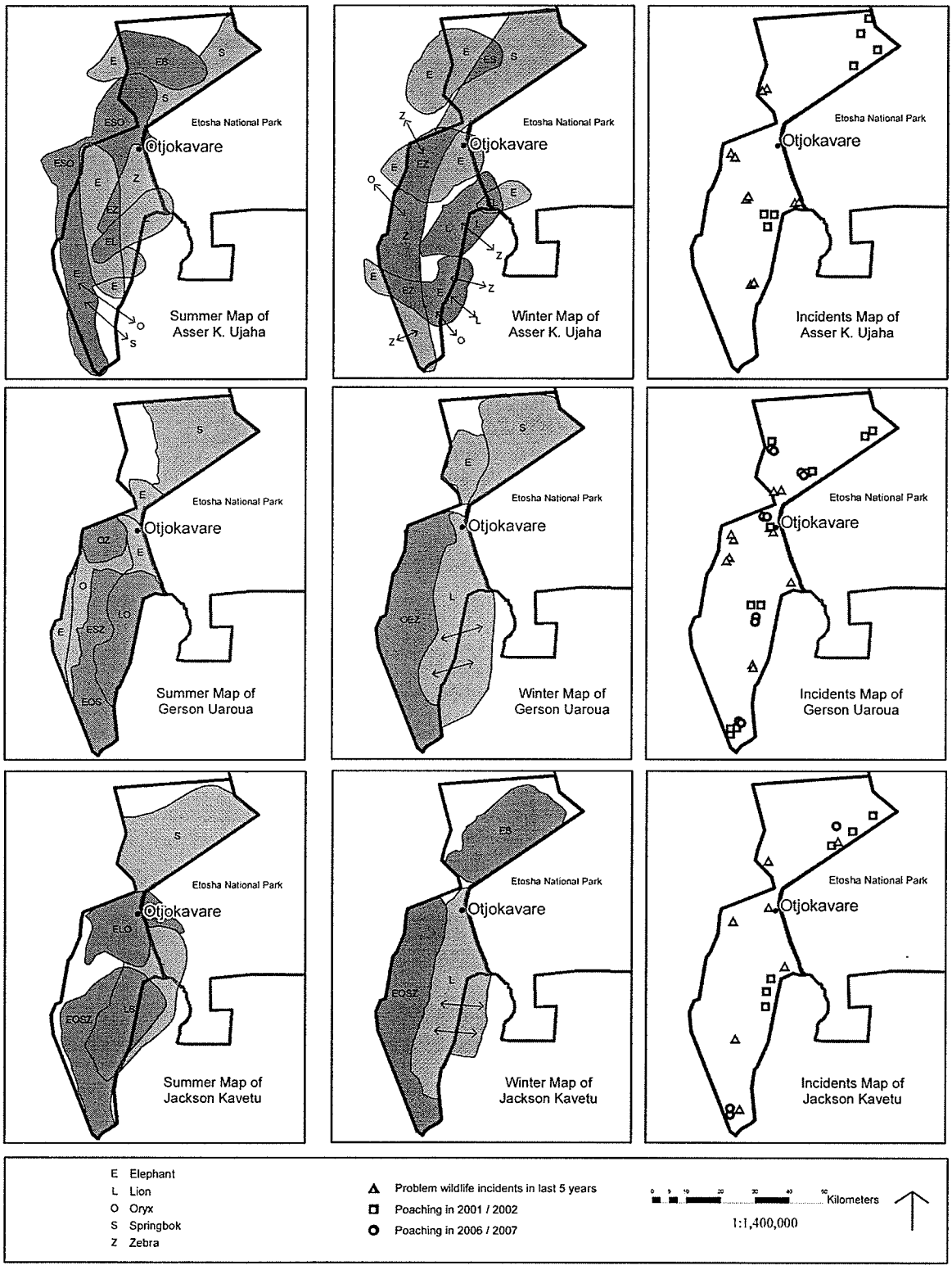


Figure 26. Local Knowledge of Wildlife in Ehi-rovipuka Conservancy

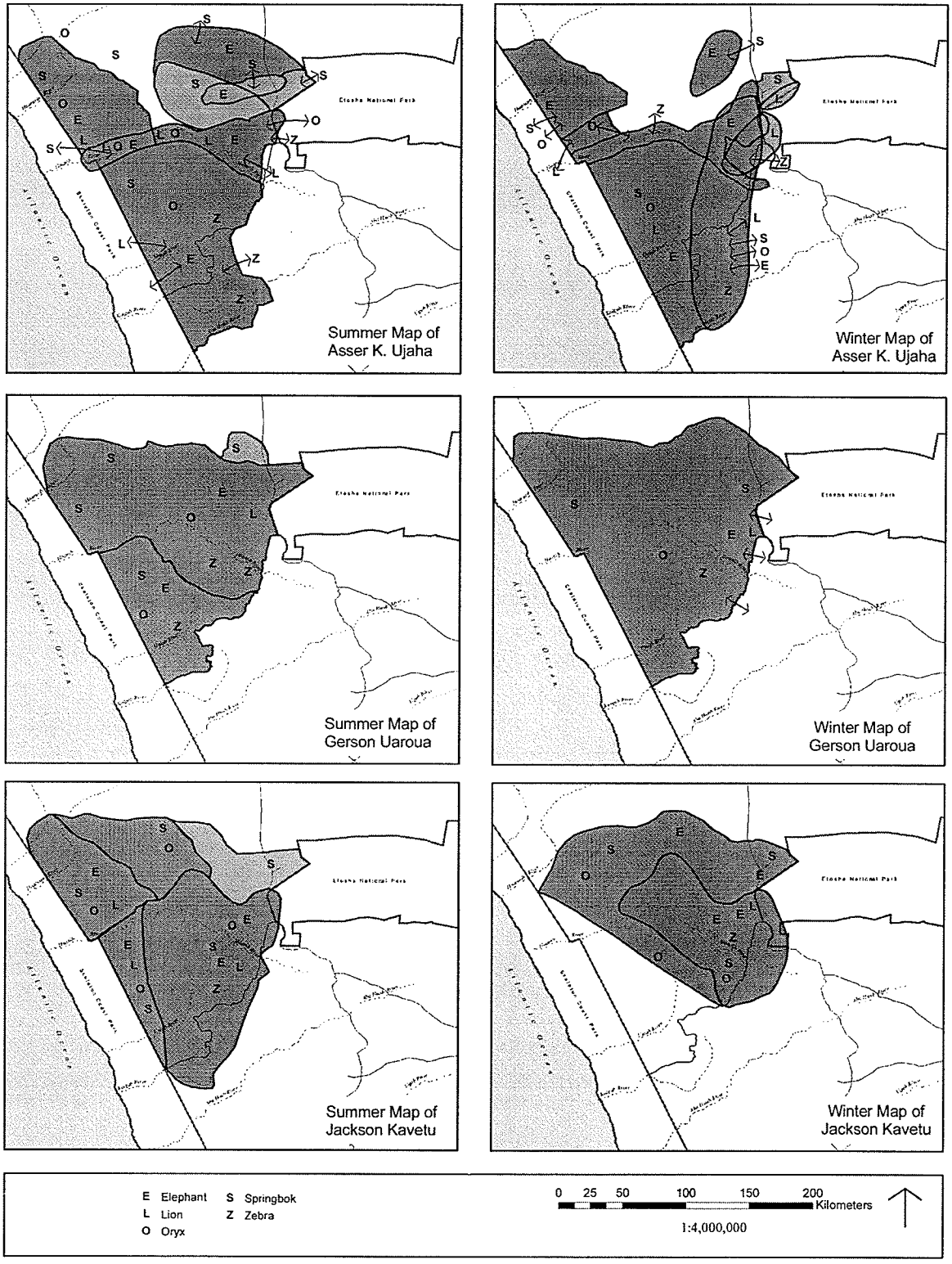


Figure 27. Local Knowledge of Regional Wildlife Seasonal Distributions

Hartmann's mountain zebra are predominantly shown in the southwest reaches of the conservancy area. This is more rugged upland country and the local knowledge of this animal's distribution is quite consistent with the western science description of the mountain zebra's preferred habitat in Chapter 2. Elephant seem to be seen periodically throughout most of the conservancy area, but greater concentrations are evident in winter months to the north. Considerable overlap of areas where the five different species are seen is also evident for the conservancy area, as well as lines of wildlife movement, especially in the winter months. The lines of movement depicted are all in the area of the conservancy south of Otjokavare. In Asser Ujaha's winter map of the conservancy area, lines of movement roughly correspond with the Ombombe River corridor and associated tributaries. The regional maps of Asser Ujaha illustrate the importance of the Hoanib River watershed for wildlife, another aspect of local knowledge consistent with the western science description presented in Chapter 2. Generalized patterns of greater species dispersal in summer as compared to winter seasons are also evident in the regional wildlife distribution maps. Some of the maps also show some wildlife linkages to the western parts of Etosha National Park, but the predominant pattern that emerges is the barrier effect of the park fence that runs along the entire western boundary of the national park.

Problem wildlife incidents in the last 5 years include attacks on livestock by wildlife or damage to property such as community boreholes or crops. Poaching incidents refer to unauthorized harvests or use of wildlife. The data obtained from the community mapping process shows only a few poaching incidents, ranging from 6 to 10 in number for 2001/2002 and from 0 to 10 in 2006/2007. Gerson Uaroua is 1 of the 3 mapping participants and is a senior community game guard for Ehi-rovipuka Conservancy. He recalled more poaching incidents compared to the others. Regardless, the number of poaching incidents is low and the participants, in discussing findings with me, indicated that most were perpetrated by people from outside the conservancy villages. The number of sites shown for problem wildlife incidents in the last 5 years is relatively few. I studied unpublished annual natural resource reports prepared by the community game guards for 2002 to 2005 (Ehi-rovipuka 2002-2005). The recorded number of poaching incidents correlated well with the local mapping results. Problem wildlife incidents in the field reports ranged from 145 to 279 livestock attacks per year and these were mainly by hyenas, lions, leopards, and to a lesser extent cheetahs. Very few crop damage incidents were reported, but elephants were implicated in several

instances of water borehole damage. A study of human wildlife conflict in the Ehirovipuka Conservancy found that spotted hyenas, leopards, cheetahs and lions caused the most problems (Stander & Esterhuizen n.d.).

It is possible that participants in the mapping processes may not have wanted to reveal poaching incidents to me. However, I developed a close rapport with at least two of the three mapping participants. Also, my own observations of low densities of wildlife associated with the semi-arid character of the area, the natural resource report data and a general absence of references to poaching in the community interviews lead me to conclude that poaching is not significant. Human-wildlife conflict incidents are more significant, especially livestock attacks. Much is made in the literature about human-wildlife conflicts and this is somewhat of a preoccupation in the management programs in Etosha National Park and with some NGOs. The data reported here, combined with results from the likes and dislikes of different wild animals indicated by villagers suggest that there are felt conflicts with predators. Lions and elephant frequently break through the western boundary fence of Etosha National Park and these animals are implicated in complaints about livestock and property damage (Stander & Esterhuizen n.d.). The area warden for western Etosha mapped recurring places of fence breaks by lion and elephant for me and these are shown in Figure 28.

Field foods and their importance to communities was an oversight in my structured villager interview questions. I neglected to initially ask participants about field food use. However, many villagers identified field food as important to their households in discussions and field food harvest is one of the benefits they would like to enjoy in Etosha National Park.

One key informant quoted an old Herero saying to me: "If you don't gather field fruits the rains will not come." My community assistant and interpreter stressed the importance of field foods. He described how mopane worms are harvested from March to May, boiled and dried in the sun, then bagged and sold in Oshakati. Mopane worms are both a dietary staple and can be used in treatment of blood pressure. Mopane leaves are chewed to relieve stomach ailments and the dung of mopane worms is used to heal wounds. He further described the use of Devil's Claw as a malarial fever treatment and pointed out trees harvested for various fruits near Otjokavare. He also noted the harvest of wild honey in July and August by people in Otjetjekwa, in the north part of the conservancy. Bees are smoked out of tree hives and the honeycombs

removed. Apparently, this practice has produced veld fires and there are government sponsored workshops to train how to safely harvest without killing the bees and starting fires. Asser Ujaha also described that smaller animals like rock dassie, porcupine, and birds like wild dove, kori bustard and guineafowl are also used. Technically, some of these species are subject to government harvest regulation through quotas, but such harvest appears to be largely unregulated and is not high at any given time. Other villagers indicated that the low return of meat from the harvest of birds and smaller game does not warrant the effort to hunt or trap them intensively and therefore such use is more incidental.

Given the apparent overall importance of field foods, I organized a mapping exercise with three village women through my community field assistant and I asked them to map important areas for field foods. I asked women to prepare the maps because women play the main role in harvesting most field food, except for wild honey and hunting small game. I was not present during the mapping, but I shared their maps at the Otjokavare community report back and verification meeting in which the women participated. The accuracy of the mapping was roundly supported by all present (Figure 29), including the headman.

The map shows the importance of the northern parts of Ehi-rovipuka Conservancy for wild honey, medicinal plants and other field food harvesting. Mopane worm harvest is shown as important over the entire area. It is also revealing that there are large areas of overlap into Etosha National Park. I neglected to clarify the meanings of this with the women. I am not certain whether they were mapping past extents of known harvest, known areas of potential harvest, or whether in fact they were revealing areas of actual harvest within the park. Such harvest in the park is illegal and I do not think the women were indicating that this was a widespread practice, but rather a potential opportunity and known value. Likely, there is some harvest of field foods going on in Etosha, since this could be conducted clandestinely through breaks in the park fence.

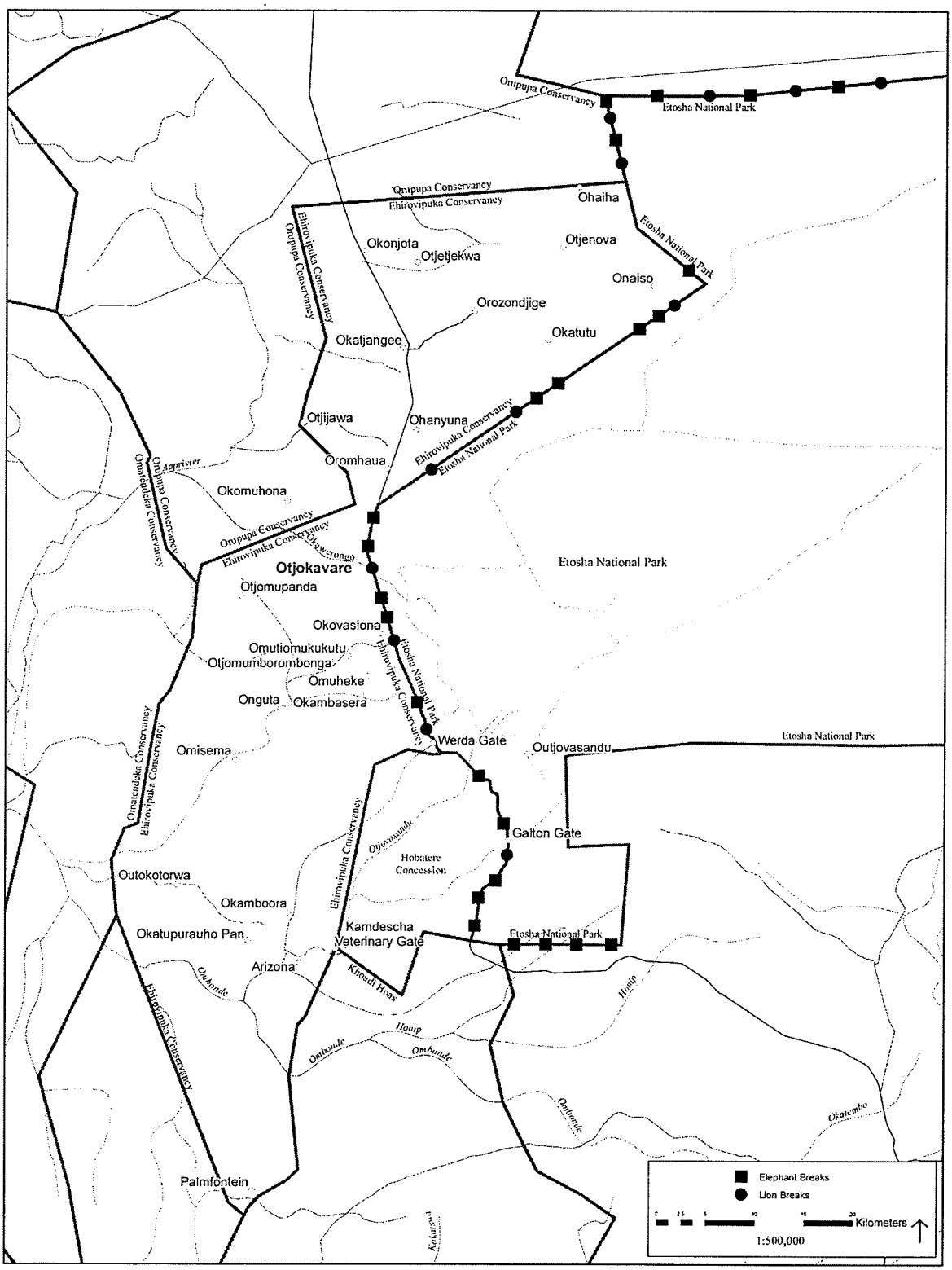


Figure 28. Recurring Fence Break Locations by Elephant and Lion
Simataa 2007 interview

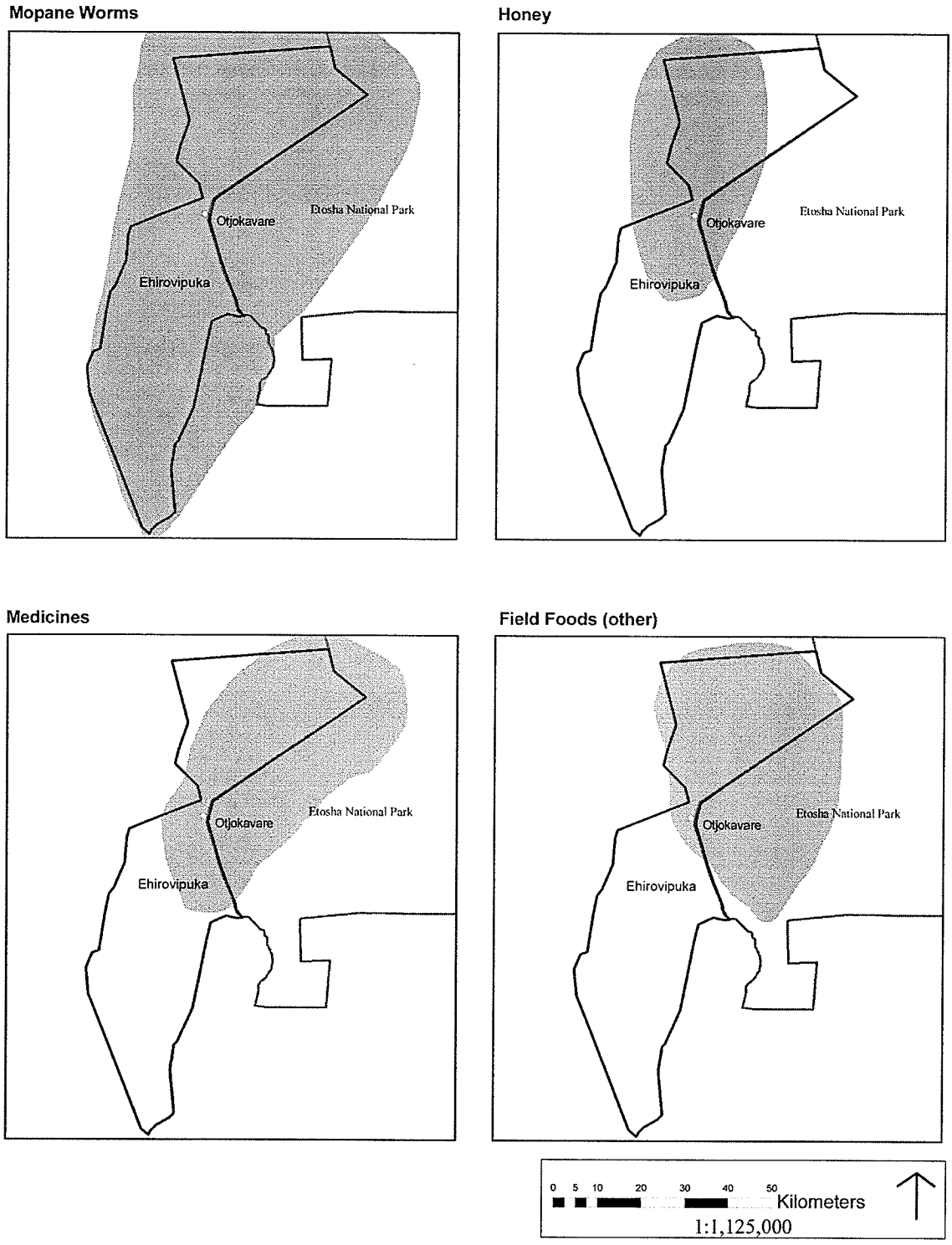


Figure 29. Combined Field Food and Medicinal Plant Distribution Maps of Three Village Harvesters – Sylvia Kavetu, Rosana Kavetu and Naangota Mavongara

Figure 30 is a representative drawing prepared by a pupil who participated in a short exercise conducted with the Grade 7 class at Kephas Muzuma Primary School with 34 pupils. Most of the participants were residential pupils from other villages in the conservancy (62%) and the remainder from Otjokavare.

Pupils were first asked to draw a sketch map of the immediate environs around their school site and Otjokavare, following the instructions and approach described in Chapter 1. While six students struggled with the exercise, most successfully completed a sketch. Figure 30 is representative. It shows that the pupil knows Etosha National Park is situated across the road from the school site (patriotically highlighted with the national flag, it should be noted) and the park is separated by a fence line. The pupil also shows wildlife, trees and grass in the park. On the community side of the road, the pupil shows a house, shop, health clinic and a few natural elements including a tree, stone formation and river.

In fact, 26 of the 34 students included the park fence in their drawings and most showed community things on the school side of the road and wildlife on the park side. When asked if they liked wildlife, 30 of the 34 participants said they did. The pupils were asked which animals they liked or disliked and results were similar to those shown earlier in Figures 22 and 24.

Interestingly, more pupils liked elephants than disliked them, and more disliked rhino than liked them. I was intrigued by the level of dislike for rhino, given extensive efforts in the region by the Save the Rhino Trust and other conservation agencies to restore endangered populations. The school teachers and my community assistant informed me that this was not surprising. Children are apparently taught by parents from a young age that rhino are dangerous when encountered in the field. The pupils were also asked (after and separate from the mapping exercise) to name the national park in the area and the conservancy. Most (31 of 34) named the Ehi-rovipuka Conservancy correctly and most (29 of 34) correctly named Etosha National Park. This result suggests a high level of awareness among community youth about the park, the conservancy, conservation and the value of wildlife.

Figure 30. Representative Sketch by Grade 7 Pupil, Otjokavare

Ehi-rovipuka Conservancy and Community-Based Conservation

A remaining focus of my community-based research was the further exploration of the place of 'community' in community-based conservation and related applications of common property theory. In Chapter 6, understandings of how CBNRM has evolved in Namibia have been presented, theories of common property applied, and tentative suggestions and conclusions made concerning attributes of community-based conservation in the Namibian experience. Most of the findings and understandings in Chapter 6 are based on key informant interviews with senior managers in conservation NGOs and government, synthesized with regional literature sources. In the community-based research in Ehi-rovipuka Conservancy and Otjokavare, I wanted to learn more about how villagers themselves view wildlife conservation and how they actually participate in and benefit from CBNRM and the conservancy. These insights were sought through a series of questions posed in the structured interviews with the 40 villagers (Appendix 2) as well as my participant observations, site visits and discussions with community informants, especially with my community research assistant and interpreter.

A profile of Ehi-rovipuka Conservancy as already been provided in Chapter 7, but it is useful to further contextualize villager interview findings with some further details of governance and organizational structure in Ehi-rovipuka Conservancy.

The constitution of Ehi-rovipuka Conservancy makes governance provisions for a conservancy management committee of 12 members, elected every 3 years by the conservancy membership at large. The conservancy management committee members receive a small monthly stipend. Ten of the management committee members represent 5 different village blocks: 2 representatives for each block, and an additional 2 members are appointed by the 2 traditional authorities (TAs) who share territory with the Ehi-rovipuka Conservancy area (Figure 14). The conservancy management committee is responsible for approving the policies, projects and programs of the conservancy. The committee is also responsible for financial accountability and maintains the conservancy bank account. The conservancy management committee must develop and uphold the conservancy constitution, prepare land use and wildlife management plans, prepare a benefits distribution plan and conduct regularly meetings and consultations with conservancy members, including an annual general meeting (AGM). A small administrative staff reports to the conservancy management committee and carries out

the daily work of the conservancy, such as community game guard field patrols and wildlife monitoring.

It is interesting to note that the village blocks are each named after a wild animal that is prevalent in that village block area (Figure 31). The Ongejama (Lion) Block and the Onojou (Elephant) Block are quite consistent with the local knowledge mapping of seasonal habitat areas for these two animals, reinforcing the logic in the maps.

A conservancy chairman is appointed from among the elected management committee membership. A new management committee was to be elected shortly after my period of fieldwork in Ehi-rovipuka Conservancy, but the committee up until then consisted of 10 men and 2 women. Each village block chooses 30 representatives to attend the annual general meeting (AGM) of the conservancy. The Ministry of Environment and Tourism, through a regional officer based in Opuwo, works with the conservancy in a monitoring and supporting role, ensures that AGMs are conducted according to the conservancy constitution, provides related advice and participates in the ministry's annual review and approval of wildlife quotas requested by the conservancy. IRDNC provides an ongoing technical support and capacity-building role. This support has included facilitation of activities leading to conservancy formation, funding of game guard salaries, purchase of a 4x4 vehicle, and construction of the conservancy office and a crafts centre. IRDNC also provides ongoing capacity-building and technical support and funds a full time field officer in the conservancy. In fact, the IRDNC field enterprise officer is Asser Ujaha, who served as my community assistant and translator, on leave from his work from the NGO.

The two traditional authorities each consist of a headman, a secretary/chairman and six councillors, all of whom are men appointed by the headman. The TA representatives on the conservancy management committee regularly monitor the activities of the conservancy and provide feedback to the traditional authorities. The TAs exert a strong influence on the conservancy, given their central role in first negotiating and agreeing to the formation of the conservancy, but they are not involved in day to day operations. Figure 32 summarizes the governance structure of Ehi-rovipuka Conservancy.

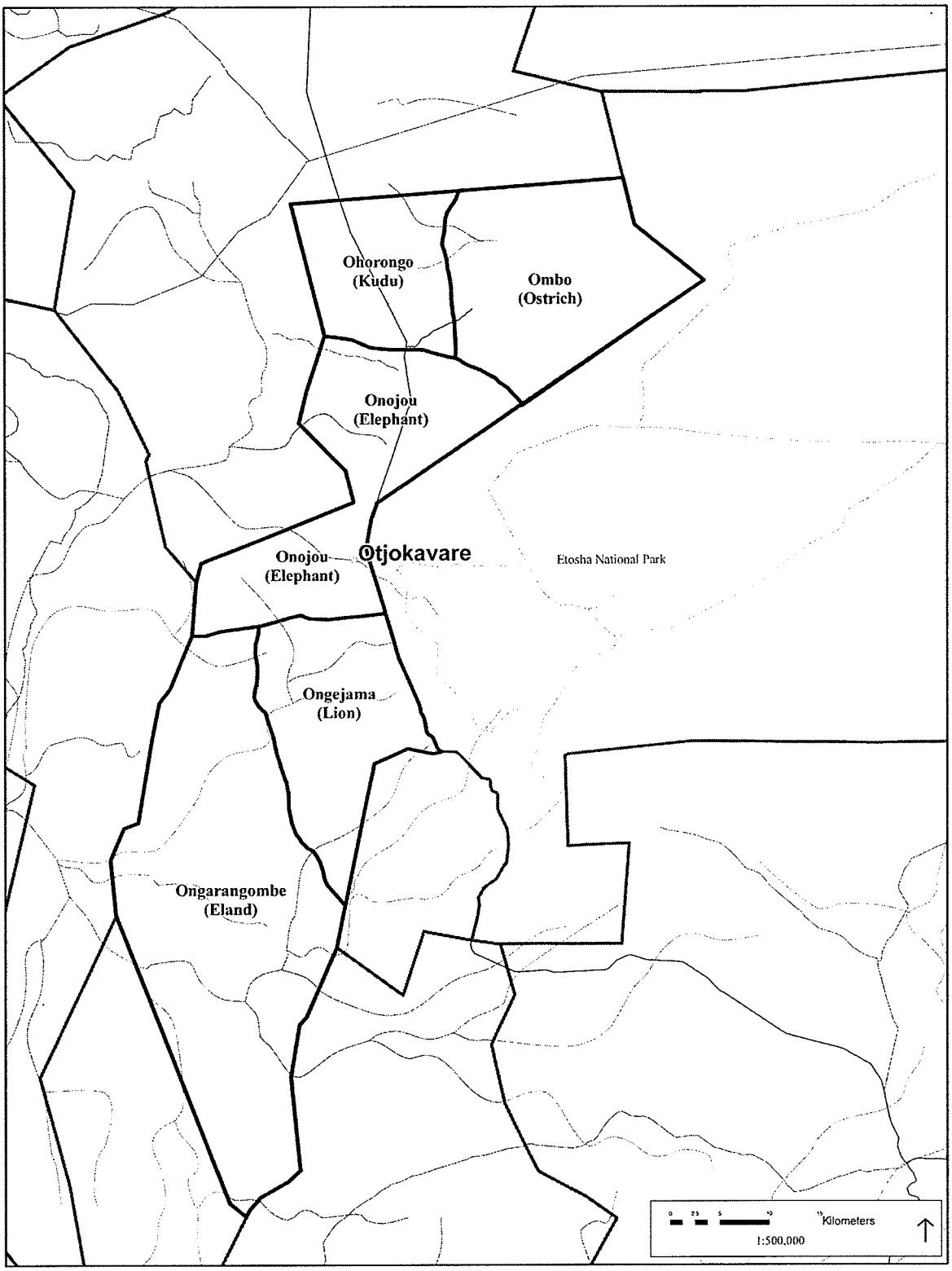


Figure 31. Village Blocks in Ehi-rovipuka Conservancy
Ujaha 2007 interview

The administration organization of the conservancy is made up of a small staff consisting of a Field Officer, five community game guards reporting to the Field Officer and a Community Activator, who is a village woman recently appointed to expressly facilitate women's projects and participation in conservancy programs (Figure 33). The other staff is all men and they report to the Conservancy Management Committee, which approves work programs and provides policy direction. Principal duties of the Field Officer and the community game guards include field patrols to monitor wildlife, preparation of event books and natural resource reports, reporting of poaching and problem wildlife incidents to ministry enforcement personnel and participation in annual game counts. Each community game guard is assigned one of the five village blocks to patrol and report upon. The conservancy staff is all full time salaried personnel.

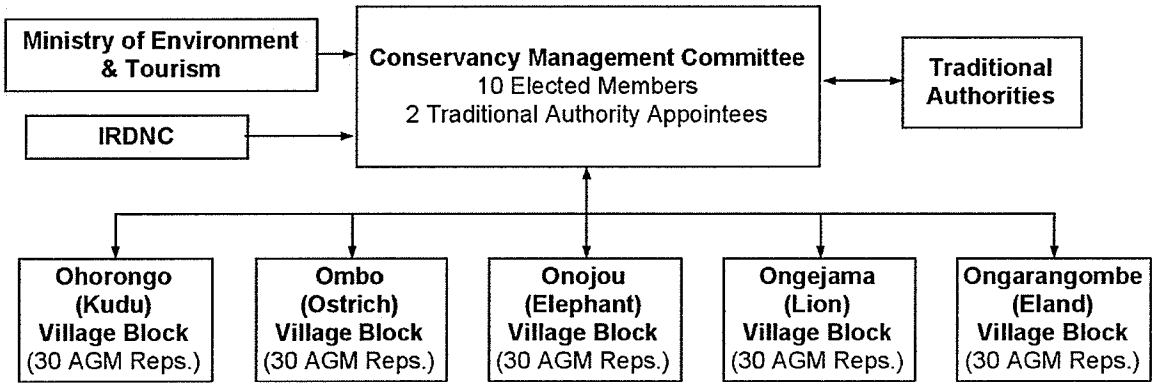


Figure 32. Ehi-rovipuka Conservancy Governance Structure
Ujaha 2007 interview

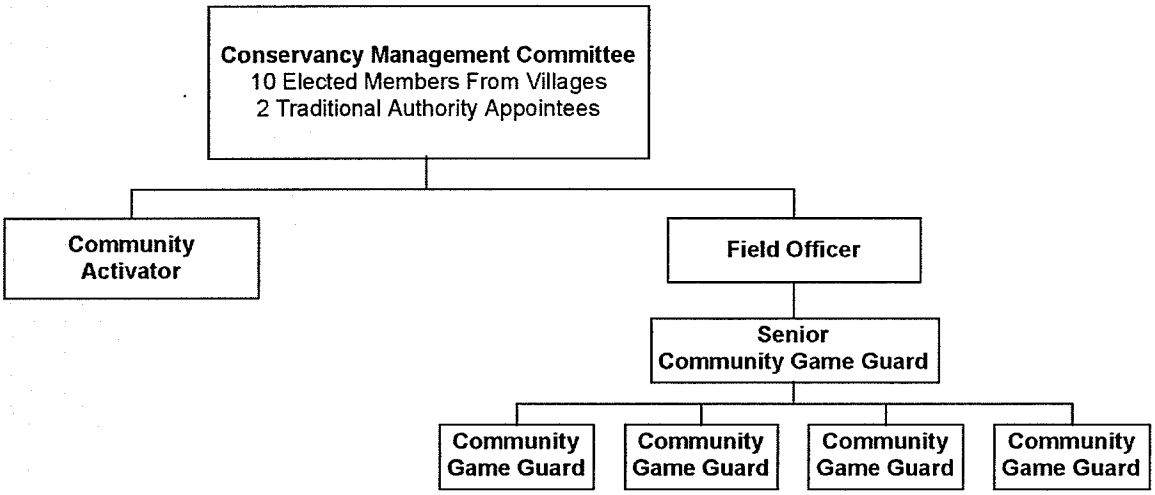


Figure 33. Ehi-rovipuka Conservancy Organizational Structure
Ujaha 2007 interview

I wanted to learn, beyond the conservancy organizational arrangements and governance structure, what the community customs or rules were for using wild animals before conservancy formation. Also, what happened in the past when rules of use were violated?

Villagers informed me that there were indeed rules in the past. These were made by the headman and were not written, but everyone knew the rules. These included hunting only in the winter, well after young have been born during the earlier rainy season. Hunting in winter was more practical too, since it was cooler to keep meat fresh and animals were fattened up by then. Hunters were not allowed to take females with calves, mainly male animals were taken and females were not permitted to be hunted in the breeding season. Other rules mentioned were that animals could not be taken near water, hunting pressure would be reduced when numbers were depleted and animals could only be hunted with the agreement of the household head. As well, there was a separation of hunting areas among different groups of hunters. I further inquired about what happened when such community rules for using wildlife were not followed in the past. Many of the respondents indicated that there were no actions taken since people were on the move, they hunted with bows and arrows and could not kill a lot of animals. The headman was not nearby to enforce rules. A further 33% indicated that they believed the headman and council would meet with reported violators, initially warn them and if there were repeat offences, fines in terms of payments to the headman in livestock would be made. Others noted that repeat offenders or those who could not pay fines in livestock would be beaten on the buttocks in public. Punishment was according to the serious of the deed. Many of the villagers interviewed did not know about what may have happened in the past when rules were broken and did not know what the rules may have been.

An interesting exchange took place at my community report back and verification meeting that encapsulates the dichotomy evident in villager awareness about past rules of use for wildlife. I was summarizing preliminary findings similar to descriptions above and a young school teacher stated that there were basically no rules for wildlife use before the conservancy. He asserted that people hunted wildlife as they pleased. The headman was present and he argued strenuously against the teacher's comments, reiterating that there were indeed very express rules made by headmen in the past and everyone knew these rules.

Hinz (1998) documents that there were rules for wildlife use in the past that reflected an indigenous conservation ethic and respect for wildlife. The social memory of those rules seems to have faded and while not evident in current conservancy institutional arrangements, a conservation ethic was undoubtedly a factor in the agreement of the headman and communities to institute the community game guards program and then form a conservancy. The wildlife laws of central government now prevail. Violators are reported to the Ministry of Environment and Tourism or to the national police by community game guards or villagers at large. There is a graduated system of fines and incarceration applied by the courts. For example, illegal killing of an elephant can result in fines of up to N $40,000 or a jail term of 10 to 15 years. Illegal harvest of a springbok could result in an N $800 fine or an 8 month jail term.

Remaining questions posed to villagers about institutions for community-based conservation are included in Appendix 2. Of the 40 villagers interviewed, 38 declared that they were registered members of the conservancy.

I wanted to learn about villager understandings and perceptions about how the conservancy actually got started. In other words, what level of community self-organization and participation had there been. Figure 34 summarizes findings and illustrates the importance of external interventions in conservancy formation, reinforcing findings in Chapter 6 for CBNRM and conservancies more generally.

The collaboration of Garth Owen-Smith with headman Kephas Muzuma is especially noteworthy and reinforces the importance of leadership and cross-cultural communication in initiating community-based conservation. In fact, Kephas Muzuma was one of four headman that Smith had worked with during the 1980s in the precursor community game guard program, as described in Chapter 6. The roles of government and NGOs, notably IRDNC, are also reinforced by the villager responses. There was a fairly high non-response to the question of conservancy start-up (15%) showing that a considerable proportion of respondents did not know this history.

I inquired about who from the community was involved in conservancy start-up. Most of the 40 villagers interviewed (85%) noted a community task force of 31 villagers was created by the traditional authority headman and council, receiving training from IRDNC. This task force included both men and women and they took the conservancy idea out into the villages, built understanding and support for the concept and helped

negotiate the boundaries, described as a protracted process lasting 3 years. I asked an ancillary question about how the boundaries of the conservancy were established. Those that could reply (63%) recognized a process of negotiations with surrounding communities and TAs by the community task force. A relatively large proportion (43%) did not know how the conservancy boundaries had been formed. Important points of emphasis made by some villagers noted that boundaries defined rights of access to wildlife only and the conservancy included communities that agreed on sharing wildlife. Grazing, water rights and other resource access are not subject to the exclusionary role of the conservancy boundaries. The boundaries are well known at the community level; 80% of the villagers interviewed indicated they knew the boundaries, or at least, the different villages that made up the conservancy.

Therefore, conservancy start-up as earlier portrayed in Chapter 6 has both top-down and bottom-up dimensions. The idea originated and was enabled from outside and at higher levels of organization than the local community level. Yet, there was a high degree of self-organization at community level for the implementation of conservancy institutional arrangements, especially boundary negotiation.

The participation of conservancy members in the decision-making of the conservancy was also explored. Figure 35 summarizes the findings, showing a variety of participation approaches noted by respondents, emphasizing AGM attendance (58%), other meetings with the conservancy management committee (35%), and representation on the conservancy management committee (25%). It is interesting to note that actual registered membership in the conservancy is not mentioned by many, and hints of frustration about the access to meetings and the AGM are included in some responses.

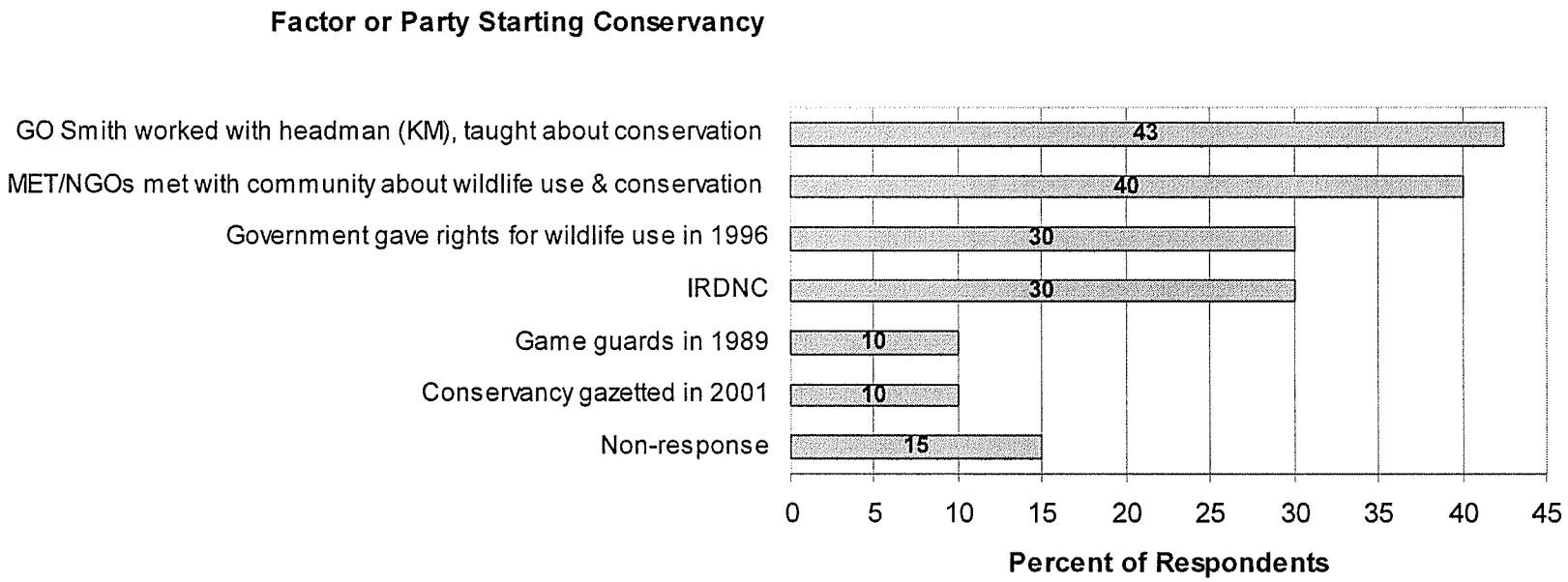


Figure 34. Start-Up of Ehi-rovipuka Conservancy
N=40

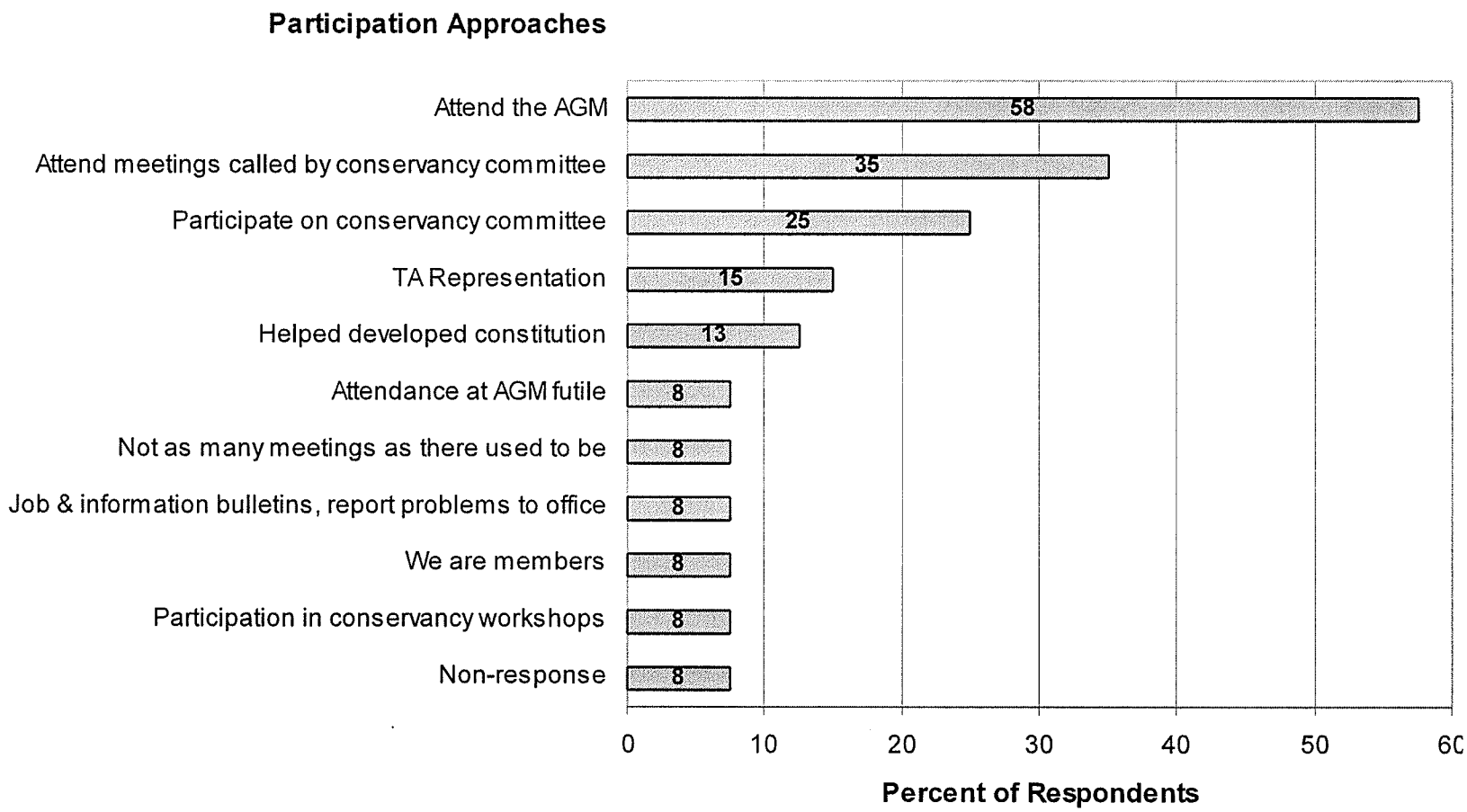


Figure 35. Community Participation in Decision-Making Processes of Ehi-rovipuka Conservancy
N=40

I describe at length in Chapter 6 how dense social networks of NGOs have evolved in Namibia to support CBNRM, conservancies and mediate international donor support. I wanted to probe this situation more fully at community level, to learn how aware villagers are about partnerships and the roles of other cooperators in community-based conservation. Most (85%) identified IRDNC as the main partner, followed by the Namibia Community Based Tourism Organization (NACOBTA) mentioned by 43% of respondents, then the Ministry of Environment and Tourism, the ministry's Integrated Community-Based Ecosystem Management Project (ICEMA) and the World Wildlife Fund (WWF Life), at 33% each. Several other partners or cooperating groups were also mentioned once or twice.

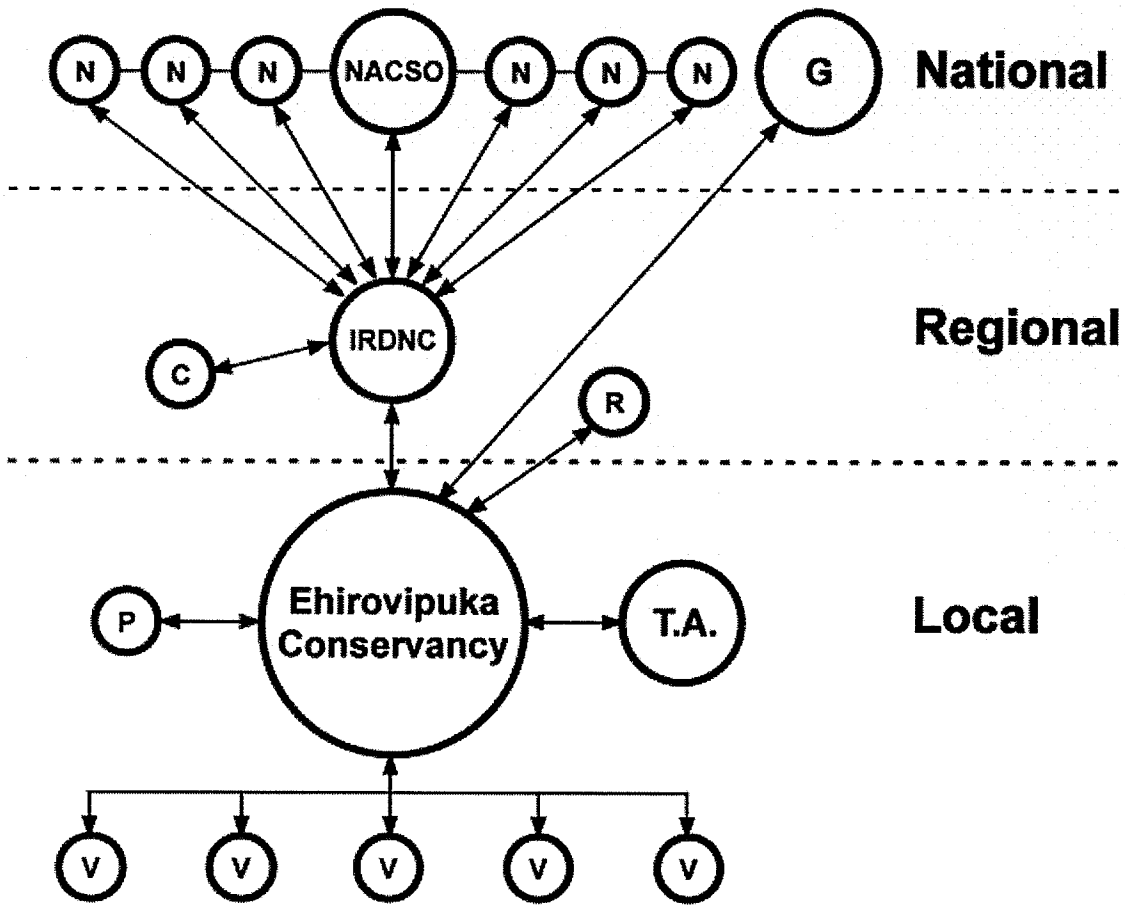
IRDNC has been a supporting and ongoing partner from the very beginning, as earlier described. NACOBTA has recently played a prominent role helping the conservancy to find an investor for a joint venture tourist lodge (Katjiuongua 2007 interview) which has not materialized to date. The Ministry of Environment and Tourism (MET) has played a central role in the registration and gazetting of the conservancy, collaboration in assigning wildlife quotas, and ongoing monitoring of conservancy governance. ICEMA has recently funded the start-up of a hunt camp with a trophy hunter in the conservancy and the WWF (Life) program has provided ongoing technical support for wildlife monitoring. The Legal Assistance Centre (LAC) and the Rössing Foundation provided early technical assistance to draw up the conservancy constitution. The Namibian Nature Foundation (NNF) has collaborated in institutional support for wildlife monitoring and related date base development and management. Several other NGOs, conservancies and ministries were mentioned once or twice by villagers. Overall, there was quite a high awareness about the involvement of partners and cooperating groups, although the roles of these parties were less known by villagers.

A community perspective of the vertical and horizontal linkages for community-based conservation can be recognized from the structured villager interviews and conversations with key informants (Figure 36). It is a somewhat different picture to the multi-level and same level linkages and networks portrayed in Figure 11, Chapter 6. A regional level of organizational linkages emerges more clearly, with IRDNC serving as the lead supporting regional NGO, coordinating the support to Ehi-rovipuka Conservancy from other NGOs. Once IRDNC has brokered initial relationships for the conservancy with other NGOS, those NGOs set up direct bilateral relationships with the conservancy to provide technical support. For example, NACOBTA was initially approached by

IRDNC on behalf of the Ehi-rovipuka Conservancy to help find a private tourism investor to partner with the conservancy. Once NACOBTA agreed to provide this assistance, this NGO formed a direct working relationship with the conservancy and IRDNC was no longer involved. Relationships to government are mainly with the Ministry of Environment and Tourism. But, matters such as land leases for joint ventures with tourism enterprises also necessitate relationships with regional land boards and councils. Relationships with the village blocks, the trophy hunting enterprise and traditional authorities are also shown, illustrating the greater importance attached to organizational linkages at and across the local level.

Significant revenues, jobs, meat and other benefits are reported for CBNRM and the conservancy movement in Namibia (NACSO 2004; NACSO 2005). Ehi-rovipuka Conservancy was established in 2001 and I wanted to learn if villagers were experiencing benefits similar to those reported nationally and those earlier described for Torra Conservancy. Figure 37 summarizes the results obtained, indicating that the predominant household benefit has been wild meat, followed by revenue to the conservancy from trophy hunting. Other, more incidental responses noted the few full time jobs with the conservancy, some support for the school, and a workshop for craft making and sales.

These results were complemented by discussions with community informants and my own field observations. Some revenue benefits have been realized to date from wildlife-based tourism and have come mainly from trophy hunting. At a conservancy AGM held in May 2007, it was reported that accumulated revenue in the conservancy bank account since 2001 amounted to nearly N $700,000. Such funds have allowed the conservancy to contribute to its own operating costs, but it still receives about 50% of its operating budget from IRDNC (Itula 2007 pers.comm.). Meat benefits are highly valued but are relatively modest. Some villagers reported that they received no more than 5 kg of meat each year for their extended family households, with some households having receiving none. The meat comes from the trophy hunter and the community has foregone community hunts in order to boost the success of the trophy hunting enterprise.



KEY

N - National NGO
NACSO - National Association of CBNRM Support Organizations
G - Government Ministries, e.g. Ministry of Environment and Tourism
IRDNC - Integrated Rural Development and Nature Conservation
P - Private Sector Trophy Hunter
T.A. - Traditional Authorities
V - Village Blocks
C - Other Conservancies
R - Regional Council / Land Board

Figure 36. Vertical and Horizontal Linkages for Ehi-rovipuka Conservancy

I reviewed natural resource field reports prepared by community guards for 2002 to 2005 and inquired further with the senior community game guard about wildlife quotas held by Ehi-rovipuka Conservancy (Uaroua 2007 pers.comm.). The current springbok quota, for example, is 160 animals, but the maximum annual harvest was 34 in 2005. The zebra quota, as another example, is 50, yet no more than 18 have been harvested annually.

The general pattern of the quota and harvest data revealed consistent and significant underuse of available quotas. Most of the harvest was through the trophy hunter and the remainder for community meat during activities such conservancy meetings or as food for school pupils. No 'own use' harvest has occurred. The underuse puzzled me, given the healthy numbers of animals available, the community value placed upon meat and the impoverished local conditions earlier described. Further inquiries with several community, NGO informants and ministry officials suggested that reasons for underuse ranged from the deference to the trophy hunter in order to stimulate his business and related conservancy revenue, to a lack of firearm ammunition and transport barriers to get out and hunt (Uaroua 2007 interview; Stewart-Hill 2007 pers.comm.; Matongo 2007 pers.comm.). The modest level of community and household benefits generated to date by the conservancy is a topic that is further illuminated in other villager responses that will be presented momentarily. Distribution of the benefits is also an issue. According to the government registration requirements for a conservancy, a benefits distribution plan must be prepared and followed. Yet, the community interviews and key informant discussions revealed that there is no benefits distribution plan in place for Ehi-rovipuka Conservancy.

I asked villagers to identify the strengths and weaknesses of Ehi-rovipuka Conservancy (Figure 38). The identified strengths were mainly associated with community projects that produced revenue and capital developments or purchases. These include the trophy hunting enterprise and hunt camp jobs, the 4x4 vehicle provided to the conservancy by IRDNC, construction of the conservancy office and borehole development. Other strengths noted include the fostering of a conservation attitude towards wildlife and increasing numbers of wildlife. Wildlife monitoring and the game guards, wild meat, education and training, translocation of wildlife into the conservancy, and positive relations with government and NGOs were other strengths noted once or twice.

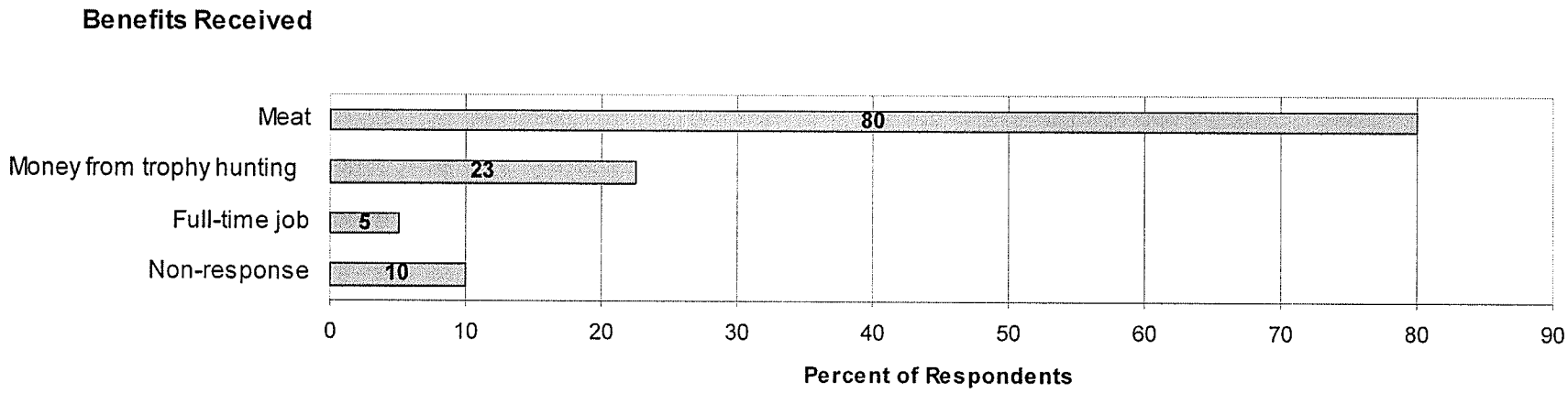
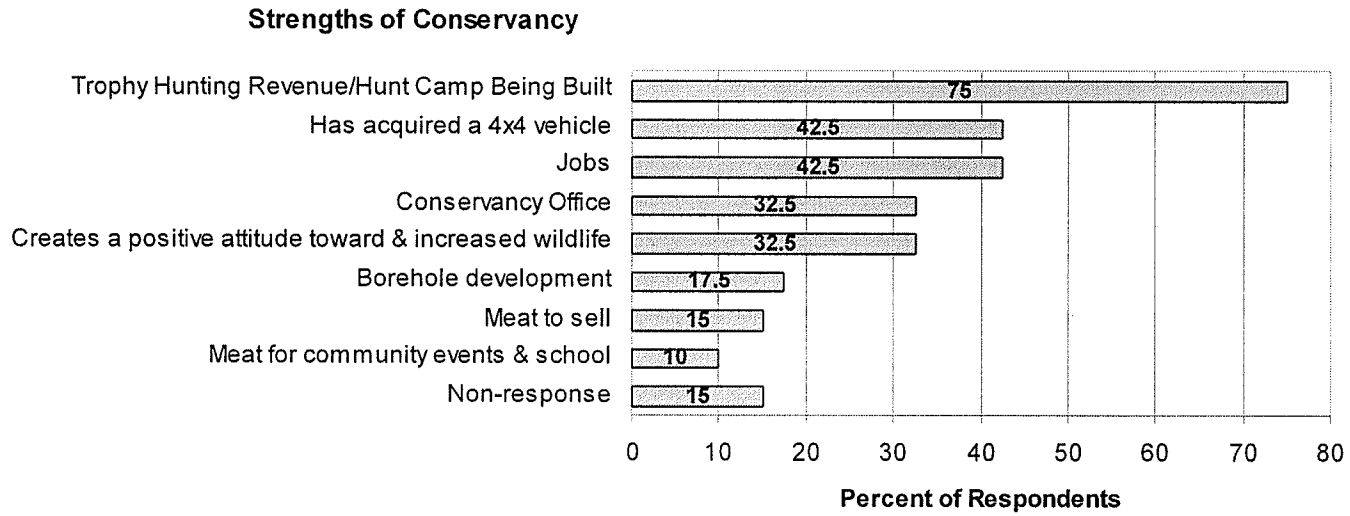


Figure 37. Identified Benefits Received from Ehi-rovipuka Conservancy by Villagers



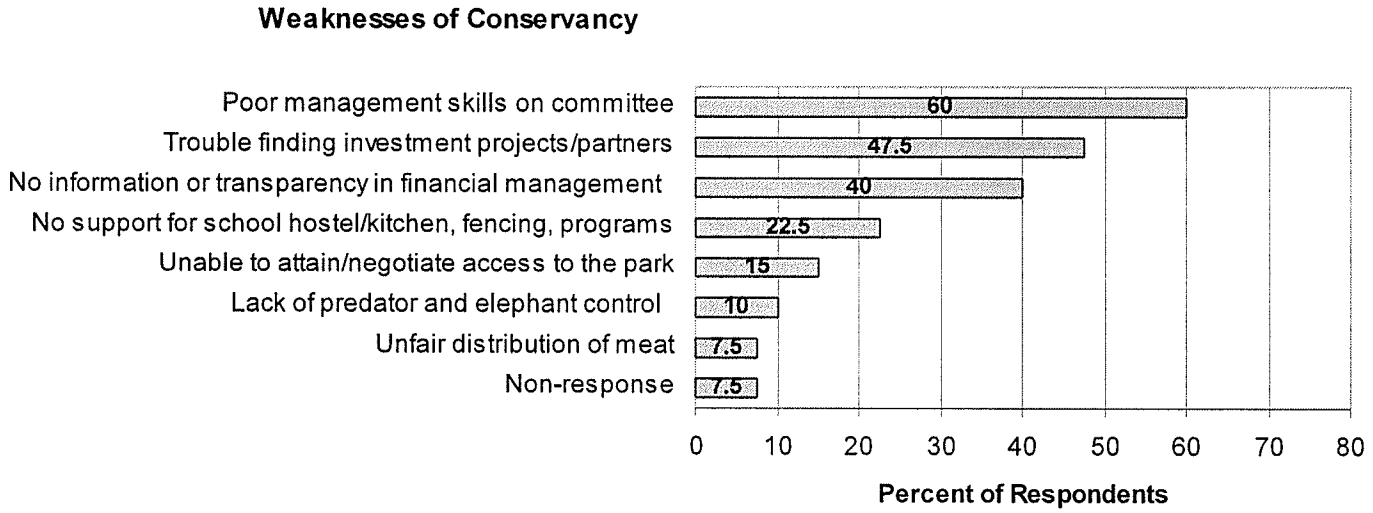


Figure 38. Ehi-rovipuka Conservancy Strengths and Weaknesses

Prevailing weaknesses identified for the conservancy were poor management and priority setting. This shortcoming was largely attributed to a lack of trained and educated people on the conservancy management committee. The struggles of the conservancy to attract investor partners and projects were also noted frequently and the absence of transparency in financial management was viewed as a big problem. As well, the lack of support from the conservancy to improve school facilities and protection of pupils from animals, the lack of success in negotiating access into Etosha National Park, absence of problem animal control and unfair distribution of meat were noted by fewer respondents. Other weaknesses or shortcomings mentioned once or twice were failure to hold a conservancy AGM last year, no conservancy support for a proposed women's craft enterprise project and a need for more boreholes.

Villagers were asked if they thought the conservancy would be working well 10 years from now. Most (48%) indicated that this depended on whether or not there was proper management, capacity and transparency. A further 33% thought the conservancy would be working well and would increase wildlife numbers and revenues to the conservancy from more enterprise projects.

My surmise from these various responses is that villagers have seen some benefits from the conservancy including increased wildlife numbers, positive attitudes towards wildlife and a few revenue producing projects. However, as the conservancy revenues and infrastructure have started to build up there is a real frustration among villagers about poor financial management, accountability and the transparency of management committee decision-making. Villagers remain hopeful about prospects for community development and livelihoods based on wildlife conservation.

A conservancy AGM was held during the period of my fieldwork in Otjokavare and I was able to attend. The meeting ended up lasting for nearly 3 days. It was quite revealing about certain conservancy strengths and weaknesses and I describe this experience in Box 3.

Box 3. The Ehi-rovipuka AGM, 2007

The AGM was scheduled to start on Friday May 11th at 9:00 AM. Immediately prior to the scheduled meeting time there was a frenzy of flipchart preparations by conservancy staff at the conservancy office. Until the day before, the conservancy office had remained locked, with no one present during the preceding weeks of my field time in Otjokavare and this situation resumed in the days shortly following the AGM. Nearly a 100 people arrived from various villages in crowded vehicles a day or 2 before the meeting, setting up tents next to the conservancy office, socializing around campfires and sharing freshly killed zebra meat. Much beer and other liquor was in evidence.

I arrived just before 9:00 AM on the Friday to attend the meeting. People were at the campfires socializing, cooking and drinking. The meeting was not going to start when scheduled, but perhaps later in the morning. I was told that village block representatives from Palmfontein, at the south end of the conservancy, had not yet arrived. As well, the regional MET officer had one of the few vehicles available to fetch prospective participants and he had gone to collect them. His personal presence at the meeting was required I was told, since the ministry representative must be present to monitor the AGM proceedings and respond to topics raised. People continued to socialize and carry on with their camp activities, seemly oblivious to the meeting delay. This continued all day Friday and into Saturday, as we awaited the arrival of participants from Palmfontein and the MET official. The meeting was called to order at 2:45 PM on Saturday, May 12th after the delegation from the south arrived and had been fed. About 170 participants were present, including the conservancy management committee, conservancy staff, representatives of the two traditional authorities, village representatives from across the conservancy, and several government and NGO representatives. There was a 4:1 ratio of men to women in attendance.

The meeting was conducted entirely in Otjiherero and Asser Ujaha began to translate for me. This process did not work well for very long, since Asser became keenly engaged in the ensuing discussions and had very little time or inclination to translate. Although there were agendas circulated to some of the participants, the discussions quickly focussed on questions and frustrations among the participants concerning a stolen solar panel and screening materials for an open-air building near the conservancy office. The alleged thefts dated back three years. Many, many people spoke to this issue of the alleged thefts and conservancy committee members and staff were questioned relentlessly. I could not follow the actual discussions in any detail, but it was clear that villagers did not trust the explanations they were receiving from conservancy elected representatives. Quite suddenly, about an hour or so into the meeting, there was an exchange with traditional authority representatives present and the meeting came to a halt, with much animated, boisterous discussion as people got up and left.

The meeting resumed on Sunday morning with much fewer people attending and again was dominated by the frustration of the participants seeking explanations from the conservancy committee and staff about the allegedly stolen property. There was a break in the proceedings to watch a dramatization by a youth group concerning HIV/AIDS and resumed with several committee reports, one of which dealt with the intentions of the Ministry of Environment and Tourism to create new 'people parks' to connect Etosha to the Skeleton Coast. The meeting resumed on the Monday morning with yet fewer in attendance and this time a long debate unfolded concerning a check for $5,000 that had been allegedly forged a year or two earlier on the conservancy bank account. I eventually left the meeting and learned later that the meeting broke up with participants demanding the resignation of the conservancy management committee. Elections were planned in any event for a new management committee, since this was supposed to have happened in 2006 but that AGM did not take place, due to audited financial accounts not being available for the meeting. I learned that a new management committee was elected during the days immediately following the break-up of the 2007 AGM.

The AGM experience underscores several institutional characteristics of Ehirovipuka Conservancy. The active participation of many in attendance and the time they were each given to speak at great length to the alleged theft and forgery episodes reflects the consensual nature of decision-making described for the Herero in Chapter 3. Moreover, the value of the conservancy as an institution giving voice to local communities was very evident. The members each wanted to speak, were given a full opportunity to do so; and they demanded accountability and transparency from their elected representatives. Local communities have only had such voice since independence. The conservancies are quite obviously providing an important vehicle for community empowerment, quite apart from their express purpose of wildlife conservation. The role of the conservancy as a vehicle for promoting awareness and education about HIV/AIDS is also noteworthy. I noted this earlier from quarterly planning meetings of conservancies that I attended in 2006.

What seems equally obvious is that a constitutionally required AGM is an ill-considered institutional requirement for communities. Villages are widely dispersed and people must travel long distances to attend an AGM. Yet, there are few means available for transport. Planning and preparations for the meeting were left to the last minute, raising questions about both cultural compatibility and capacities to conduct an AGM as provided for constitutionally (Turner 2004). I learned after the meeting that there was very uneven representation from the five different village blocks. Villagers shared with me that in the early days leading to conservancy formation, there were many meetings in their villages where they could visit and meet at length. This seems a much better approach to reviewing the business of the conservancy than requiring a quorum for an AGM, and expecting equal numbers of villagers to come great distances from each village block. It is a more consensual, village based approach, more culturally consistent with the decentralized, consensual decision-making processes of the Herero. Perhaps the elected management committee needs to go to the communities to meet and consult much more regularly. Moreover, the requirement to have the Ministry of Environment and Tourism officer present at the AGM meeting before it could even begin reveals a vestige of command-and control by central government. The proceeding had to be monitored by the ministry representative, to ensure that meeting procedures specified in the registered constitution were followed. Furthermore, NGO and government support activities are directed to the conservancy management committee and the staff. Perhaps the conservancy grassroots are not being engaged as effectively as they might in the

supporting activities by government and NGOs. The conservancy's creation of village blocks is a strong governance provision on paper, but the blocks do not appear to be used effectively to organize local meetings and disseminate conservancy information.

Clearly, there are some problems as well with staff management in the conservancy. The conservancy office was built in Otjokavare to be accessible to the people. But, during my time in the community, the office was always locked and no staff were present. I interviewed some key informants back in Torra Conservancy and there is evidence of the same problem there. When these circumstances are taken together with the modest benefits enjoyed at household level and expressed villager concerns about financial management and transparency, there is an appearance of local elites being created, who control the revenues resulting from wildlife management and tourism and who also enjoy salaried positions. This pattern was detectable in Torra Conservancy as well. Anonymous sources complained to me that no one in the households really knew what was happening with the funds being generated by the conservancy. Assets like vehicles were being appropriated for personal use, instead of community-serving purposes under the conservancy mandate, and financial decisions were being taken that did not reflect community livelihood needs and priorities.

Summary Reflections on Community-Based Conservation and Conservancies

The community case study has provided further insights about community-level perceptions and values of wildlife, local knowledge about wildlife and community perspectives on the conservancy as a conservation and management institution. Wildlife has been shown to be very important to households, from both a livelihoods perspective and in terms of more intrinsic cultural values attached to wildlife. Herbivores are generally favoured over predators, but there is a conservation ethic evident in community memory. Poaching is not really an issue, perhaps attributable to the devolution of wildlife rights to communities through CBNRM and the conservancies. Poaching by indigenous peoples was probably never much of an issue and became so only after severe depletions in wildlife due to colonization, drought, war, diffusion of firearms and an international trade in wildlife parts in the early 1980s (Owen-Smith 2006 interview; Gilchrist 2007 interview). Problems with predators and elephants are a concern at community level and these seem especially associated with more sedentary lifestyles and associated vulnerabilities. The Herero have always lived with wildlife and the findings suggest that they developed the knowledge and the means to effectively

coexist with predators and other wildlife like elephant. While problem animal control is a challenge, the level of importance attached to it in government and NGO programs, including experiments with compensation, seems misplaced. The local knowledge of wildlife demonstrated in mapping exercises indicates that villagers know where animals are likely to be at different seasons of the year. As well, the dynamic nature of wildlife is revealed, at conservancy and regional scales, and there is a strong understanding by villagers that the greatest factor controlling wildlife numbers is the availability of rainfall and the occurrence of drought.

The survey of villagers and participant observations reveal that the Ehi-rovipuka Conservancy possesses many vertical and horizontal linkages representing partnerships and cooperative activities with NGOs, government and the private sector. More are sought, especially for joint tourism ventures based upon wildlife viewing in Etosha National Park. The conservancy partnership with IRDNC is the longest and most fully developed, but many other NGOs have supported the conservancy and continue to do so. Local and regional linkages are important, such as that with traditional authorities, the private trophy hunting enterprise and the Ministry of Environment and Tourism. There are conservancy institutional arrangements for wildlife monitoring, reporting of wildlife violations to government enforcement authorities and sharing of benefits from the wildlife resources. Findings also confirm that a history of indigenous conservation practices, rules and graduated sanctions existed in the past. These practices are not explicit in present day conservancy practices. Yet, an embedded ethic of wildlife conservation is surely a factor that led to conservancy formation. There are both top-down and bottom-up dimensions to conservancy formation and there was considerable self-organization at community level, especially in negotiating conservancy boundaries.

The Ehi-rovipuka Conservancy has produced valued community benefits to date but these are limited. Villagers have strong hopes and expectations for the conservancy to attract more investment projects and increase community development and improve livelihoods. While the conservancy is acknowledged to have strengths and there is a significant level of expectation that it will continue to be successful in the future, there are real villager concerns about the institutional strength, management capacities and transparency of the conservancy.

A general model of attributes for success in the community-based conservation of biodiversity and sustainable development was suggested from the research findings in Chapter 6. This model is presented again, with several areas highlighted for comment based on the community-level findings (Figure 39). These highlighted factors are suggested to be weak in Ehi-rovipuka Conservancy. It is suspected that these weaknesses may also be prevalent even in 'flagship' conservancies such as the Torra Conservancy. After all, IRDNC has rated Ehi-rovipuka Conservancy as 'fast track' and is presently weaning its support for conservancy operations (Nott 2006 interview). Cultural recognition is not strong in conservancy institutional arrangements and the AGM experience illustrates this, as well as the lack of incorporating ancestral practices in managing both wildlife and livestock. The institutional capacity of the conservancy is weak and institutional strengthening of financial management and accountability is needed. As well, transparency in governance and related leadership skills go wanting. In term of resource attributes in the model, Ehi-rovipuka Conservancy and neighbouring conservancies require more overlapping and adaptable boundaries with one another and with adjacent national park and tourism concession areas in terms of certain management and development priorities. Part of the reason that Ehi-rovipuka Conservancy has developed only a few tourism related enterprises is the competition among conservancies regionally for tourism developments and an evident market saturation effect. For instance, roadside craft centres have been built in many adjacent conservancies, yet they are not well patronized. A 'build it and they will come attitude' is evident. Conservancy boundaries need to be more flexible to permit regional, shared approaches to tourism investments and regional strategies for wildlife habitat conservation, focussed on the ephemeral rivers as connectivity corridors.

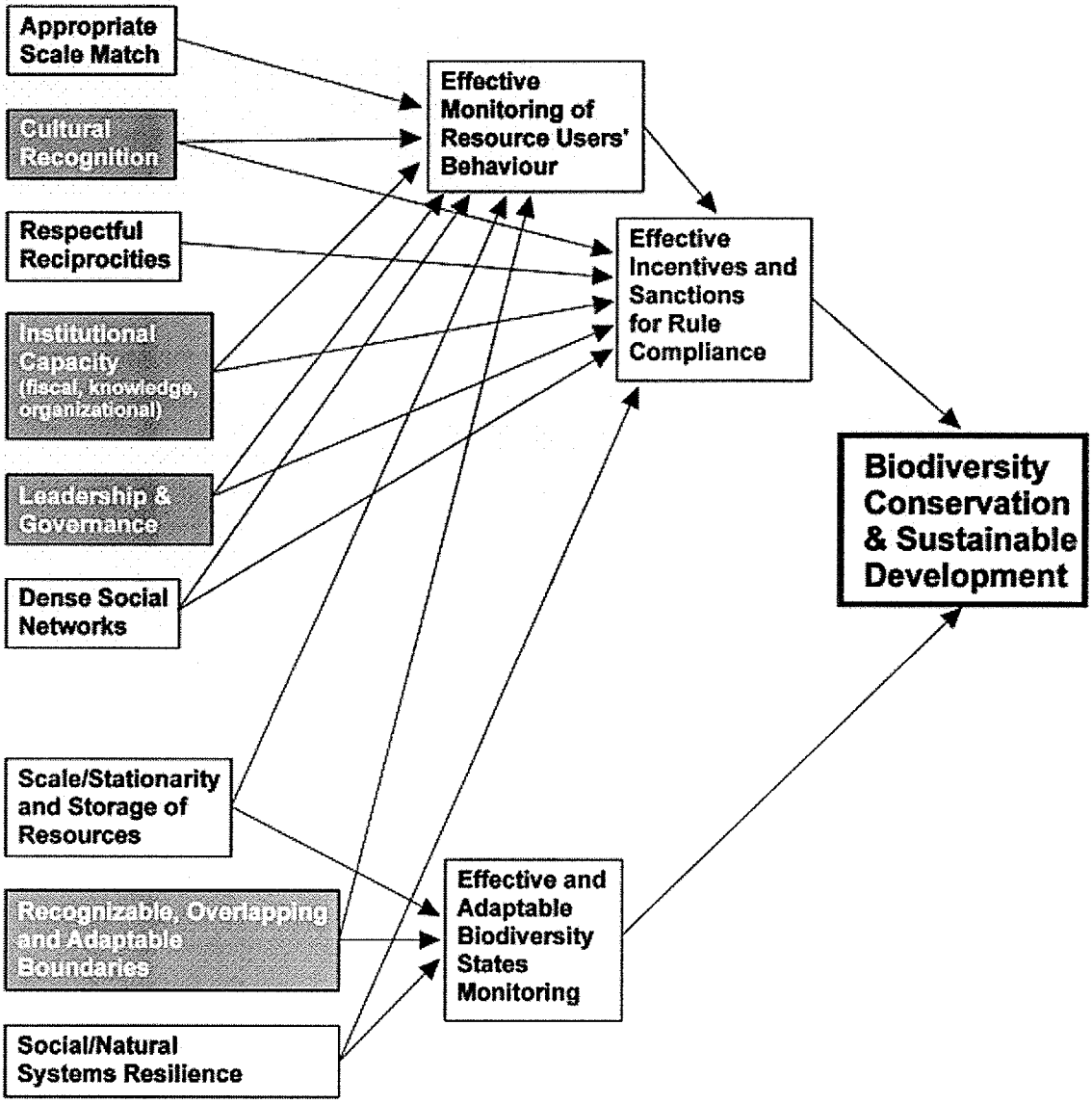


Figure 39. Comparatively Weak Institutional Features for Ehi-rovipuka Conservancy (grey boxes)

Adapted from: Stern et al. 2002:450

These summary reflections, together with those in preceding chapters, will now be gathered and synthesized as overall conclusions in Chapter 9.

CHAPTER 9:
CONCLUSIONS

Organization

This research has examined relationships between community-based conservation and protected areas as a quest to discover approaches that can be more inclusive of local communities in biodiversity conservation. I argued at the beginning of Chapter 1 that a 'fences and fines' approach to local communities and resident peoples has characterized much of protected areas management, especially for IUCN Category II National Parks. The research has confirmed this in Namibia. I also declared that I would approach this investigation from the angle of the community, in contrast to much protected areas scholarship and practice that views community as adjunct to enhancing the protection of core areas or parks.

Conclusions are organized within the framework of my expressed research purpose and objectives. Conclusions are first presented about the premise that national parks have decoupled indigenous communities and ecosystems. Related conclusions are then drawn about the objective to determine the nature and consequences of decoupling social-ecological linkages. Further conclusions are then made about the institutional interplay evident in and between community-based conservation and national parks management. Finally, suggestions are made for alternative approaches to strict protection regimes that can recouple social-ecological systems, managing for resilience and biodiversity conservation.

Decoupled Social-Ecological Systems

There is a recognizable trajectory for IUCN Category II National Parks and Protected Areas and community-based conservation institutions in Southern Africa (Figure 40).

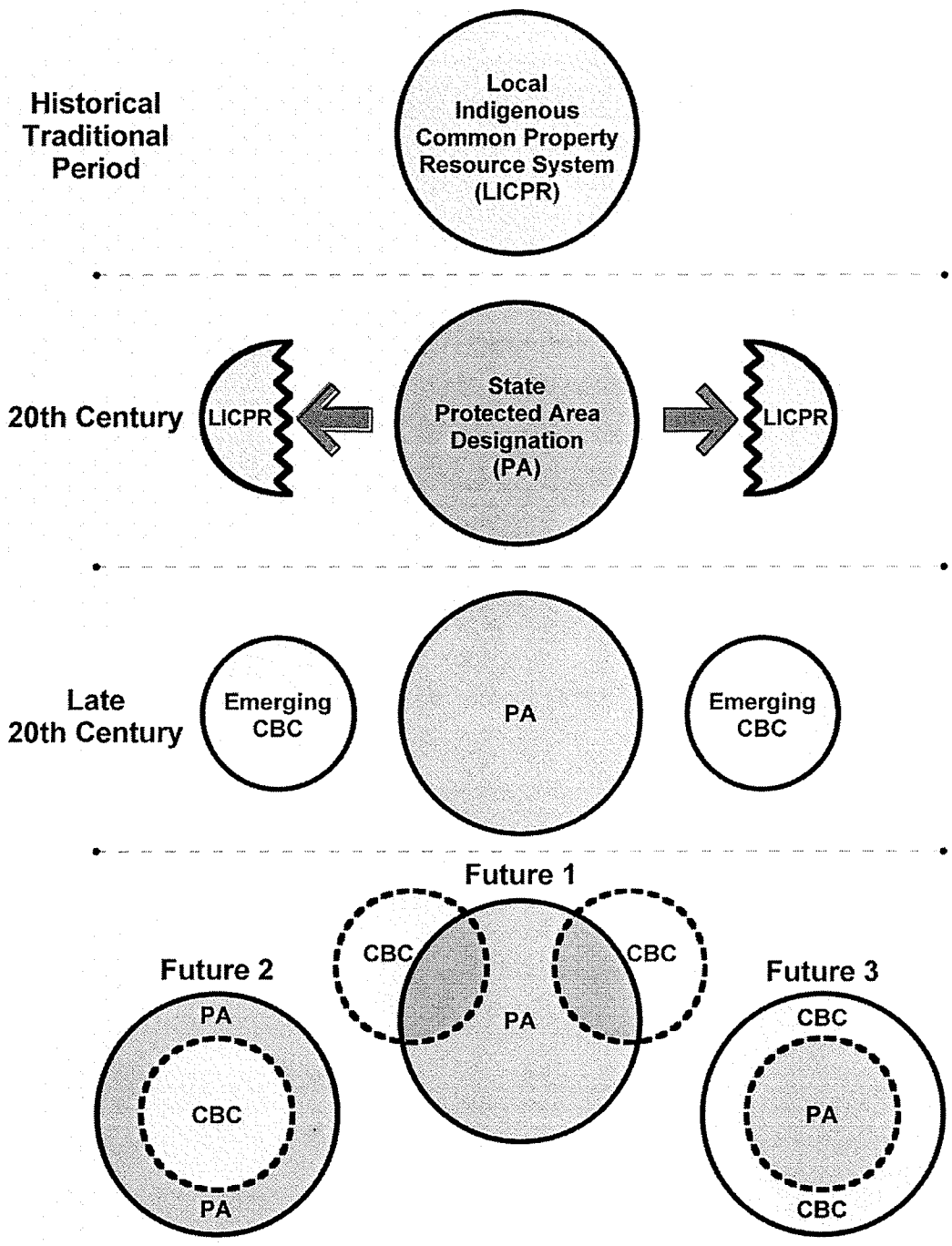


Figure 40. Summary Trajectory of Community-Based Conservation (CBC) and Protected Areas (PA) in Southern Africa

Local and indigenous resource access and use systems for collective action long preceded European colonization and the designation of protected areas in the 19th and 20th centuries. Protected area designations by colonial powers then truncated local use resource use systems and disenfranchised indigenous resident peoples from their legacies of natural capital. This polarizing use of state power still persists, contributing to the impoverishment of local communities, antipathies between parks and people, and isolating national parks from surroundings that contain cultural diversity and biodiversity. This situation threatens both biodiversity and cultural diversity.

Emerging CBNRM programs in the late 20th century have been mainly top-down, co-opting approaches by central governments, maintaining important powers and control of the state, with limited devolutions of decision-making and rights in resources to local people on communal lands. The evolution of CBNRM in Namibia, drawing lessons from earlier regional models such as CAMPFIRE and ADMADE, has produced successful institutional arrangements for community-based conservation. Namibia's conservancies present a model that deserves greater recognition by protected area managers to achieve biodiversity conservation.

Different futures are required and envisioned, acknowledging humans as integral parts of ecosystems, social and ecological systems complexity, adaptive resource management and participatory, empowering approaches in conservation. I view these futures in several scenarios; a first scenario in which community-based conservation is linked directly with and provides for local participation, empowerment, access and forms of local resource use inside parks and protected areas; a second, in which community-based conservation is entirely integrated within protected areas management, and a third scenario, where protected areas management is fully integrated with community-based conservation in wider regional landscapes. These scenarios are not mutually exclusive and none are founded on romantic notions of returning to past indigenous resource management institutions, as they were prior to protected area designation. Global ecological, socio-economic and technological change defy prospects for a return to the way things were.

I envision the future scenarios to incorporate the application of the body of knowledge and practice that has been developed to conserve biodiversity, fully including the wealth of knowledge, cultural and livelihood practices of indigenous, resident peoples. Local communities must be empowered and have full voice as partners with

scientists and professional conservationists in dealing with the wicked problem of rapid biodiversity loss (Ludwig 2001). Social justice is central to this approach (Brechin et al. 2003). Dynamic and mobile conservation areas offer promise (Elmqvist et al. 2004) in such a context. Protected area locations and boundaries can change, in response to seasonal changes, different stages in the adaptive renewal cycle (Gunderson & Holling 2002), dynamic factors such as biodiversity hotspots, disturbance events such as drought and flooding, and linked patterns and needs of local and indigenous resource use.

Systemic features and individual cases have been presented of indigenous peoples in Namibia being displaced and disenfranchised from a wildlife resource that formed an integral part of their livelihoods and cultures. Parks and wildlife legislation criminalized the use of wildlife and other resources by indigenous people. This was largely a *de jure* situation in the first few decades of protected areas establishment, given the vastness and remoteness of territory, and limited enforcement capacities of colonial field forces. But, following the Second World War, *de facto* disenfranchisement from traditional territories and resources prevailed, with a growing conservation and tourism development agenda in national parks, accompanied by the fencing off of park areas and strict enforcement of wildlife laws. The Yellowstone model of national parks was imposed, reinforced by systemic racial discrimination and rampant segregation under apartheid. The Hai||om Bushmen story in Etosha National Park provides one body of evidence. The Herero story in western Etosha provides further compelling evidence.

In both instances, indigenous resident peoples in the originally established game reserves of the early 20th century lived on in the protected areas for several decades. They maintained their long-established social-ecological relationships in the use and dependency upon a variety of resources, especially wildlife. They formed an integral part of the landscapes they occupied and adapted their patterns of pastoralism and hunting-gathering to ecological processes of exploitation, conservation, disturbance and re-organization (Holling 1986, in Berkes et al. 2003:17). The reasons for their ultimate dislocation from Etosha were fundamentally related to a competition for space and place with the arrival of European settlers. In the case of the Herero, my findings show that the nature of their decoupling from the game reserve was not initially part of a conservation agenda associated with a Yellowstone park model, as first assumed. It was the direct consequence of being moved to make space for colonial land settlement and farming. A conservation agenda came later, when the Herero tried to return to their ancestral home

in the present day Etosha National Park and were turned back by wildlife conservation and parks legislation that legally and actually fenced them out of the park area.

Findings reveal a profound and deep loss felt by the Herero of Ehi-rovipuka Conservancy that epitomizes their decoupling from Etosha National Park. They lost not only a special place with water and graze for their cattle, an abundance of wildlife to hunt and field foods to gather. They also lost social memory for the traditional institutions that governed their use of resources such as the wildlife. There is a strong antipathy towards the park by present day villagers and a strong sense of unfulfilled purpose to return to their lost place in the park area. The Herero want more livelihood opportunities inside the park and they want to restore cultural relationships, most poignantly expressed by their desire to visit, care for and treat as sacred the graves of deceased ancestors. The community enjoys little to no benefit from living next to the park but incurs substantial costs, primarily associated with livestock losses to predators originating inside the park, but also in terms of foreclosed opportunities for livelihoods and cultural expression. Community attitudes towards the park and predators are mainly negative. This cannot bode well for biodiversity conservation. Yet, research elsewhere suggests that local communities are more likely to accept a degree of wildlife conflict if they experience benefits from conservation (Bajracharya et al. 2006).

This situation has begun to change with the delegation of rights in wildlife to communal residents and the institution of conservancies. The people of Ehi-rovipuka Conservancy are starting to enjoy some new benefits from wildlife and they have identified a number of prospective benefits from the national park that would be meaningful to them and improve their lives. The history of Namibia's conservancies and the precursor community game guard program reflect an inherent conservation ethic among the Herero, now overshadowed by other levels of decision-making and partner roles in CBNRM and the politics of the conservancy movement (Agrawal & Gibson 1999). As well, findings show, notwithstanding human-wildlife conflicts, that villagers do value wildlife highly both for livelihoods and more intrinsic reasons. The institution of the conservancy and the community values and attitudes towards wildlife present opportunities to forge positive institutional linkages between conservancies and the national park.

My fundamental conclusions about the relationships of the Herero of Ehirovipuka Conservancy and Etosha National Park are best illustrated by a model (Figure 41).

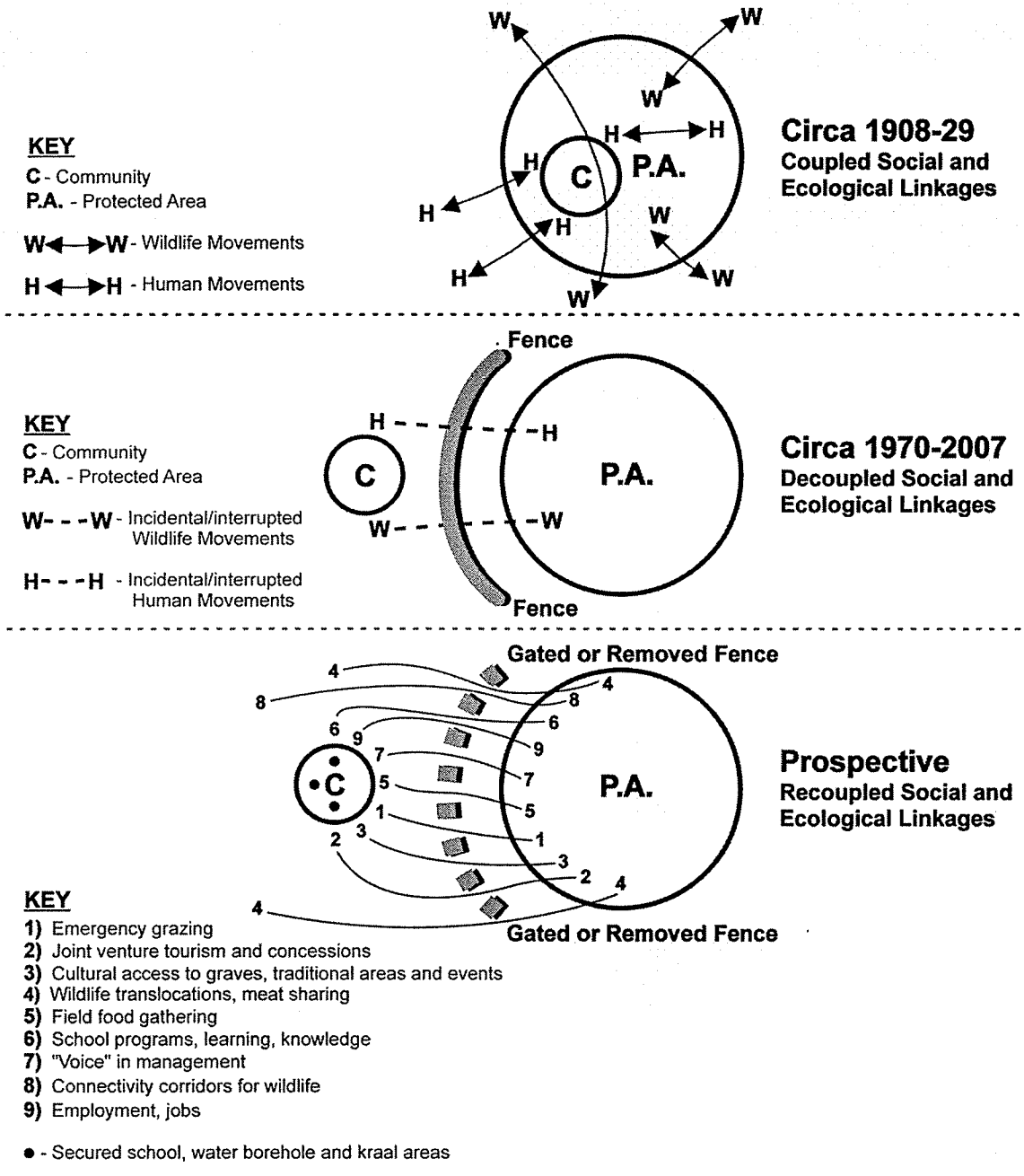


Figure 41. Model of Decoupling and Recoupling Social-Ecological Linkages

This model summarizes that from 1908 to 1929 a community lived fully and freely within a designated protected area (Game Reserve No. 2) that was precursor to Etosha National Park. Both people and animals moved unimpeded across a wider landscape. Social and ecological systems linkages were uninterrupted. The Herero were then forced out in 1929 and moved to Ombombo. When Kephas Muzuma led their attempt, circa 1970, to re-enter lost ancestral ground in Etosha, they were re-buffed by the South African government and the decoupling impacts of the park persisted to the present day. But, the community has identified a number of benefits they would like to enjoy based upon renewed access to the park. They have not insisted on a return to the past and the hunting of wildlife inside the park, as example. Ehi-rovipuka Conservancy is beginning to satisfy their needs for wildlife use and benefits. Rather, the Herero of Ehi-rovipuka Conservancy have indicated a series of prospective benefits, activities and relationships that would enhance their co-existence with the national park.

I conclude that these benefits and relationships are mechanisms for recoupling social-ecological linkages and promoting collaboration and cooperation in conserving biodiversity. Recoupling can include joint tourism ventures, environmental education programs, emergency grazing of community cattle during drought, the gathering of field food, and regular community access to visit and tend to graves and ancestral, sacred areas, all within Etosha. Other important recoupled linkages can include connectivity corridors for wildlife, wildlife translocations, community employment in park operations and a shared voice in park management. Such linkages require both the figurative and literal breakdown of the park fence, to permit flows of people and wildlife back and forth between the park and conservancy.

The model necessitates joint or co-management arrangements for each prospective linkage and associated activity (Pomeroy & Berkes 1997). Management needs to be adaptable to processes of disturbance and renewal, aiming to maintain ecological and social resilience (Berkes & Folke 1998). Co-management arrangements could vary but must address the key question about what management functions are best handled at the local or communal level (Pomeroy & Berkes 1997). Not all recoupled linkages would happen at once, or during the same periods of the year. They would include and require a shared voice in management by both the Ministry of Environment and Tourism and the Ehi-rovipuka Conservancy, in shared areas of conservation and use.

The scale of securing people and property from wildlife threats and park lands from uncontrolled incursions of people and livestock would change from a regional fencing system that poses major problems for wildlife and humans, to localized fences and kraals that help secure schools, boreholes and livestock. A pertinent observation from East African experience suggests that if elephants and cattle could have their way, they would trade places. When cattle are fenced in, they overgraze and destroy grasslands, creating bush. When elephants are fenced in, they over browse, thinning the bush and creating grasslands (Western 2002:229). This is evident in parts of the study area. So too is a history of culling wildlife like the elephant in Etosha; a practice directly attributable to park fences as described in Chapter 5. Such practices, in contrast to opening up wider landscapes for wildlife and people to share and thrive, are contrary to conserving biodiversity. I conclude that the park fence must come down, or at the least be made more porous, to effectively recouple social-ecological linkages.

Institutional Linkages and Interplay

There are very few institutional linkages between protected areas management and community-based conservation in Namibia, notwithstanding that CBNRM and national parks programs are housed within the same government ministry. Yet, there are portents of change in draft parks legislation, policies and recent donor-funded projects that could provide a foundation for recoupled social-ecological linkages such as those suggested. A recent government declaration of new protected areas on tourist concession and state lands aims to reconnect Etosha with the Skeleton Coast. This may offer tangible prospects for new relationships between communities, conservancies and protected areas. The Ministry of Environment and Tourism is engaging Kunene region communities and conservancies in considering possible 'contractual parks' for these designated areas, featuring shared benefits and allowing communal area residents to live where they are (Beytell 2007 interview, Owen-Smith 2007 interview; Paxton 2006 interview). However, the proposed typology of these areas as "contractual parks" poses some issues and limitations in the recognition of conservation by conservancies which I will elaborate upon more fully in a moment.

My findings reveal that dense networks of vertical and horizontal linkages (Berkes 2004; Young 2002) between and among NGOs and conservancies are critical to the success of community-based conservation. National NGOs play an important mediating role as boundary organizations (Cash & Moser 2000) with international donors

whose funding ultimately drives the overall CBNRM program. Certain NGOs have been assigned lead, brokering roles to initiate bilateral technical support and capacity-building partnerships between other NGOs and local conservancies. This is very clear in the Ehirovipuka Conservancy case. Both top-down and bottom-up dimensions are at play (Berkes 2004; Young 2002). Omnipresent international donor funding, the enabling legislation for CBNRM, and the central Ministry of Environment and Tourism's role in approving annual wildlife quotas characterize top-down features. Bottom-up dimensions include the community game guard program and community negotiation and organization of conservancy boundaries. Managing the commons at multiple levels, with vertical and horizontal interplay among institutions, is very evident in Namibia. Community-based conservation alone is not a panacea for the challenges of conserving biodiversity (Berkes 2007). Critical convergences of people, events and visions have contributed to the evolution of community-based conservation over a 25 year period. It has take time to develop the institutions of community-based conservation and lessons have been drawn from experiences such as CAMPFIRE and ADMADE in the wider Southern African region. As well, global discourses in sustainable development and biodiversity conservation have merged with national and local discourses in wildlife conservation, reinforcing the need for complex, redundant and layered institutions to tackle the wicked global problem of biodiversity loss (Dietz et al. 2003; Ludwig 2001).

Particular attributes or features of community-based conservation are especially important to achieve biodiversity and sustainable development. Dense social networks, appropriate scale match, cultural recognition, respectful reciprocities, institutional capacity and leadership are all important social attributes. 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 critical convergences with potential partners. The actual monitoring of resource use and users is pivotal, and offers great promise as a process for building partnerships between scientists, park managers, and local community knowledge holders. Effective, community supported incentives and sanctions for rules compliance are pivotal as well. Natural resource attributes include the necessity of scale considerations, in addition to stationarity and storage (Agrawal 2002; Stern et al. 2002). The physical boundaries for collective action 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. Properties of social and ecological resilience are also causal for

effective monitoring and the application of incentives and sanctions for compliance in biodiversity conservation. Community and natural resource attributes appear to vary from conservancy to conservancy in Namibia and the weaknesses of several in the Ehi-rovipuka Conservancy case require particular attention to further strengthen the conservancy as a community-based conservation institution.

Ehi-rovipuka Conservancy has produced some early benefits for its members and a good deal of hope since its formation in 2001. The sustainability of the conservancy model hinges on institutional strengthening in financial management and transparency in governance, as well as strengthened villager participation in decision-making and priority setting for wildlife-based revenues earned by the conservancy. More culturally congruent and appropriate means for participation in decision-making and distribution of benefits are needed. Constitutionally imposed policies and procedures by central government, such as the conduct of conservancy AGMs and attainment of set quorums at meetings, need to be replaced or complemented with more consensual decision-making and consultative processes, consistent with Herero traditions. Villagers frequently mentioned the early days of many meetings and consultations at the individual village level when conservancy formation was being considered and boundaries were being negotiated with neighbouring communities. But, these approaches have been diminished and replaced by AGMs and other mandatory features of conservancy constitutions dictated by central government. Ehi-rovipuka Conservancy has developed an apparently decentralized model of governance on paper, but this is not yet being fully realized in practice.

Developing needed linkages with Etosha National Park is key to the future of the conservancy and community well-being. It has been shown in Chapter 6 that a theory of creating economic incentives for community conservation rests at the heart of CBNRM programs in Southern Africa (Blaikie 2006). Yet, the Herero of Ehi-rovipuka Conservancy are actively participating in conservation with few tangible economic incentives to date. While certain future benefits sought by villagers are tied directly to more economy, they are equally tied to cultural renewal (Infield 2001), intrinsic values to conserve wildlife, and attaining a greater voice in natural resources management.

Panarchy effects of scale (Gunderson & Holling 2002) are important to the viability of conservancies as sustainable and adaptable institutions for conservation. Panarchy effects were introduced in Chapter 2 and feature smaller, faster adaptive

renewal cycles nested within larger, slower cycles that operate at different scales. Panarchy effects are recognizable for both ecological and social systems. Individual conservancies like Ehi-rovipuka are quite localized wildlife conservation institutions, now nested within many other neighbouring conservancies and regional distributions and movements of wildlife upon which each depends. The rapid scaling up in the numbers of conservancies suggests a commensurate need for scaling up of regional institutions and collaborations. The management of wildlife must extend beyond the monitoring of populations to include monitoring and management of habitats, especially the connectivity corridors along ephemeral rivers. These conclusions reinforce certain others addressing alternative approaches to protected areas.

Alternatives Approaches for Biodiversity Conservation

The remaining objective for this research is to suggest alternative approaches to the strict protection regimes of national parks that can help recouple social-ecological systems and achieve biodiversity conservation. New 'contractual parks' planned by Namibia's Ministry of Environment and Tourism to connect the Skeleton Coast Park to Etosha National Park may be one such approach (Beytell 2007 interview; Owen-Smith 2007 interview). But, this has yet to be achieved and the lack of early involvement by communities and conservancies raised apprehensions at community level based on past experience with parks. This situation is reportedly changing, but the language and labels of "park" and "contractual" relationships suggest centralized state power and control based on past models of parks that do not give due recognition to community and prospects for conservation presented by communal conservancies. The core instincts of protected area managers and the ministry appear to be to create yet more parks, rather than focussing on what communal conservancies can contribute to biodiversity conservation. While a recent paradigm shift has been described in the protected areas literature (Phillips 2003) that more fully embraces community and partnerships, the emphasis remains on protection, with cooperation and co-opting characterizing the discourse concerning community participation. The terminology and typology of park and protected area need to yield further ground to the terms and concepts of community and community conservation.

Other linkages are possible between protected areas and community. These linkages are envisioned within a wide area landscape approach to conservation that can encompass biodiversity at the genetic, species, community and ecosystem levels

(Diamond 1975; Noss 1995; Poiani et al. 2000, as cited in Groves 2003) and be more fully inclusive of heterogeneity. This research has detailed the dynamic characteristics of a region where disturbance regimes of drought and stochastic flooding of ephemeral rivers alternate to sustain linear oases, high species endemism and a compelling wildlife spectacle upon which communal conservancies are founded. New approaches to foster institutional arrangements and linkages for biodiversity conservation are needed. Concepts of protected landscapes and community-conserved areas (Brown et al. 2005; Lucas 1992; Borrini-Feyerabend et al. 2004a) offer promise, but more dynamic models are required that place less emphasis on the designation of parks and more on needed collaborations and partnerships between park agencies, conservation NGOs and communities in living landscapes.

A model is suggested to address these requirements based on the Kunene region of Namibia that may have wider applicability (Figure 42).

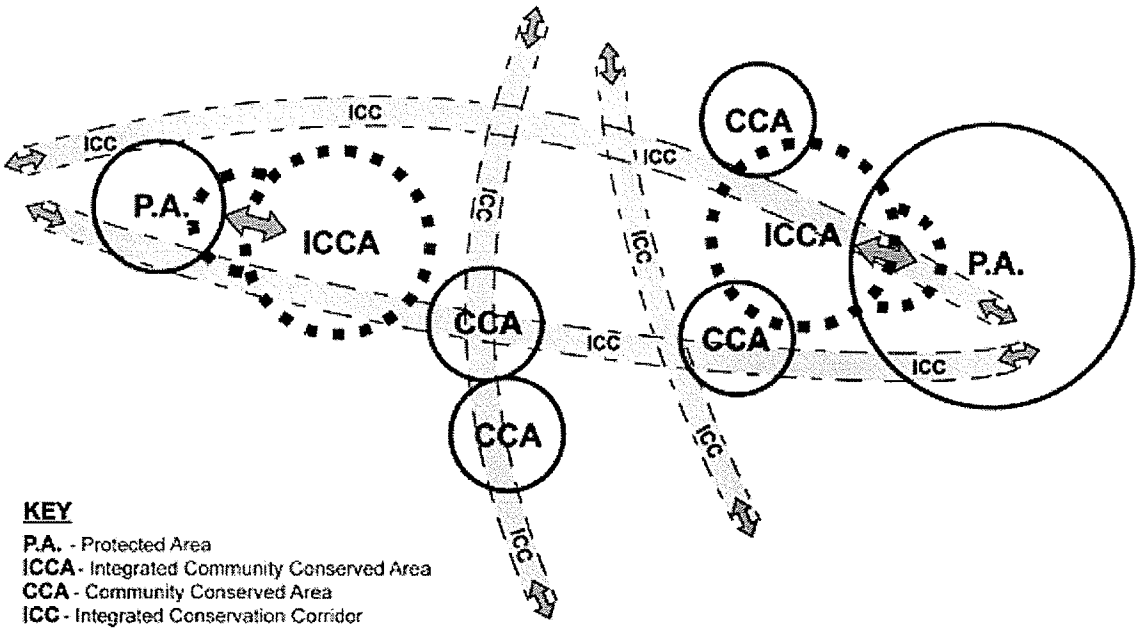


Figure 42. Community-Based Conservation and Protected Areas for Biodiversity

This model suggests explicit regional institutional arrangements to integrate efforts by more localized institutions such conservancies and designated national parks for connectivity in Integrated Conservation Corridors (ICCs). Such ICCs would facilitate the movements of species and source-sink relationships of landscape patch dynamics and metapopulations (Margules 2000; Noss et al. 2002). CCAs, such as Namibia's

conservancies, would lead the conservation on the commons, in collaboration with other partners, especially neighbouring CCAs. Integrated Community-Conserved Areas (ICCAs) are also depicted that could shift in and out of designated parks in response to social-ecological dynamics, integrating with parks and protected areas management. ICCAs are actually more flexible and adaptable extensions of CCAs, that would shift CCA resource use and management in and out of protected areas, or vice versa.

These represent approaches that feature more integration and collaborative management (Borrini-Feyerabend et al. 2004b), dynamic reserves (Bengtsson et al. 2003; Elmqvist et al. 2004) and the fuller recognition of community institutions for biodiversity conservation. They are real alternatives to the Yellowstone model exemplified by IUCN Category II National Parks. Such typologies may have wider application to other regions of the world that possess similar characteristics of low human population densities, community-based conservation institutions, large park reserves, high species endemism and biodiversity. The model may be more limited in application where high human populations and different resource scales prevail.

Reflections on Research Prospects and Process

Several needs and prospects for further research are evident. Power relationships between central government, communities, tourism enterprises and protected areas warrant research attention (Jones & Mosimane 2000; Johnson 2001). Glimmerings of emerging problems in partnerships and power relations between communities and private sector tourism enterprises were noted during my work. For instance, early promises for greater equity positions and management capacity building for communities by private sector partners in tourism enterprises have been slow to develop, and some enterprises seem to have forgotten commitments made to communities when they first secured attractive sites for their developments on communal lands in conservancies (Roman 2007 interview; Owen-Smith 2007 interview).

On a related matter, why is Ehi-rovipuka Conservancy foregoing its own use hunting of much needed wild meat in order for a trophy hunting enterprise to start-up in the conservancy? Does this reflect power relationships that effectively deny community place and priorities in resources management? These are critical questions in countries like Namibia that have pinned high hopes on wildlife-based tourism to sustain community-based conservation and related livelihoods. National park tourism

development policies and arrangements for community involvement are also topical for research. Regional institutional arrangements for biodiversity conservation and sustainable wildlife-based tourism also warrant further research attention. Issues of scale and institutional fit require much greater attention as conservancies rapidly scale up. This is also related to land reform that is much anticipated and considered past due in Namibia (Odendaal 2007 interview).

I began this journey back to Africa to learn more about the relationships between people and parks. It has been a remarkable trip and I have learned much that I have tried to share in these pages. Nevertheless, some definite research limitations are acknowledged. My role as an itinerant researcher posed inherent limitations as I drove into the remote study community of Otjokavare in a 4x4 truck 'out of the blue,' and began sharing a very brief period of community life to build relationships and learn. I accomplished this largely through my community assistant and interpreter, Asser Ujaha and owe a great deal to his integrity, patience and hard work. He proved to be a very able assistant and his personal knowledge and standing in the community were a godsend. Nevertheless, my total incompetence in the Otjiherero language and my great dependency on Asser Ujaha to translate everything for me certainly may have resulted in misunderstandings and misinterpretations on my part. I asserted in the introduction that I aimed to address my research purpose and objectives from the community perspective. Yet, as an itinerant researcher, it is presumptuous for me to suggest that I have been able to fully grasp the complexities and nuances of community experience and perspectives concerning protected areas and wildlife management.

As well, Asser Ujaha is an employee of my local cooperating agency IRDNC and certain unintended biases may have been introduced into my research process. I was well aware of this prospect from the start and explicitly discussed with Mr. Ujaha my need to meet with and interview a cross-section of villagers and learn their views, uncensored by his interpretations. I believe this was accomplished in the range of people and dialogues represented in the community surveys. As an indication that Mr. Ujaha respected my request, I was frequently reminded by him to interview more women. I made a particular point with him and indeed, with everyone I interviewed, that I was an independent researcher and did not work on behalf of the government, IRDNC or anyone else. I believe this helped to promote open and candid responses to my many inquiries.

Another factor that may well have influenced the findings of this work is the establishment status that CBNRM and its advocates have attained in Namibia. This was especially evident during many of my semi-structured key informant interviews in Windhoek. CBNRM has concentrated power and resources in a tight cadre of professional and technical elites that populate government ministries and NGOs. These persons all know each other well and they market the successes of CBNRM and the conservancies very effectively (Blaikie 2006). CBNRM is a popular platform for national politicians who present it as a panacea for rural poverty alleviation and alternative livelihoods. The researcher finds himself receiving a sales pitch on CBNRM and conservancies from many constituencies. I should hasten to point out that the commitment and accomplishment of those who have been involved from the beginnings of the community game guard program and CBNRM in Namibia is remarkable and the international acclaim that has been won is well deserved (UNDPa 2004; World Resources Institute 2005). Nevertheless, a researcher must guard against being overwhelmed by the marketing of CBNRM. The extent to which I have been successful in this I leave to the reader's judgment. In spite of these research limitations, the story of community-based conservation and protected areas in Namibia is a rich one, which I believe presents important lessons and has taught me a great deal.

EPILOGUE

The Prologue opens with a quote from Turnbull's remarkable study of the Ik, a mountain people of hunters and gatherers who moved deliberately and widely over a vast area of Northern Uganda, Sudan and Northern Kenya in search of wild animals, vegetables, fruits, and honey. The Ik were then confined to a much smaller area between the Kenya-Uganda escarpment and Mount Morungole, on the eastern edge of what became the Kidepo National Park (Turnbull 1972). The Kidepo Valley was included in the national park and had been the major hunting territory of the Ik. They could no longer use this area and became "imprisoned in one tiny corner" of their traditional territory. Turnbull implicates their exclusion and confinement by the national park in a subsequent dehumanizing process of terrifying proportions. It is a worst case scenario of how a state protectionist agenda can threaten the very survival of a society.

My study of community-based conservation and protected areas in Southern Africa has revealed an evolution and progress of community-based conservation that provides much hope and opportunity for avoiding the fate of the Ik. Namibia's conservancies, and the Ehi-rovipuka Conservancy as a particular case, represent institutional arrangements for community-based wildlife management that are contributing importantly to local community sustenance and empowerment. The research suggests that these institutions and their evolved networks of linkages and partnerships among and between local, regional, national and international organizational levels have merged top-down and bottom-up forces for success in community-based conservation. But, commensurate linkages and partnerships with protected areas management for biodiversity conservation are yet to be realized. The national parks of Namibia, exemplified by Etosha National Park, remain very much a command-and-control model that at best conceptualizes local communities as 'neighbours' that must be placated to reduce real or imagined threats to national parks.

My research has demonstrated cases of decoupled social and ecological linkages for the Hai||om Bushmen and Herero in Etosha National Park, within an historical systemic framework that criminalized the use of wildlife by indigenous Africans. I have argued for and suggested alternatives to recouple communities and protected areas to promote biodiversity conservation and sustainable community development. My proposed means for recoupling are founded upon those very benefits that Herero

villagers indicated they wish to enjoy from the Etosha National Park, as well as their allied hopes, expectations and participation in community-based conservation through the Ehi-rovipuka Conservancy.

The research has prompted reflections on my earlier experiences in official overseas development assistance projects in Zimbabwe. These projects were well-funded, with good intentions. Yet, they produced few tangible results for local communities that were the intended recipients. My research in Namibia has contributed to a greater sense of hope that international donor assistance, mediated and managed by national NGOs and local communities, can achieve more than a sporadic and temporary 'trickle down' of development benefits to community and household levels.

Dr. Stuart Marks, as a committee member for my doctoral work, has challenged me with the question of how this research may have changed me as a person. The answer is not simple. One thing I have certainly learned is how little I know.

The generosity of spirit and cooperation that I received from the villagers of Otjokavare, where I had little or nothing to offer in return, has renewed my hope in humanity and given me a deep respect for cultures different from my own. The Herero face insecure livelihoods and uncertain futures in the face of real threats from recurring drought, HIV/AIDS, and socio-political instabilities. Yet, they live each day in good humour and hope. I have become ever more grateful for the good fortune to have had healthy parents that lived long, caring lives, to have been well fed, sheltered and educated, and to have been able to raise my own healthy family, living freely as a Canadian. My freedom and well-being have bestowed another privilege – to be able to visit, see, share and appreciate a distant community and culture and be welcomed as a fellow human being.

Although certain pessimisms may be evident in this body of work, I believe that the essential goodness of people bodes well for community-based conservation, protected areas, and the much needed relationships between the two in conserving both biodiversity and cultural diversity. Heterogeneity is everything in this endeavour.

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Personal Communications

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Kurz, V., National HIV and AIDS Coordinator, NACSO, Windhoek, July 2006.

Matongo, G., Chief Warden, Directorate of Parks and Wildlife Management, Ministry of Environment and Tourism, Windhoek, June 2007.

Stewart-Hill, G., World Wildlife Fund, Life Plus Project. Windhoek, June 2007.

KEY INFORMANT INTERVIEWS

Mr. Ben Beytell, Director, Directorate of Parks and Wildlife Management, Ministry of Environment and Tourism, Windhoek, June 2006

Mr. Ben Beytell, Director, Directorate of Parks and Wildlife Management, Ministry of Environment and Tourism, Windhoek, April 2007

Dr. Chris Brown, Executive Director, Namibia Nature Foundation, Windhoek, June 2006

Mr. Pintile Davids, Managing Director, Rural Peoples' Institute for Social Empowerment (RISE), Windhoek, June 2006

Ms. Pascolena Florry, Manager, Damaraland Camp, Torra Conservancy, July 2006

Ms. Pascolena Florry, Manager, Damaraland Camp, Torra Conservancy, May 2007

Mr. Duncan Gilchrist, former Park Area Warden, Etosha National Park, Cauas-Okawa Farm #30, April 2007

Mr. Duncan Gilchrist, former Park Area Warden, Etosha National Park, Kamanjab, May 2007

Mr. John Hazam, CBNRM Coordinator, Ministry of Environment and Tourism, Windhoek, June 2006

Mr. John Hazam, CBNRM Coordinator, Ministry of Environment and Tourism, Windhoek, July 2006

Mr. John Hazam, Senior Advisor, Legal Assistance Centre, Windhoek, June 2007

Mr. Tobias Hilotoka, Principal, Kephas Muzuma Primary School, Otjokavare, August 2006

Mr. Tobias Hilotoka, Principal, Kephas Muzuma Primary School, Otjokavare, April 2007

Dr. Margaret Jacobsohn, Founding Director, Integrated Rural Development and Nature Conservation (IRDNC), Wereldsend, July 2006

Mr. Gerhardus Jansen, Tour Guide, Damaraland Camp, Torra Conservancy, July 2006

Mr. Gerhardus Jansen, Tour Guide, Damaraland Camp, Torra Conservancy, May 2007

Mr. Brian Jones, Environment and Development Consultant, Windhoek, June 2006

Mr. Brian Jones, Environment and Development Consultant, Windhoek, July 2006

Ms. Olga Katjiuongua, Tourism Joint Venture Administration, Namibia Community Based Tourism Association (NACOBTA), Windhoek, August 2006

Ms. Olga Katjiuongua, Tourism Joint Venture Administration, Namibia Community Based Tourism Association (NACOBTA), Windhoek, June 2007

Mr. Jackson Kavetu, Field Officer, Ehi-rovipuka Conservancy, Otjokavare, May 2007

Dr. Pauline Lindeque, Director of Scientific Services, Ministry of Environment and Tourism, Windhoek, August 2006

Ms. Maxi Pia Louis, Coordinator NACSO Secretariat, Namibian Association of CBNRM Support Organizations, Windhoek, June 2006

Ms. Maxi Pia Louis, Coordinator NACSO Secretariat, Namibian Association of CBNRM Support Organizations, Windhoek, July 2006

Ms. Maxi Pia Louis, Coordinator NACSO Secretariat, Namibian Association of CBNRM Support Organizations, Windhoek, June 2007

Mr. Alfons Mosimane, Head: Life Sciences Division, Multi-Disciplinary Research and Consultancy Centre, University of Namibia, Windhoek, June 2006

Mr. Alfons Mosimane, Head: Life Sciences Division, Multi-Disciplinary Research and Consultancy Centre, University of Namibia, Windhoek, July 2006

Ms. Karen Nott, Coordinator, Integrated Rural Development and Nature Conservation (IRDNC), Windhoek, June 2006

Ms. Karen Nott, Coordinator, Integrated Rural Development and Nature Conservation (IRDNC), Windhoek, August 2006

Mr. Willem Odendaal, Legal Researcher, Legal Assistance Centre, Windhoek, July 2006

Mr. Willen Odendaal, Legal Researcher, Legal Assistance Centre, Windhoek, June 2007

Mr. John Pallett, Director, Desert Research Foundation, Windhoek, August 2006

Ms. Midori Paxton, SPAN Project Coordinator, Directorate of Parks and Wildlife Management, Ministry of Environment and Tourism, June 2006

Ms. Midori Paxton, SPAN Project Coordinator, Directorate of Parks and Wildlife Management, Ministry of Environment and Tourism, July 2006

Mr. Bennie Roman, Chairman, Torra Conservancy, Bergsig, May 2007

Mr. Martin Shikongo, Natural Resources Management, Rural Peoples' Institute for Social Empowerment (RISE), Windhoek, August 2006

Mr. Michael Sibalatani, Chief Control Warden, Etosha National Park and Skeleton Coast Park, Okaukuejo, April 2007

Mr. Bonny Simataa, Area Warden, Etosha National Park, Otjovasandu, April 2007

Mr. Dave Van Smeerdiik, Manager, Wilderness Safaris, Windhoek, July 2006

Mr. Garth Owen Smith, Founding Director, IRDNC, Wereldsend, July 2006

Mr. Garth Owen Smith, Founding Director, IRDNC, Damaraland Camp, May 2007

Mr Greg Stewart-Hill, World Wildlife Fund, Life Plus Project. June 2007. Windhoek

Mr. Jo Tagg, ICEMA Project Coordinator, Ministry of Environment and Tourism, Windhoek, August 2006

Dr. Peter Tarr, Executive Director, Southern African Institute for Environmental Assessment (SAEIA), Windhoek, June, 2006

Dr. Peter Tarr, Executive Director, Southern African Institute for Environmental Assessment (SAEIA), Windhoek, June, 2007

David Tjipurua, Department Head, Kephas Muzuma Primary School, Otjokavare, August 2006

Mr. Gerson Uaroua, Community Game Guard and Former Chairman, Ehi-rovipuka Conservancy, Otjokavare, May 2007

Mr. Asser K. Ujaha, IRDNC Field Officer for Ehi-rovipuka Conservancy, Otjokavare, July 2006

Mr. Asser K. Ujaha, IRDNC Field Officer for Ehi-rovipuka Conservancy, Otjokavare, May 2007

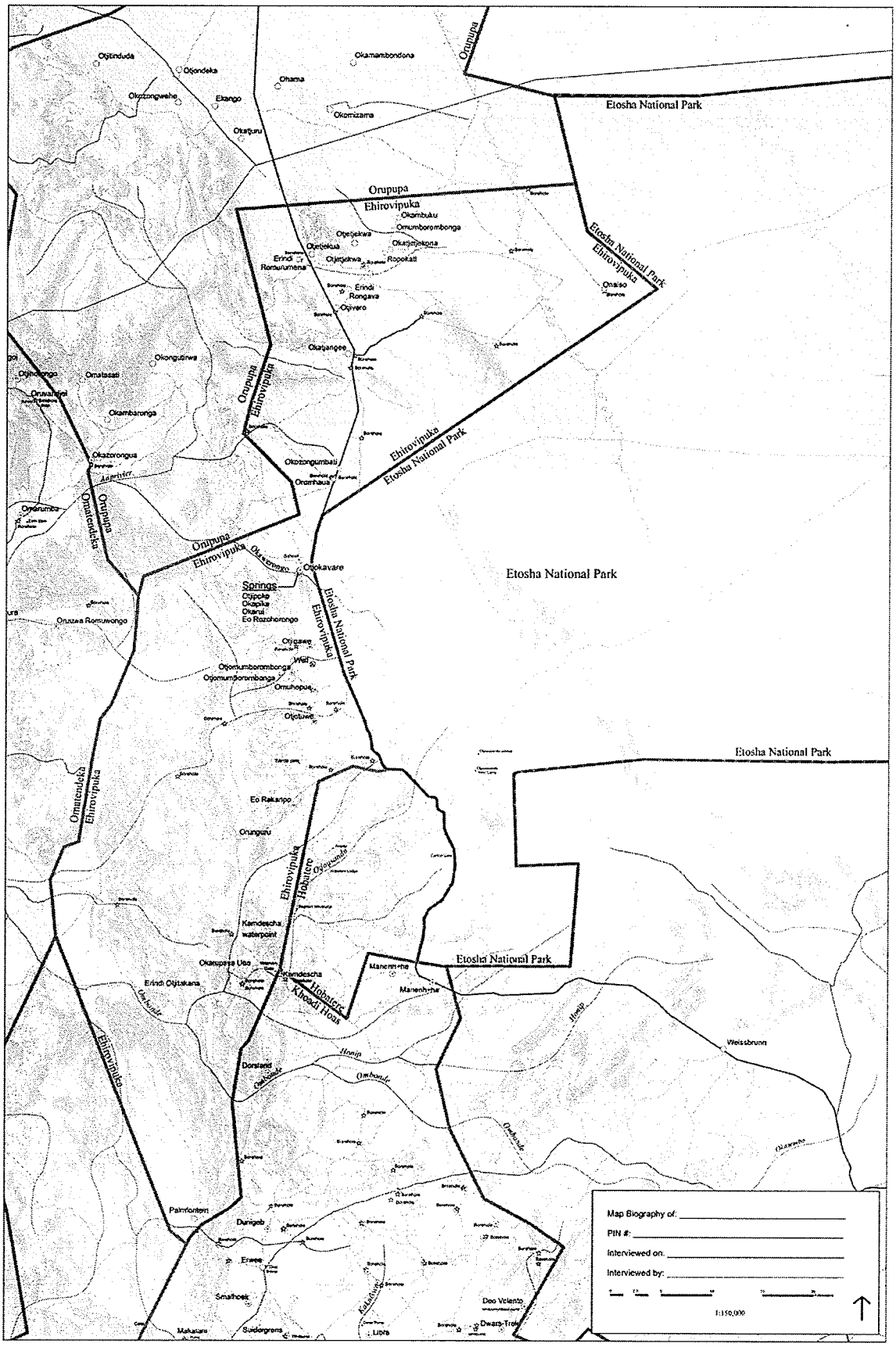
Mr. Chris Weaver, Chief of Party, WWF(US), Windhoek, August 2006

Mr. Chris Weaver, Chief of Party, WWF(US), Windhoek, June 2007

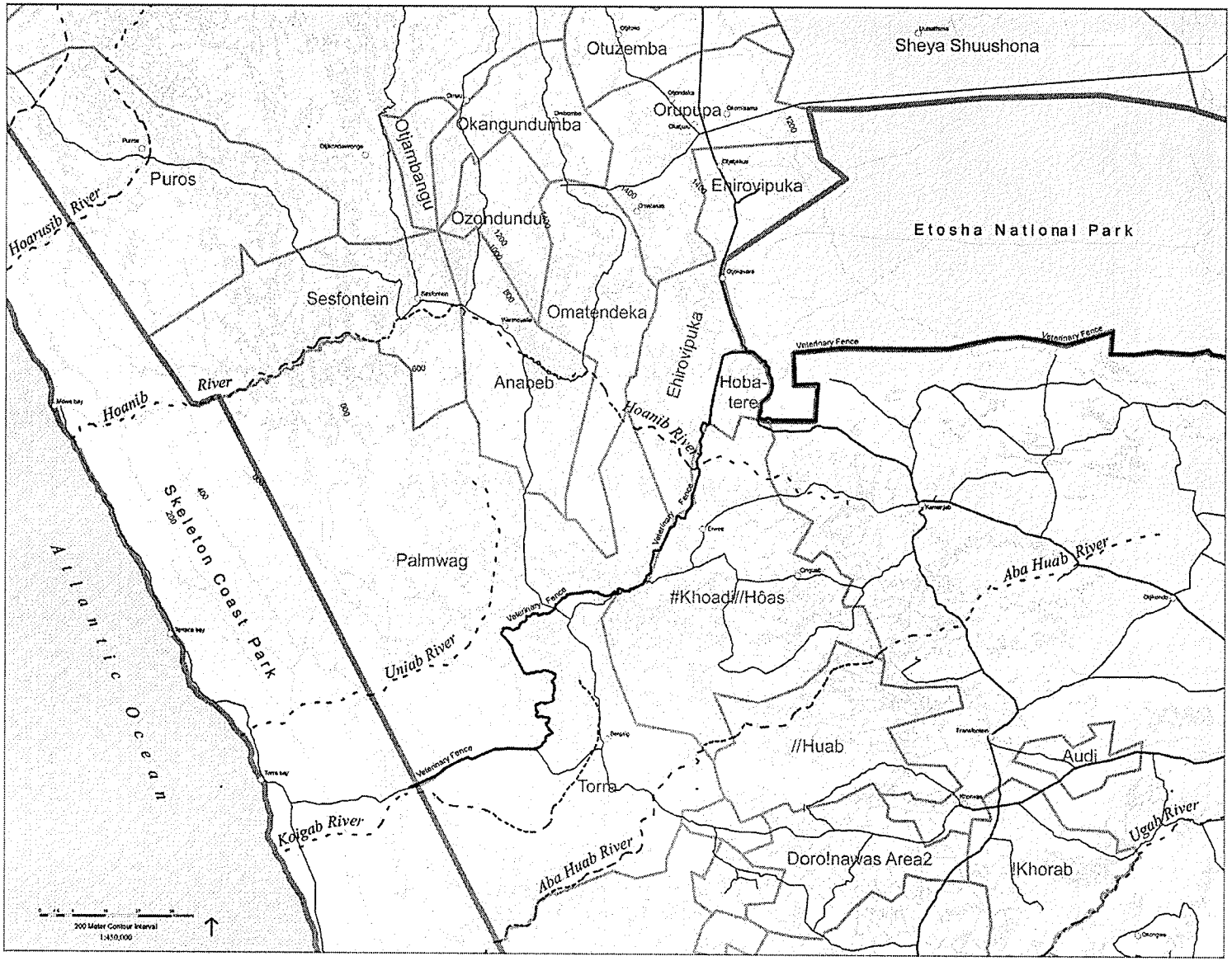
APPENDIX 1: BASE MAPS USED IN COMMUNITY MAPPING PROCESSES

Two base maps were prepared, increased to plot size and laminated for use in the field. Page-sized versions of these maps were also employed in the community-based surveys and PRA mapping processes. These maps aimed to include many reference points and local names to enable mapping participants to readily locate the information asked of them.

Map 1, the Ehi-rovipuka Conservancy base map included Herero place names, spring and borehole locations, contours and shaded areas of heavier slopes, rivers, streams and roads, with the intent to provide community participants as many reference points as possible for the information they would be asked to plot on the maps. A regional base map, Map 2, was also prepared with a similar level of detail.



Map 1. Ehi-rovipuka Conservancy Base Map



Map 2. Regional Base Map

APPENDIX 2: STRUCTURED VILLAGER INTERVIEW QUESTIONS

Wildlife Questions

1. How important are wild animals in your household life? Are they Important, Somewhat Important, Unimportant? Why?
2. Which wild animals do you like? Why?
3. Which wild animals do you dislike? Why?
4. What causes increases and decreases in numbers of wild animals?
5. How did your ancestors (e.g., parents, grandparents) protect their cattle and goats from wild animals?
6. What were the community customs and rules for using wild animals before the conservancy?
7. What happened when community rules for wildlife use were not followed by someone in the past, before the conservancy? What happens today?

Park Questions

1. What is it like living right next to Etosha National Park?
2. What do community people do in Etosha National Park?
3. Did your ancestors live in the Etosha Park area? Where? What are the names of these places?
4. What wild animals did your ancestors use in the Etosha National Park?
5. What benefits do you receive from Etosha National Park?
6. What benefits would you like to receive from Etosha National Park?

Conservancy Questions

1. How did the Ehi-rovipuka Conservancy get started? Who from the community was involved?
2. How do people participate in the decision-making of the conservancy?
3. How did the boundaries of the Conservancy get formed? Do people recognize & know these boundaries?
4. Who are the partners with conservancy?
5. Does the conservancy have a benefits distribution plan?
6. Are you a conservancy member and do you receive benefits? What are the benefits?
7. What are the conservancy's strengths? What are the conservancy's weaknesses?
8. Will the conservancy be working well in 10 years? Why? Why not?

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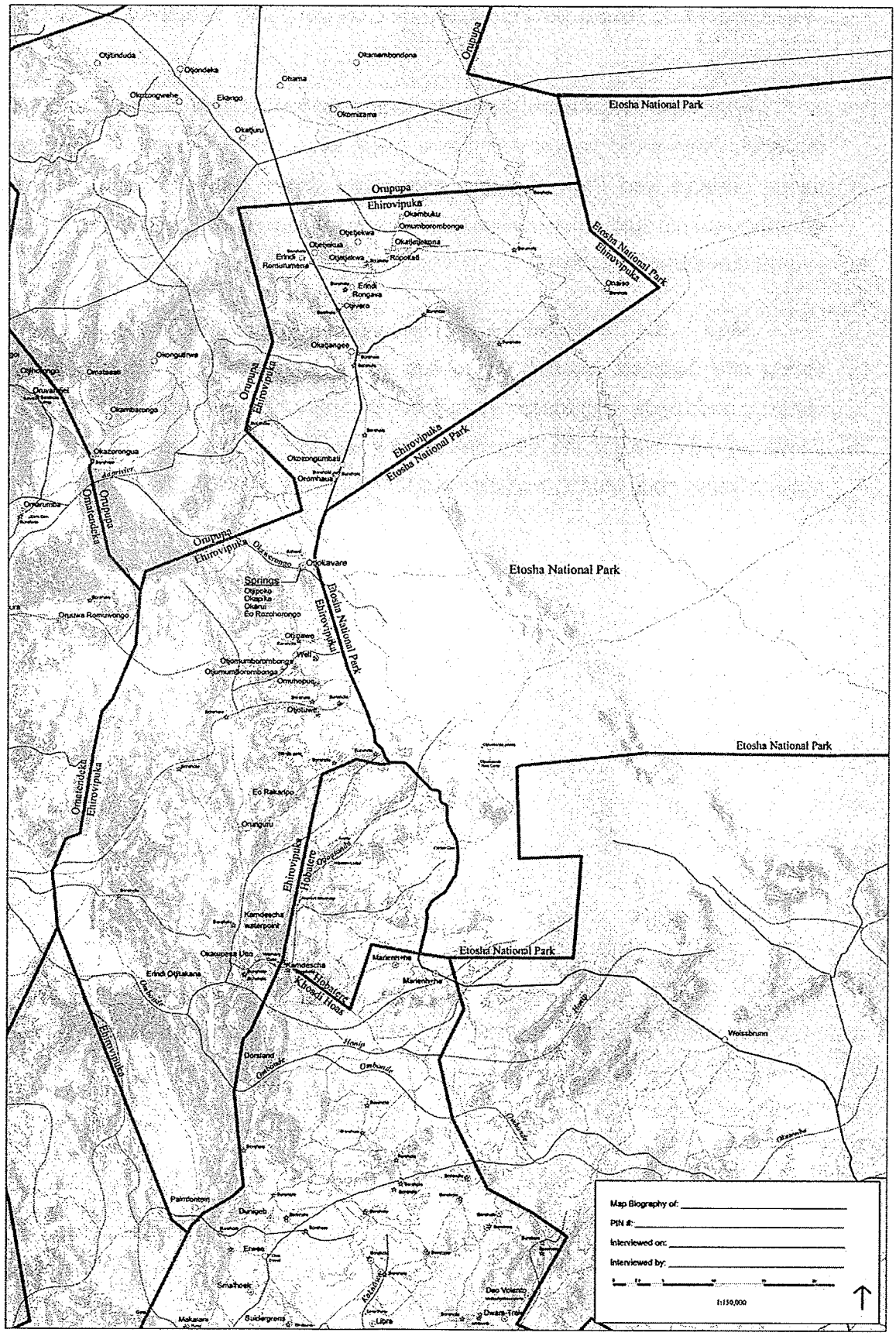

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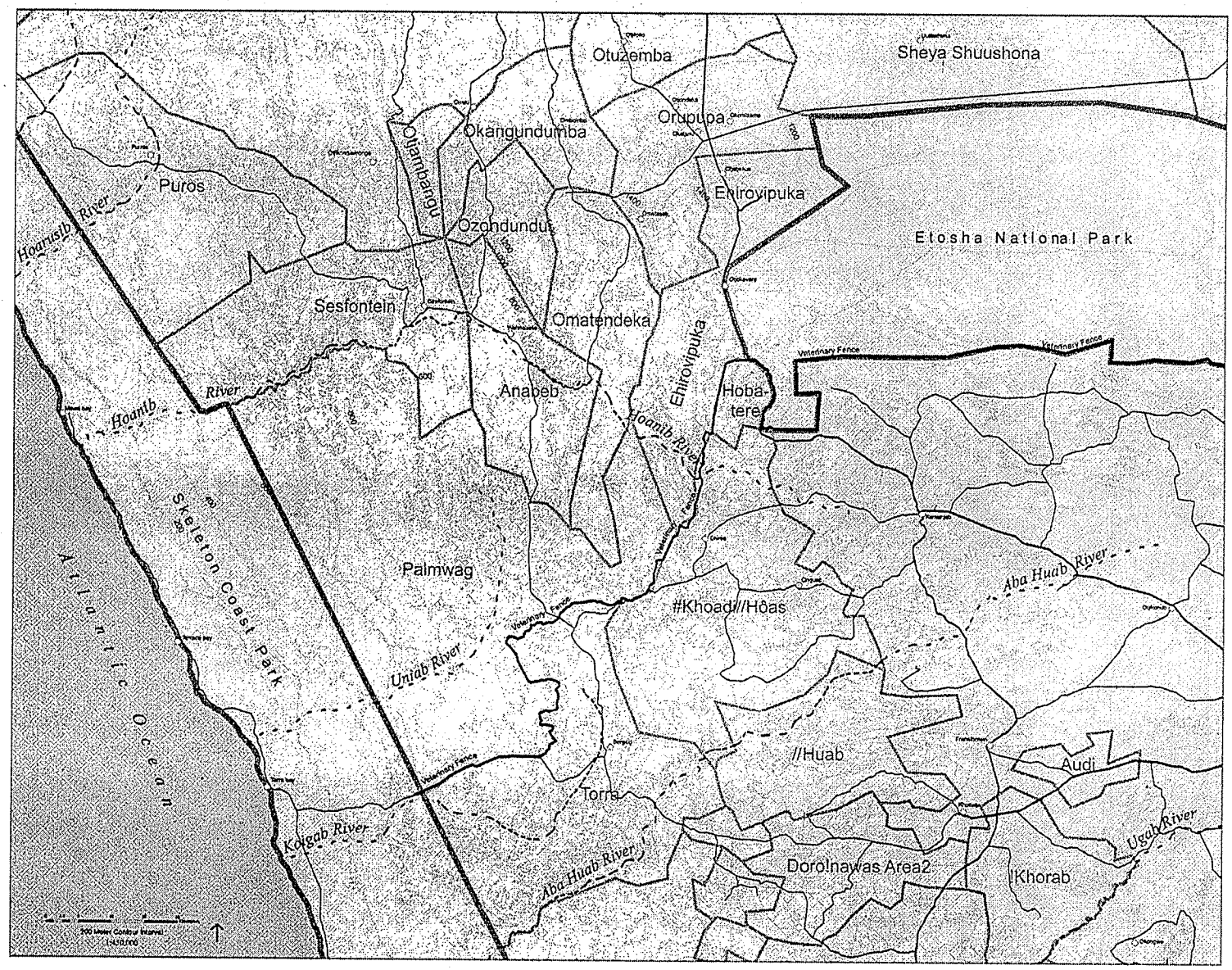

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1. How did the Ehi-rovipuka Conservancy get started? Who from the community was involved?
2. How do people participate in the decision-making of the conservancy?
3. How did the boundaries of the Conservancy get formed? Do people recognize & know these boundaries?
4. Who are the partners with conservancy?
5. Does the conservancy have a benefits distribution plan?
6. Are you a conservancy member and do you receive benefits? What are the benefits?
7. What are the conservancy's strengths? What are the conservancy's weaknesses?
8. Will the conservancy be working well in 10 years? Why? Why not?