INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

ProQuest Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

UMI®

University of Alberta

A Model of Wildlife Conservation and Community Development for the Maasai People of East Africa

by

Richard Michael Roth

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfilment of the requirements for the degree of Doctor of Philosophy

in

Conservation Biology

Department of Renewable Resources

Edmonton, Alberta

Fall 2001

University of Alberta

Library Release Form

Name of Author: Richard Michael Roth

Title of Thesis: A Model of Wildlife Conservation and Community Development for the Maasai People of East Africa

Degree: Doctor of Philosophy

Year this Degree Granted: 2001

5229 49 Avenue
Red Deer, Alberta
T4N 6G5

31 May 2001

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled A Model of Wildlife Conservation and Community Development for the Maasai People of East Africa submitted by Richard Michael Roth in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Conservation Biology.

Dr. Robert J. Hudson
Co-Supervisor

Dr. Ross W. Wein
Co-Supervisor

Dr. V. Adamowicz

Dr. Naomi Krogman

Dr. Paul Woodard

Dr. Fikret Berkes -External Reader

23 May 2001

ABSTRACT

The field of conservation biology arose out of questions of population dynamics and species survival. While much species- and population-centred research has been undertaken, less research focuses on mechanisms for protecting land and water for biodiversity conservation. Community-based conservation programmes suggest that human socio-economic objectives and conservation goals are not necessarily incompatible.

There is a need for community-based conservation models in countries such as Kenya where high population growth and density rates exist alongside high levels of biodiversity. Research was initiated to develop and evaluate a community-based conservation project with a Maasai community that draws upon tourism revenues to operate an education centre that will achieve local development and conservation aims.

A qualitative research approach was used to investigate the claims of community-based conservation. The Kuku Field Studies Centre case study in the Tsavo - Amboseli region of Kenya demonstrates the practicalities of utilising this conservation tool in a setting of non-consumptive wildlife utilisation. Triangulation of Social Action Research methods including interviews, key informant information, participant observation, and comparison techniques resulted in the formulation of grounded theory in community-based conservation.

Results after four years of project development indicate that socio-economic benefits have flowed from the project to the community. Conservation benefits of the project are less apparent, although it is anticipated that environmental education initiatives will slow the rate of environmental degradation. It is suggested that conservation benefits from community-based conservation projects will be difficult to measure due to their long term nature and the difficulty of attributing conservation success/failure to a single intervention, especially given the dynamic nature of change in developing countries.

It was concluded that locally appropriate budgets and time frames, financial self-sustainability, addressing socio-economic concerns, strong local institutional support, and the presence of a facilitator external to the local community were important in achieving a working model for community-based conservation. A comparison with the failed Kimana Community Wildlife Sanctuary highlights the interplay of the above factors to enable growth of a viable initiative. It is hoped that the Kuku model will be applied in other situations and in other countries to test the theoretical advances postulated.

ACKNOWLEDGEMENTS

I would like to acknowledge the following for the important roles they have played as contributors this research:

- The people of the Kuku Group Ranch, whose support for the concept of an environmental education centre permitted the project to find a home in one of the most scenic parts of East Africa. The project continues to thrive and mature today thanks mainly to their continued interest and involvement.
- Representatives of communities, community development projects and local conservation projects throughout East Africa whose ideas and suggestions have been very beneficial to me.
- The Kenya Wildlife Service for a wide range of support ranging from endorsement of the project to assistance with the logistics of operating the project. In particular, the following individuals must be recognised for their contributions to the success of the project:
  - Dr. David Western, Director
  - Kalla, E. Warden, Amboseli National Park
  - Karuta, B. Community Relations Warden, Amboseli Region
  - Kisee, F.M. Senior Warden, Lake Nakuru National Park
  - Makalla, S. Deputy Director – Partnerships
  - Nabutola, W. Assistant Deputy Director - Tourism
  - Ngonze, W. Kajiado District Warden
  - Nyeki, D. Education Director
  - Waithaka, Dr. J. Acting Deputy Director – Biodiversity
  - Wandera, P. Wildlife Utilisation officer.
- A number of leading conservationists and community development practitioners in East Africa also provided valuable feedback and suggestions. In particular, I wish to acknowledge:
  - Campbell, D. Professor - Land and Resource Utilisation, University of Michigan.
  - Dublin, H. Projects officer -East Africa. World Wide Fund for Nature, Nairobi.
  - Edroma, E. Director. Uganda National Parks Board. Kampala.
  - Gichohi, H. Director. African Conservation Centre, Nairobi.
  - Goldenberg, J. Small Projects Fund co-ordinator. United States Agency for International Development, Nairobi.
  - Heath, B. Wildlife utilisation consultant, Nairobi.
  - Krugmann, H. Environmental Officer. IDRC Nairobi office.
  - Lekuton, J. Vice-President, Maasai Resources Coalition.
  - McNutt, J. Wild Dog Conservation International, Botswana.
  - Moyini, E. Acting director, Uganda Wildlife Authority, Kampala.
  - Mwangi, A. Environmental Economist for the African Conservation Centre. Nairobi.
  - Nicholson, B. Director, School for Field Studies, Athi River, Kenya.
  - Ntiati, P. Community Extension Officer, African Wildlife Foundation. Nairobi.

  - Seale, R. Consultant, International Union for the Conservation and Natural Resources.
  - Shantikumar, S. Consultant, United Nations Environment Programme.
  - Stanley-Price, M. Director, African Wildlife Foundation.
- The trustees of the African Environmental Education Foundation for their hard work and dedication in seeing that the concept presented herein became a reality. In particular, the work of John and Diana Sawers, Natu Sanghrajka, C. Obura, C. Bambra and S. Njuguna are acknowledged with thanks.
- Thanks are also due to my supervisory and examining committee, namely R.W. Wein, R.J. Hudson, N.T. Krogman, W.L. Adamowicz, and F. Berkes.
- Financial support was provided by the Natural Sciences and Engineering Research Council of Canada (graduate scholarship to R.M. Roth), the Rotary Clubs of Kenya and the numerous schools, colleges and universities whose attendance of programmes at the Centre have contributed to Centre development, community development, and conservation in the Tsavo-Amboseli region.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ADMADE	Administrative Management Design for Game Management Areas
AEEF	African Environmental Education Foundation
CAMPFIRE	Communal Areas Management Programme For Indigenous Resources
CBC	Community-based Conservation
DDC	District Development Committee
GMA	Game Management Area
ICDP	International Community-Development Project
ICRAF	International Centre for Research in Agroforestry
IDRC	International Development Research Centre
IIED	International Institute of Environment and Development
IUCN	International Union for the Conservation of Nature and Natural Resources
KANU	Kenyan African National Union
KFSC	Kuku Field Studies Centre
KGR	Kuku Group Ranch
KSh	Kenyan Shillings
KWS	Kenya Wildlife Service
LIRDP	Luangwa Integrated Resource Development Project
MOU	Memorandum of Understanding
NGO	Non-Governmental Organisation
RCNN	Rotary Club of Nairobi North
SEPA	Science Education Programme for Africa
ULGMA	Upper Lupande Game Management Area

UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USAID	United States Agency for International Development
USD	United States Dollars
WCMD	Wildlife Conservation and Management Department
WDF	Wildlife for Development Fund
WMA	Wildlife Management Area
WWF	World Wide Fund for Nature

CHAPTER I INTRODUCTION

Since formal governmental wildlife conservation was introduced to Kenya with the British government's commissioned report on wildlife in the East African protectorate in 1886, numerous and diverse approaches have been taken to ensure the preservation of its significant wildlife populations. While poaching and climatic factors are responsible to a great extent for declining wildlife populations in Kenya's post-independence history, considerable declines have also resulted from a rapidly growing human population that exploded into traditional wildlife areas. In recent years, considerable effort has been placed on the development of community-based conservation as a potentially workable solution to conservation and human development concerns. Although many community-based development projects have been implemented across Africa, few widely acceptable models are applicable to Kenya by virtue of the models being developed for countries where consumptive wildlife utilisation is permitted. In Kenya, wildlife consumption has been illegal for over two decades.

This dissertation rises out of a need to develop and test a model for community-based development in non-consumptive wildlife situations. A review of the historical context of wildlife conservation in Kenya (Chapter II) provides important background leading to the current challenges being faced by Kenyan conservation bodies. A review of community-based conservation as a field within the discipline of conservation biology (Chapter III) serves to further justify the need for a model specifically suited to non-consumptive utilisation situations.

Having demonstrated the need for a new model of community-based conservation in Kenya, the dissertation turns to a review of, and justification of the qualitative methods used for this research (Chapter IV). An account of the three-year development of the Kuku Field Studies Centre follows (Chapter V). A participatory approach maximised involvement of the Kuku Group Ranch community. The project stresses the interplay of tourism, community development, education, cultural empowerment and conservation as its unique feature.

The Centre has been developed with a Maasai community in southern Kenya to demonstrate that community-based conservation projects in non-consumptive wildlife utilisation situations can be financially self-sustaining and beneficial to a wide cross-section of a local community. In addition to providing economic benefits through employment and an endowment fund where a portion of revenues generated by hosting foreign visitors is invested for the community, various social benefits including skills development, education, health care development and cultural affirmation have been addressed in the model. The linkage of such benefits to the existence of wildlife (hence the revenues earned from foreign visitors coming to view wildlife) is seen as the contribution of the project to conservation.

Evaluation of the Kuku Field Studies Centre was achieved through triangulation of accepted qualitative research methods. Direct feedback through participant observation

on an ongoing basis was used throughout the implementation process (Chapter V). Informal interviews of a cross-section of the Kuku Group Ranch community (Chapter VI) was useful in gaining an indication of shortcomings of the project at the time of the interviews in mid 1997. The community perceived a need for the project to become more inclusive, to communicate more effectively with the Group Ranch citizenry, and also to more effectively emphasise its conservation mandate.

A third means of evaluating the Kuku project was to compare it with another community-based conservation project (Chapter VII). Comparison with the Kimana Community Wildlife Sanctuary pointed out strengths and weaknesses of both approaches to community-based conservation. In the Kimana case, significant investment and marketing allowed the project to get off to develop rapidly, however community support has declined since project inception. In the Kuku case, a lengthy process of building support and generating infrastructure funding was a distraction to the building of community support and conservation programming. The benefit of a more time consuming and low budget approach was in the building of solid community partnerships based on the concept rather than on immediate financial reward. Community support and participation in the Kuku project has grown constantly since project inception.

Arising from the experiment of establishing and evaluating the Kuku Field Studies Centre as a model for community-based conservation are a number of contributions to the fields of community development (Chapter VIII) and Community-based Conservation (Chapter IX). These include applications for community-development in general as well as more specifically in the fields of tourism, education, cultural empowerment and community-based conservation.

The Kuku Field Studies takes into account the shortcomings of other projects in an effort to more adequately address issues of financial sustainability and equitable community development than has been the case in some other initiatives. Through the establishment of the project and ongoing evaluation process, a number of factors have been identified that are considered critical to a healthy community-based conservation project. These indicators are the basis for a grounded theory of community-based conservation stemming from the research (Chapter IX) that takes into account human resources, intellectual contribution made by the community, acceptance at local, national and international levels as well as economic factors. Conservation factors are included in the evaluation as well, however few indications of the Kuku Centre's contribution to conservation can be determined due to the youth of the project. Time will be necessary to separate the contribution of the project to conservation from a multitude of other factors such as seasonal/climatic variation, the effects of other projects, migration cycles, and social attitudes gained from outside of the project's influence. What can be said is that the project and its community and conservation objectives continues today while many other projects (including the Kimana Community Wildlife Sanctuary) have been abandoned.

The development of social, economic, and ecological indicators for Community-based Conservation projects is a recommended area for future research concentration. In addition to this, other recommendations are made, including:

- The need to acknowledge social, economic and conservation elements in these types of projects and to strive to ensure that all are adequately addressed in project design and implementation
- The replication of the Kuku Centre elsewhere in Africa or beyond to further test the strength of this approach to community-based conservation
- The need for a fully objective analysis of the Kuku Centre model by a person or persons who have not been involved with the project
- Planning for the future as well as immediate benefits via a permanent endowment fund for communities
- Ensure that training and education are equally incorporated into community-based conservation projects. While training will ensure that individuals are capable of performing functions necessary to run a project, longer-term investment in education will enhance local ownership in, and longevity of a project as well as encouraging its evolution according to locally defined directions.

CHAPTER II HISTORY OF WILDLIFE CONSERVATION IN KENYA

Introduction

The history of wildlife conservation has been one of differing views of conservation, who owns the wildlife, who should manage conservation, and to what extent human populations are a part of the natural environment of Africa. Approaches to conservation have ranged from the exclusion of people from gazetted parks to the acceptance of a human presence as a means of protecting wildlife and landscapes. As both abiotic and biotic components of African landscapes suffered as a consequence of various management approaches, so too have indigenous cultures, especially nomadic cultures that have evolved within the confines of the environmental factors around them. As the land degraded, so did these cultures.

At present, there is a definite movement towards the inclusion of local people, often from indigenous cultures, to be involved in active management and conservation of wildlife. While often this involvement tends to be based more on the possibility of economic gain stemming from conservation, the goals of protecting the rich and diverse natural heritage of many African countries are potentially achievable through this conservation-economy linkage. By showing indigenous communities the potential value of wildlife in permitting them to cope with such foreign influences as education, urbanisation, agriculture and taxation, indigenous people are able to stand at least a chance of preserving their environments. The diversity of cultures which have evolved in response to constraints of these environments might also remain intact.

Objectives

This chapter reviews the development of wildlife conservation policy in Africa, and more specifically Kenya, over the past one hundred years. The history is one of wildlife population changes and various policies devised to protect this resource but also about the effects of wildlife policy on the indigenous people. The chapter charts the history of wildlife conservation to the present day, when the concept of community-based conservation is being touted as a key advancement in wildlife conservation policy.

Chronology of Wildlife/Human Population Dynamics

Early wildlife/human interactions

The history of African environments and humans is closely, but there is much debate on the extent to which humans have shaped today's vegetation, animal population dynamics and landscapes. Through use of fire, hunting, grazing of stock (pastoralism), migrations into wildlife-dominated areas and more disease proliferation/control, it is highly likely that the role of humans in the environment has always been a key factor in African ecosystems (Happold 1995; Horton and Bailey 1986). While indigenous people played a role in the evolution of the landscape, so too did the landscape play a dominant role in

shaping indigenous cultures. Having no access to industrial tools or resources external to their local environment before the mid-late 1800s, indigenous peoples had to make do with what was around them.

With the advancement of human cultures globally and their increasing mobility, indigenous cultures began to come in contact with others. As different cultures contacted each other, tools, resources, information and ideology changed hands, sometimes equally, and other times to the detriment of the weaker society.

The Pre-Independence Period

Pre-1900

In East Africa, the period of colonisation showed that the African people were, at least in terms of technological strength, the weaker society. This is especially visible in Kenya, arguably the country most influenced by colonialism, where the vast majority of citizens abandoned their customs and traditions to assume an Africanised Western culture. With the overriding of indigenous cultures came the introduction of differing approaches in coping with natural environments. For many cultures, wildlife that had been treated as equals with people and an integral part of the whole environment, came to be seen as objects of sport, or as pests to agricultural development (Bull 1988). Land was seen as an object for settlement and for extensive agriculture to support urbanisation. Land was also treated as an extension of lands far away, with crops being grown to supply cities and economies of the colonising country. Such changes in approach changed the balance of humans and the environment from colonisation onwards.

1900-1960

The history of wildlife conservation in colonised Africa can be traced to the late 19th Century when attention was first paid to noted declines of wildlife in preferred hunting areas of colonialists. One of the most notable declines was in South Africa, where white rhinoceros populations were nearly decimated due to sport hunting and control of these large 'pests' by farmers by the time the Kruger National Park was created in 1903. In East Africa, an outbreak of Rinderpest (a *Morbillivirus* of the family Paramyxoviridae) in the late 1890s and early 1900s caused the decline of wildlife populations in the Lake Victoria Basin region.

During this period, parks were viewed as preserves for wildlife to the total exclusion of humans. The resulting displacement of indigenous peoples led to their settlement and abandonment of traditional ways of life in many cases, an example being the Kamba tribe of East Central Kenya, which was forced to abandon the hunting element of its culture to focus solely on agriculture. In other cases, boundary redistribution followed National Park declaration; previously dispersed families sought room in a shrunken homeland; this was the case with the Maasai and Samburu tribes. As a result of forced change, revenge was common, with incidents of poaching and destruction of wildlife occurring to settle

scores with farmers, ranchers, park wardens and other figures who appeared connected to these changes.

The Independence and Post-Independence Periods

The Independence and Post-Independence periods of Kenya's wildlife management history are characterised by frequent and dramatic shifts in emphasis. The source of such shifts are dependent to some extent upon the objectives of donor organisations and countries – mainly the United States, Japan, and various European countries. Other sources of fluctuating policy and courses of action stem from a number of influential and dynamic personalities who have been at the helm of wildlife management bodies since the 1960s. Organisation and reorganisation of Kenya's wildlife management institution on a frequent basis since Independence (in name but also in strategic planning objectives) has further contributed to a highly variable and at times incongruous wildlife management strategy for the country.

1960-1970 (Independence)

After independence in the 1960s, new African governments were faced with challenges of nationalisation of lands and resources and the redistribution of wealth to the African people. Often, this took the form of land reallocation, leading to the further disruption of natural systems and the replacement of indigenous systems with market-based agriculture, settlement and resource exploitation on a large scale. All of this was as disrupting to traditional ways of life as it was to the environment. An example of this was the Kikuyu tribe, which, at independence gained small-holdings in the rich agricultural highlands of the country. In developing a successful market economy based on farm produce, the roots of the culture were lost to the extent that many Kikuyu youths today note a complete loss of oral history and cultural traditions. Indigenous cultures that resisted large-scale adaptation/conformity to western ideologies of colonial and post-colonial governments became marginalised on semi-arid lands at the periphery of national interests. In these areas, land was considered unsuitable for agriculture and wildlife and indigenous cultures continued.

1970-1985 (Post-Independence)

As population pressures and the drive for economic development increased, so too did demand for agricultural land, including the marginal areas belonging to the remnants of indigenous cultures and environments of the continent. Agricultural demand caused further threats to indigenous ecosystems and biodiversity and led to the development of more national parks and the further displacement of indigenous people. Wildlife populations declined as habitat disappeared and as a thriving trade in wildlife and wildlife parts developed in the 1970s and 1980s. Government ministries were often involved in the decimation of wildlife for economic benefit (Bonner 1993).

1985- present

By the late 1980s, it was quite obvious that the alienation of indigenous people from their land and consumptive practices - legal or illegal - of wildlife management in many African countries had led to a situation that demanded immediate attention should viable wildlife populations be maintained into the future. Indeed, on a global scale, the effectiveness of exclusionist practices of conservation through parks and protected areas at the expense of traditional people was being challenged and replaced by the concept of 'Parks for People', which encouraged much greater tolerance of human activities in protected areas (McNeely 1988). At this point, international attention focused on such countries as Kenya, Uganda, Tanzania, Zimbabwe and Botswana, with these countries receiving much international funding for conservation-related programmes. Initially, this support tended towards providing the necessary force to combat poaching and wildlife destruction. Eventually, however, funds were focused on the nurturing of a strong conservation ethic in human populations living in or around rich wildlife areas. In southern Africa, this included the consumptive use of wildlife through such programmes as CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) (Child 1996; Murombedzi 1992) and ADMADE (Administrative Management Design for Game Management Areas) (Barrett and Arcese 1995; Gibson and Marks 1995), providing local people with direct benefit from wildlife through controlled hunting and cropping activities. In East Africa, however, wildlife populations had dropped to the point where consumptive utilisation was not practical. The result was bans such as the Kenya Hunting Ban of 1978 which prohibited the killing or exportation of Kenyan wildlife.

Development of the Present Day Conservation System

In Kenya, the first game reserves were set up in 1899-1900 in response to a 1886 report on wildlife submitted to the British Foreign Secretary by the Colonial Administration (Fig. 2.1). Two reserves were established. The Southern Game Reserve incorporated 33,800 km^2 (13,000 square miles) and stretched across the south of the country from the Maasai Mara east to include present day Tsavo National Park. The Northern Reserve was 35,880 km^2 (13,800 sq. miles) in area and encompassed the Laikipia Plateau to the west of Mount Kenya. The reserves were intended to protect 'primitive' Africa, including the wildlife and the indigenous, primarily pastoral, tribes (Western 1997a). The East African Game Department, established in 1906, administered early management of the reserves. The mandate of the Game Department was preservationist, seeking to enforce hunting laws and to protect the 'interesting animal life' of the region (Western 1997a). A system of licensing of hunters was established and laws passed which allowed for sporting safaris and pleasure hunting throughout the region.

The approach taken by the Game Department did not last long. The arrival of European settlers and safari hunters over the next decade placed great pressure on the Department to de-gazette the reserves in favour of permitting settlement and sport, especially in the productive farming and ranching regions of the Northern Game Reserve. Bowing to this pressure, areas within and outside of the Reserves were redesignated as areas for

settlement, with the Game Department revising its mandate to include the co-ordination of wildlife from lands targeted for settlement and agriculture. By the mid-1930s, the Northern Reserve had been de-gazetted completely, with the more arid Southern Reserve being saved only due to the inhospitability of the land for European approaches to agriculture.

Figure 2.1 Major events in formal wildlife conservation for Kenya from 1875-2000.

Development of a more inclusive National Parks system in Kenya was first touted in 1938 in response to concerns for the preservation of wildlife. A Game Policy Committee planned the first national Reserve in British East Africa near Nairobi. Although plans were shelved during the Second World War, by 1946 a Board of Trustees had been appointed and the National Parks of Kenya was formed to guide the process. Nairobi National Park was gazetted formally by the end of that year, with Tsavo National Park being declared in 1949. The declaration of new National Parks continued after Kenya was granted independence in 1963, with a declaration by President Kenyatta to establish 5 national parks within five years of independence (Kenya Wildlife Service 1997).

Although wildlife conservation ideals were forwarded by the creation of the National Parks of Kenya in 1946, the declaration of the new body split the jurisdiction for wildlife between the new body and the Game Department, which maintained control over all wildlife outside of National Parks in the colony. This situation was maintained amidst severe abuses involving poaching and constant calls for reform of the system until 1976 when the Wildlife Conservation and Management Act was affected and the Wildlife Protection Act and National Parks of Kenya Act were repealed. The Wildlife Conservation and Management Department (WCMD) came into being under the Ministry of Tourism and Wildlife as the single wildlife management authority in Kenya.

Wildlife Conservation from a Landscape Perspective

The fourteen years under which Kenya's wildlife was managed by the WCMD were the most devastating years in Kenya's wildlife history in terms of loss of wildlife. Rapid human population growth (up to 4% per year), habitat destruction by industrial agriculture, a severe drought in the early 1970s, and rampant poaching led to a dramatic decrease in wildlife numbers overall and the nearly complete devastation of such populations as African elephant (*Loxodonta africana*) and the black rhinoceros (*Diceros bicornis*). In the Tsavo National Parks, for example, the population dropped from 40,000 elephants in 1960 to 5,000 in 1988 (approximately half of this due to the effects of the 1970s drought), while black rhinoceros populations nationally dropped from 20,000 in 1960 to 350 in 1988 (Kenya Wildlife Service 1997). While much of the poaching was stimulated from outside of Kenya's borders, there is a likelihood that very senior persons in the WCMD were involved in the poaching and trafficking of ivory and rhino horn using WCMD vehicles and firearms (Kenya Wildlife Service 1997). The WCMD proved one of Kenya's worst enemies in terms of conservation management. An outright ban on hunting declared in 1977 was not able to bring the situation under control.

International and domestic political pressure in the late 1980s led to the dissolution of the WCMD in 1990 and the formation of the Kenya Wildlife Service (KWS). The KWS sought to take wildlife conservation out of the direct control of government and run it as a parastatal body (arms length from government and similar to a Crown Corporation in Canada). The first priority of the Kenya Wildlife Service (KWS) was to control the poaching problem. The establishment of an internationally endowed anti-poaching unit of militarily trained rangers has by and large been successful in controlling commercial

poaching for most of the 1990s. The efforts of the KWS in controlling poaching have resulted in elephant populations increasing by approximately 1,000 elephants per year in Kenya since 1990. Black rhinos have increased from 350 to 450 in that same period (Western 1998).

The increase in number of elephants and black rhinoceros in Kenya over the past decade is not, however, an indication of general trends in wildlife numbers in Kenya. The Department of Remote Sensing of Kenya undertakes surveys of large ungulates on a regular and countrywide basis. Their findings indicate a 44% mean decrease in populations of surveyed species in Kenya between 1977 and 1994. In protected areas, the decrease has been 31%, indicating that poaching continues to be a major problem to wildlife security. In only two districts (Kajiado and Laikipia) did numbers remain stable or perhaps even increase marginally in that period. The general decline over this time period was attributed to habitat loss and to subsistence poaching (Norton-Griffiths 1996).

Aside from controlling wildlife decline and ensuring that park infrastructure and security is maintained for the all-important tourist trade[1], the third priority of the KWS at present is to address conflicts between National Parks and human communities on the periphery of protected areas. While the National Parks system in Kenya was dedicated to preserving wildlife and habitat across Kenya, the preservationist nature of the system was intolerant of human activities save for the observation of wildlife. The displacement of indigenous Africans, mainly pastoralists, set the stage for human-wildlife conflict which continues to plague conservation in the country even at present.

From the inception of the KWS until the mid-1990s, the community-wildlife conflict problem was to have been solved by fencing every National Park in Kenya. While this would have limited the conflicts tremendously, the ecological effects of limiting migrations and increasing grazing pressures inside parks would likely have proven disastrous. Recognising the potential pitfalls of such a policy, the idea of community based conservation has been accepted as the most viable solution to conflict.

More recently, the concept of community-based conservation has been challenged, given the failure of various projects set up under this model (Western 1997b). Though the Partnerships approach has lured considerable donor funding to the Kenya Wildlife Service, there are questions concerning the efficacy of community-based projects and whether there has been a positive return on the investment made through the COBRA (the United States Agency for International Development programme for the Conservation of Biodiverse Resource Areas) and the Wildlife For Development programmes supported by numerous other foreign donors.

[1] Tourism, which is partly wildlife based and partly based on beach destinations along the Indian Ocean coast, is consistently one of the top three foreign exchange earners in Kenya.

Case study - Amboseli National Park

An example of the conflicts that have arisen as a consequence of exclusionist policies is Amboseli National Park. This park was added to the Kenyan National Parks system in 1970, it being the last fragment of the central portion of the Southern Game Reserve. Pressure from Maasai leaders whose lands surrounded the park dictated that the park would only enclose an area of 362 square kilometres, a small island compared to the size of the Southern Reserve. In spite of the small area of the park, conflict still arose with neighbouring people due to the inclusion of a major spring water system within the park boundaries. Maasai were now excluded from using the spring water for cattle and human use. The eviction of Maasai from the Park in the early 1970s was deemed a breach of a 1911 treaty signed between the Maasai and the British which stated that the lands of the Maasai would be theirs 'so long as the Maasai still exist as a race' (Lovatt Smith 1996).

An initiative to defuse the situation was attempted in the early 1980s with the construction of a water pipeline to take water from the springs to watering areas outside of the Park. This was effective only as long as the pipeline was kept in good repair. By 1985, however, the pipeline had failed due to lack of maintenance (Lovatt Smith 1996). Problems began again, with Maasai adopting a policy of harassment and killing of wildlife which moved beyond the Park boundaries. Ninety percent of rhino were speared and by the year 1988, lions were extirpated from the park as a result of Maasai animosity (Lovatt Smith 1996).

Faced with a critical situation of declining wildlife numbers and increasing hostility from neighbouring people, the KWS declared Amboseli National Park and the surrounding region a UNESCO Biosphere Reserve in 1991. This designation permitted Maasai people to use Amboseli Park as a dry season, emergency grazing and watering point. This move, combined with moves to share gate revenues with the Maasai and the establishment of a community partnerships programme has led to an increased tolerance of wildlife outside of the Park by the Maasai in the region.

At present, Amboseli National Park, surrounding wildlife areas and the Maasai of the region are all co-existing in a relatively conflict-free setting. The potential for conflict, however, is never far away, as land-use pressure continues to build and Maasai and tourism interests are not always completely synonymous (Smith 1997).

The Amboseli example illustrates the challenge of the KWS to more fully incorporate human concerns and needs into the wildlife conservation realm. This is a challenge being faced by conservationists across Africa, as increasing human populations and the shift from subsistence economies to more westernised economies is demanding that wildlife conservation must become profitable or risk being replaced by a more lucrative land use. In many countries of Southern Africa, profitability is being achieved through commercial sale of wildlife, both alive and dead. This is not permitted except in a small number of controlled situations in Kenya, leaving the KWS and conservationists with a major challenge of providing localised benefits from conservation in a non-consumptive situation.

Conclusions

A combination of habitat disappearance, disease and hunting for various reasons has led to a general decline in populations in the last century. Efforts at wildlife management have varied in their success, with current emphasis on local community involvement being yet another experiment in effective wildlife management in the region.

Of note in tracing the history of wildlife in East Africa are the parallel effects of habitat degradation and the loss of biodiversity on indigenous human populations. While wildlife has declined over the past decade, cultural traditions, customs and other elements of indigenous cultures have also diminished. The loss of habitat and natural environments in East Africa is thus of concern not only to biodiversity but also to cultural diversity in the region. Through efforts to incorporate conservation priorities with the development agendas of indigenous peoples, community-based conservation may prove to be one of the most effective approaches to wildlife and natural resource management in East Africa.

Literature Cited

Barrett, C.B. and P. Arcese. 1995. Are integrated conservation-development projects (ICDPs) sustainable? On the conservation of large mammals in sub-Saharan Africa. World Development 23(7):1073-1084.

Bonner, R. 1993. At the hand of man. Random House: Toronto.

Bull, B. 1988. Safari: A chronicle of adventure. Viking: UK.

Child, G. 1996. The role of community-based wild resource management in Zimbabwe. Biodiversity and Conservation 5(3): 355-367.

Gibson, C.C. and S.A. Marks. 1995. Transforming rural hunters into conservationists: An assessment of community-based wildlife management programs in Africa. World Development 23(6):941-957.

Happold, D.C.D. 1995. The interactions between humans and mammals in Africa in relation to conservation: A review. Biodiversity-and-Conservation 4(4):395-414.

Horton, P.R. and A. W. Bailey. 1986. Religious, Social and Economic Factors Affecting Grassland Improvement Projects in Southern Africa. Society For Range Management, International Rangeland Development Proceedings. Soc. Rangeland Management: Denver, 1986.

Kenya Wildlife Service. 1997. National parks of Kenya: Fifty years of challenge and achievement. Kenya Wildlife Service: Nairobi.

Lovatt Smith, D. 1996. Amboseli: Another miracle? Swara 19(2).

McNeely, J.A. 1988. Economics and Biodiversity: Developing and Using Economic Incentives to Conserve Biological Resources. Gland: IUCN.

Murombedzi, J. 1992. The Communal Areas Management Programme For Indigenous Resources (CAMPFIRE): A Zimbabwean initiative for natural resources conservation. Zimbabwe Science News 26(10-12): 77-81.

Norton-Griffiths, M. 1996. Why Kenya's conservation is failing. Swara 19(6).

Smith, D.L. 1997. Maasai hopes and fears. People and the Planet 6(4): 12-13.

Western, D. 1997a. The origins and development of conservation in East Africa. In Kenya Wildlife Service 1997.

Western, D. 1997b. In the dust of Kilimanjaro. Island Press: Washington D.C.

Western, D. 1998. Crisis management. Swara 21(2): 6.

CHAPTER III THEORETICAL BASIS FOR RESEARCH AND CONTRIBUTIONS OF RESEARCH TO COMMUNITY-BASED CONSERVATION

Introduction

Community-based conservation (CBC) has been defined in many ways (Hackel 1999; Western 1994; Western and Wright 1994), though the following definition by Leader-Williams (1996) encapsulates a full range of concepts related to the term:

> Community-based Conservation seeks to involve rural people and communities in taking joint responsibility for the sustainable management of wildlife and other natural resources among or close to which they live, and to share in the direct and indirect benefits of its management. The aim of Community-based Conservation is, on the one hand, to promote the development of rural communities living among or close to wildlife and, on the other hand, to promote the legal and sustainable use of that wildlife and other natural resources outside of unsettled protected areas. The underlying objective of Community-based Conservation is to demonstrate the positive role that wildlife and its habitats can have in land-use planning and in socio-economic development at local, regional and national levels.

The roots of CBC as a field of study can be traced to the early 1980s, when international conservation bodies recognised that the growth and development of conservation systems based strictly on protected areas (National Parks, Wildlife Refuges or other designations managed with the exclusion of human inhabitants) would become difficult - if not impossible - with the passage of time. (Parker 1982; World Conservation Union 1980). The reasons cited for this were:

- Increasing demand for land and water resources by human populations and for development purposes,
- Conflict, be it real or perceived, between proponents of protected areas off-limits to most human uses and opponents who had some dependency on these areas for cultural, social or economic purposes,
- The expense of establishing protected areas, including enforcement, relocation of human settlements, and land acquisition,
- Inequitable distribution of benefits derived from biodiversity resources, especially with respect to local communities.

A direct consequence of these limitations on the future of protected areas conservation was the call for greater levels of involvement in conservation planning by communities living in areas of conservation significance. A variety of methods were suggested to more fully incorporate these local stakeholders, including (Ghimire and Pimbert 1997; Sibanda and Omwega 1996; Wells and Brandon 1993):

- Membership on protected areas advisory boards with the intent (of conservationists) of generating support in buffer communities to protected areas
- Integrated Conservation and Development Programs (ICDP) – These are large-scale programs, often on a national scale, intended to devolve land use planning decisions from national or regional government to more local governing bodies. CAMPFIRE in Zimbabwe and ADMADE in Zambia are examples of this
- Community-based development – usually on a smaller scale than the ICDPs mentioned above.

A variety of community-based development projects have been designed and implemented since the mid- 1980s. Many of these have been undertaken in impoverished areas, in the hope that conservation aims might be achieved while simultaneously bringing economic and social benefits to human populations (Milton 2000; Hackel 1999).

Given the recent origin of CBC, it might be expected that considerable attention would be paid to monitoring the development of this approach to conservation. In reality, however, very little review or analysis of projects is available to practitioners or in the conservation biology literature. Reasons for this are unclear, although it seems that the proprietary nature of CBC projects has contributed substantially to this void, as may be the lack of a widely accepted methodology concerning CBC project evaluation and review. CBC was adopted as an approach to conservation by numerous international organisations (Worldwide Fund For Nature, African Wildlife Foundation, and the African Conservation Centre to name a few), and appeals made to sponsors internationally for contributions to projects that would benefit people and conservation. Such programmes were no doubt of great appeal to donors, who would essentially receive 'double benefits' of contributing to development and conservation.

The appeal of CBC to supporters of large conservation organisations turned CBC into a commodity rather than a conservation approach. Organisations seeking to attract donors would likely have desired to differentiate their projects from those of competitors. As a result, sharing of information concerning development of projects and successes/failures would not likely have been common. Furthermore, organisations would have been reluctant to share evaluation results – especially failures or challenges – for fear of generating poor publicity and eroding their donor bases (Bonner 1993). While many CBC projects were designed and implemented, the body of knowledge concerning the effectiveness of this form of conservation is sparse. This is perhaps due to this competitive atmosphere.

Given the paucity of CBC review and project evaluation in the academic literature, there is a clear need for scholarly treatment of what is currently a field without a body of knowledge to support any of the claims it makes in terms of community development or long term conservation benefits (Milton 2000). It is also a field that, due in part to its youth and the consequent lack of a significant time frame to test hypotheses, stakes much its validity on a relatively small body of research. The testing of hypotheses in accordance with accepted research methods is the intent of this research. By using qualitative methods, this research develops the theory of CBC by grounding it in the

realities of a practical project based upon its primary assumptions. The results of this include contributions to the practice of CBC as well as to the refinement of CBC theory.

While the next chapter will discuss in greater detail the qualitative methods used for the research, the remainder of this chapter will further outline the interdisciplinary nature of current CBC theory and justify the necessity of utilising a suite of methods not generally associated with conservation biology research.

Community-based Conservation as an interdisciplinary and cross-cultural field – the necessity of an open-minded approach to research

At the outset, it is important to explain that Community-based Conservation is interdisciplinary by its very nature. Not only are the interests of biodiversity conservation (the domain of conservation biology) represented in CBC theory, but the interests of human populations, especially those in rural areas (the domain of rural sociology or international development studies), are an intrinsic part of CBC. In addition to these, elements of opportunity cost (economics) in relation to land-use choices and governance and empowerment issues (political science) are also represented within CBC theory.

Just as Community-based Conservation crosses traditional disciplinary boundaries, it also transcends cultural boundaries. In the case of this research specifically, the researcher's western cultural background influenced by western scientific method (Sinclair 1991; Popper 1959) were countered by Maasai participants in research, their indigenous worldview being considerably different from that of the researcher (Berger 1993). The range in cultural backgrounds necessitated that flexibility be found in order for the responses of Maasai people – who do not have a strong quantitative tradition – to be recorded in a manner that would satisfy the rigours of western scientific inquiry.

CBC sits at a point of intersection culturally, disciplinarily and philosophically, requiring open-minded and interdisciplinary approach to the process of inquiry used in this dissertation. To follow the standards of a certain discipline, a certain culture, or a certain worldview would have limited the direction of research to the point that valid and useful results would be next to impossible. While this research will appear to diverge significantly from a single disciplinary perspective, it is maintained here that for CBC to be tested as an option for biodiversity conservation, such divergence is demanded (Jenkins 2000). The alternative to adopting an 'unorthodox' (by traditional disciplinary standards) method of research would have been to do nothing in the study situation and with the study participants. Limited time frames and disappearing options for conservation in Maasailand and elsewhere in the world lend support to efforts to test CBC, regardless of methods selected. The alternative would be to do nothing and to watch the deterioration of biodiversity in the region.

Given the above justification for an interdisciplinary approach to the testing and refinement of CBC theory, this chapter now turns to an exploration of the evolution of

CBC as a conservation option. From this, the intent of research undertaken for this dissertation and the contribution that this research makes to the field of Community-based Conservation will become clear.

Nesting of CBC within the field of Conservation Biology

For most of the last century, conservation research has tended to focus mainly upon species ecology and behaviours, population dynamics and community ecological studies (Caughley and Gunn 1995; Simberloff 1993). In the 1990's, with the adoption of an 'environment and development' approach in response to the Bruntland Commission report (World Commission on Environment and Development 1987), the United Nations Conference on Environment and Development at Rio de Janeiro in 1992, and the IUCN 'Parks for People mandate adopted at its 1980 Congress in Caracas (World Conservation Union 1980), research priorities for conservation began to broaden. Research based strictly on protected areas was broadened to consider boundary issues (Schroeder 1999), corridors and networks (Heijnis et al. 1999; Newmark 1995; Newmark 1993), such issues as extinction rates (Belovsky 1999; Soule 1999), keystone species (Mills et al. 1993), minimum viable population analysis (Caughley 1994) and issues concerning the size and necessary resources an area requires to maintain species and communities (Armbruster and Lander 1993; Cowling and Bond 1991). The discipline of conservation biology grew to incorporate these and other study areas (Frankel and Soule 1981).

While an understanding of the dynamics necessary to maintain species and species biodiversity was being developed, much of the empirical work done in the 1990s was largely theoretical in that the testing of hypotheses concerning extinction, keystone species or conservation area size were impractical given time constraints, access to conservation areas, and the ability to establish controls against which results could be compared (Caughley and Gunn 1995). In some cases, testing of hypotheses would have necessitated reduction in population sizes or habitat in order to establish experimental conditions. This, of course, would have defeated the intent of conservation biologists to maintain both species numbers and richness.

The continued development of the discipline of conservation biology has paralleled an equally constant reduction in habitat globally, bestowing increasing importance upon the field as time passes. The unrelenting destruction of habitat demonstrates, however, that current approaches to the study of conservation biology are having limited impact in slowing extinction rates or slowing habitat loss (World Resources Institute 2000). Clearly, more will be required from the discipline before it can claim any great successes in terms of biodiversity preservation.

The key question on which biodiversity protection rests is, consequently, 'How can sufficient areas be preserved in order that global biodiversity is maintained?'. The answer does not lie in the legislation of further protected areas, but in the development of wildlife corridors and networks linking existing protected areas, and in the establishment of land-uses that seek to provide opportunities for human development while simultaneously contributing to habitat requirements of indigenous species to these areas (Ghimire and

Pimbert 1997; Gibson and Marks 1993; Hough 1988; Machlis and Tichnell 1985). The contribution of this dissertation is in the exploration of the environment - development interface with the intent of arriving at a mechanism for harmonising human and environmental needs. Due to the dynamic nature of the topic area, traditional scientific hypotheses and test methods were unsuitable for this research. As such, qualitative methods, common in education, community health, and other fields where human responses have a direct influence on research outcomes (Bryman 1987; Lincoln and Guba 1985) have been adapted to provide the framework upon which this research has been built. The contribution of this research to the academic body of knowledge, then, is three-fold:

1. To develop a model for community development and conservation that indicates the strong possibility of the long term success of both human and environmental priorities being met.
2. To demonstrate the applicability of qualitative research to the field of conservation biology. To justify the use of these 'alternative' methods in a field that has limited practical experience with them.
3. To emphasise the importance of interdisciplinary approaches to the evolution of community-based conservation as a sub-discipline of conservation biology.

Applying CBC approaches

One of the primary concerns of conservation biology is to seek assurances that a minimum geographic area and suite of resources that is unique to each individual species that is in some way accessible to ensure that a minimum viable population of species will exist in perpetuity. This minimum viable population is one that will ensure that a species' total gene pool is represented in order that natural evolutionary processes can continue for that species (Caughley 1994). The challenge, of course, is to ensure that conservation of sufficiently large habitats or networks of habitats occurs before populations fall below minimum levels. For some species, current protected areas are large enough to achieve this. For other species, however, especially those known as keystone species, currently secured protected areas are insufficient to maintain minimum viable populations. Such is the case with the North American Grizzly Bear (*Ursus horribilis*) (Mattson et al. 1996) and the African Elephant *(Loxodonta africana)* (Armbruster and Lander 1993). In such situations, human population growth and demand on natural resources precludes the establishment of new protected areas or the addition of area on to current protected areas to achieve minimum area requirements. Trade-offs between conservation and human development uses of land are fast becoming the only mechanism for achieving the requirements for biodiversity maintenance in many parts of the world.

Applying CBC approaches in Africa

Community-based conservation research has been undertaken in numerous African countries over the past decades with varying levels of success (Ghimire and Pimbert

1997, Western and Wright 1994, Hackel 1999; Hinchcliffe et al. 1995; Cumming 1993). The primary conservation organisations at work in the continent (Worldwide Fund for Nature, African Wildlife Foundation, African Conservation Centre, IUCN) have all adopted community-based conservation as a primary objective of programs to the extent that most projects now have a community focus somewhere within them (Dublin pers. comm; Heath pers. comm). The Kenya Wildlife Service – responsible for protection of Kenya's wildlife heritage – adopted community-based conservation as the fundamental principle guiding the Service during the tenure of Dr. David Western as director (1995-1998). This position has since been moderated under new direction. Other African countries practice community-based conservation to varying extents.

There is great variation in forms of community involvement in conservation in Africa. In many cases, attempts to involve local people as stakeholders in management planning and implementation deals with consumptive use of wildlife (Happold 1995; IIED 1994; Marks 1989; McShane 1990; Murphree 1993). Through consumptive utilisation, such as cropping abundant species for meat, hide sales or for control against crop raiding, people gain tangible results from their wildlife resources. In cases where benefits from wildlife are crucial in preserving either populations or habitat, such material evidence of wildlife value to individuals and communities is helpful in gaining local acceptance for plans.

The best known example of consumptive utilisation-based CBC is the CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) programme in Zimbabwe programme (Child 1996; Murombedzi 1992. This programme involves the devolution of wildlife and natural resource management to a District level in effort to more directly pass on the socio-economic benefits from wildlife activities to local stakeholders. A variety of management practices have been adopted, though most of them involve consumptive wildlife utilisation in some form, with offtake rates being set at sustainable yield levels. Other notable example of consumptive utilisation projects with a distinct community focus include the ADMADE (Administrative Management Design for Game Management Areas) (Lewis and Alpert 1997; Barrett et al. 1995; Gibson et al. 1995) and LIRDP programmes in Zambia (Wainwright and Wehrmeyer 1998), Wildlife Management Areas (WMAs) in Botswana (Maandi 1998; Lawson and Mafela 1990) and various programmes in Namibia (O'Connell-Rodwell et al. 2000; Baker 1997).

The country of South Africa, with its policies of private wildlife ownership, has seen the growth of numerous communally owned and operated wildlife reserves in the post-Apartheid era (Milton 2000; Wells 1996; Bothma 1989; Skinner 1989). Local communities in search of economic and social betterment have modelled game reserves after the many successful white-owned private reserves in the country. Tourism and consumptive uses of wildlife are the primary activities on these reserves.

In countries where consumptive wildlife utilisation is permitted, models such as those above are operating effectively. In other countries – primarily in East Africa – consumptive utilisation of wildlife is prohibited or severely limited. This has prompted the need to develop conservation alternatives that are capable of passing benefit from

wildlife in alternative ways to the sale of hunting licenses, the slaughter of wildlife for meat and skins, or the capture and resale of wildlife for profit. It is this situation that faces wildlife management in the country of Kenya. Various non-consumptive approaches have been taken, focusing mainly on wildlife and cultural tourism (Salomons 2000; Hitchcock and Chambers 1997; Omland 1997; Archebald 1996; Otekat 1995). The linkage of wildlife management and compatible cultural practices of pastoral peoples of East Africa is seen to be critical in biodiversity protection in Kenya and Tanzania (Mustafa 1997; Berger 1993). Issues of cultural practice and socio-economic development in indigenous tribes become a directly applicable factor in wildlife management in these situations where pastoral groups are seen as the stewards of wildlife and natural resources in semi-arid lands of this region.

Due to the proprietary nature of most conservation organisations, the sharing of information and evaluation results amongst each other and with the wider conservation community is limited. As a result, a commonly held assumption has been that community-based conservation was successfully harmonising development and conservation objectives in projects throughout Africa. In the past few years, however, a growing number of published articles concerning the results of CBC projects in terms of conservation and socio-economic development have appeared (Attwell and Cotterill 2000; Hackel 1999; Robinson 1993; Redford and Sanderson 1992). For the most part, they question the ability of CBC to assure that biodiversity conservation is achieved in Africa. Issues between spoken / written theory and the realities of CBC in practice are also brought to the fore in these reviews.

CBC has also been cited as an expensive approach to conservation with little prospect for conservation benefit or substantial income generation (Hackel 1999; Inamder et al. 1999; Wainwright and Wehrmeyer 1998; Sibanda and Omwega 1996). Other reviews question the level to which full community participation is achieved as opposed to the influential or special interest groups operating projects in their own best interests (O'Connell-Rodwell et al. 2000; Belsky 1999). Community participation may, in other situations, be superficial, driven by external interests (Songorwa 1999). External interests are cited as one of the greatest challenges to CBC, as in-migration of populations and ideas pose considerable challenges to and-uses compatible with wildlife conservation (Murombedzi 1999).

Applying CBC approaches to Kenya

The examples provided by many community-based wildlife projects are applicable only to a limited extent in Kenya due to the current ban on hunting and wildlife trade. Benefits to local communities from wildlife have very rarely been as direct as consumptive utilisation programmes. In Kenya, with the exception of limited and small pilot projects, communities cannot see that a particular animal has value to them through meat, skin

sales or through hunting receipts[2]. Attempts by the Kenya Wildlife Service to transfer benefits to communities has been limited to a share of Park Gate receipts to communities around National Parks. While providing economic benefit to these people, there is only limited connection made between the animals themselves and the provision of school classrooms or scholarships that are the most common forms of revenue sharing. The inability of attempts to encourage communities to place a high value on wildlife is evidenced by current efforts to fence many National Parks in Kenya to avoid conflict. This is perhaps the most acceptable approach in arable environments where wildlife-human conflicts are frequent and detrimental to peoples' livelihoods. In semi-arid pastoral areas, however, wildlife migration and dispersal patterns negate fencing as a viable solution. For wildlife to survive, the human component of the environments they live in must be persuaded to accept its existence. This has been the case for generations of pastoral peoples, however the introduction of modern economic systems now necessitates that wildlife be of benefit in terms of development. Intrinsic valuation is no longer enough to ensure survival of wildlife populations outside of parks in these areas.

While it remains to be seen whether reinstatement of hunting occurs in Kenya, non-consumptive utilisation schemes are seen to be of primary importance at present. The work of Norton-Griffiths (1996; 1997) suggests that communal management of resources is, along with private ownership, one of the most effective forms of land tenure in terms of both conservation and generating benefit from the natural environment through conservation-related activities. Comparison of wildlife population trends across Kenya over the last two decades clearly shows that the greatest decreases in wildlife numbers are in government held land or in trust lands (areas held by the government on behalf of a given ethnic group but without the involvement of that group in its management). Communally managed lands and private lands are the only forms of tenure (along with National Parks and Reserves) in which the overall decline of wildlife numbers over the past decades has been slowed, stopped or in some cases reversed (Govt. of Kenya 1989a; Govt. of Kenya 1989b; Norton-Griffiths 1996).

Examples of communal/private wildlife utilisation do exist, though they tend to be non-consumptive and of the following types:

---

[2] Since the early 1990s, the government of Kenya has permitted a small number of pilot projects involving consumptive wildlife utilisation. These are most often in conjunction with European large-scale landholders who are seen to pose less of a risk to wildlife over-use than are small-scale landholders outside of these large private ranch areas. As such, community involvement is limited, although co-operation is becoming more practised in these pilot areas (Heath pers. comm.). A push by a strong lobby within the country has prompted the KWS to draft new legislation to reinstate hunting in the country (Western 1998). While this has led to little more than public outcry, it has prompted the organisation of various wildlife management associations, such as the Laikipia Wildlife Forum and the Tsavo-Amboseli group ranches association. These associations exist primarily to meet requirements of the proposed legislation that any area re-licensed for hunting have a community-based organisation and a solid management plan.

1) 'Ecotourism'. In these cases, tourism operators are leasing plots of Maasai and other tribal areas to establish camps and lodges. Lease values tend to be low compared to the returns gained by the operator, though to local people, a lack of awareness of tourist industry revenues, land values or financial literacy renders people content to accept low valuations of land. The KWS has recently commissioned a study to investigate leases on tribal lands to determine the extent of these unfavourable lease cases, according to a senior member of the Service. Some ecotourism projects have done an excellent job of transferring benefits to local people (e.g. Ol Donyo Wuas, Mbiriakani Group Ranch), but the focus remains on tourism first and foremost. Other projects have exploited a community not only for their land, but for their culture as well. This is especially noticeable on the Maasai Mara side of Kenya, where cultural practices have been reduced to shows for tourists and their foreign currencies to the extent that in one area nearest the main gate to the reserve, there has not been an investiture of Morans (young warriors who are the security of the whole tribe) for over five years. Not only is ecotourism responsible for inequities of distribution of tourism benefits but it is also responsible in many cases for the erosion of cultures which have traditionally been the keepers of the environment.

2) Community development. Projects under this category focus mainly on providing community services, most notably water and education. While programmes are often sponsored by conservation organisations (including the KWS under its revenue sharing scheme), there are varying levels of evident connection between these projects and the value of conserving wildlife. The connection between wildlife-related community development and wildlife conservation is not readily apparent, and it is uncertain as to whether communities feel that conservation and good stewardship are responsible for socio-economic improvement. Rather, the projects tend to act more as pay-offs, or 'bribes' in the words of some Maasai people, to get pastoralists to protect the wildlife.

3) Aid projects. Perhaps furthest from encouraging conservation is the traditional aid project, which usually involves the government of a foreign country undertaking to provide some form of development to a community. Frequently, these projects are donor-driven and initiated for reasons that are far removed from local needs. Numerous examples exist in Kenya of projects which are undertaken on a large scale, providing markets for a donor country's personnel and technology, yet which are unrealistic in terms of local need or the availability of local expertise to operate and maintain projects. Other projects are determined not on the basis of need but on geographic distribution, with donors placing more importance on generating a widespread distribution of projects for maximum exposure in a given country according to an international aid agency representative.

Some examples of successful and less successful community development projects in Kenya are as follows:

A recent project in the Laikipia district of central Kenya involves the establishment of the Il Ngwesi Lodge on communal land adjacent to a number of private ranches. In this case, private landholders (mainly European) assisted their neighbouring community in

building, furnishing and gaining marketing exposure for a simple yet comfortable self-catering lodge. Since its opening in May 1998, Il Ngwesi has received considerable attention and has been booked, mainly by Nairobi residents, on a regular basis (Salomons 2000; Atkins, 1998).

Other privately run conservation projects in the Laikipia District centre around the development of tourism activities on private ranches to supplement to income from domestic stock raising. A few examples of this are the Lewa Downs conservancy (Lockwood 1996), Laikipia Ranching Limited (Gallmann Memorial Foundation 1990), Solio Rhinoceros Sanctuary (Lever 1990) and Ol Jogi Ranch (Lever 1990). All of these are primarily profit-motivated, though various levels of community benefit are distributed from revenues generated from conservation activities.
A number of initiatives have been undertaken through the United States Agency for International Development's COBRA (Conservation of Biodiverse Resource Areas) programme. Through a fund called the Protected Areas and Wildlife Strategy (PAWS), a variety of community-oriented initiatives were developed between 1992 and the project's end in 1997 (Barrow et al. 1995; Makilya et al. 1996). Three legislative districts in Kenya were selected as focal points for this programme - Narok (in which the Maasai Mara National Reserve is located), Laikipia (mainly private ranches high wildlife numbers) and Kajiado (including Amboseli and Tsavo National Parks and wildlife dispersal areas around these and towards Nairobi National Park).

Although considerable funds were spent on projects, their effectiveness is largely unknown due to a lack of built-in evaluation procedures for the programme other than fiscal accountability evaluation. The evaluation of the COBRA project and other community-based conservation projects is a great need in Kenya at present.

Recent developments towards consumptive utilisation in Kenya

In the past few years, collectives of conservation-minded landholders have formed themselves into wildlife associations with the intent of formulating wildlife management plans as a first step towards being awarded quotas for the culling of overpopulated species. The Kenya Wildlife Service began this pilot programme as part of the COBRA programme, the key stipulation being that anyone wishing to cull wildlife would have to organise a users association, submit annual census figures gathered in conjunction with the Kenya Wildlife Service, and put forward a realistic management plan for the co-ordination of the offtake. In order to best achieve these requirements, the co-operation of landholders in large, wildlife rich areas was necessary. In the Kajiado and Laikipia Districts - the only two Districts in Kenya experiencing neutral or positive wildlife population growth rates (Government of Kenya 1989a and 1989b; Norton-Griffiths 1996) - the Tsavo-Amboseli Group Ranches Association and Laikipia Wildlife Forum were set up to co-ordinate the development of management plans (Cook 1996). The Kenya Livestock Forum was established in 1997 as a national co-ordinating body for co-operative conservation and wildlife management amongst various forms of land tenure in Kenya.

Cultural survival and community involvement in conservation

In addition to encouraging stewardship of natural environments, human cultures are in themselves a unique feature of African landscapes. These indigenous cultures have evolved to a great extent in response to environmental conditions posed by the environment (Reckers 1997). The presence of humans in Africa and such activities as burning and herding has contributed at least to some extent to the patchiness of the Savanna ecosystems that characterise much of the continent (Happold 1995).

At independence in 1963, the Government of Kenya embarked on a nationalisation campaign, endeavouring to provide every Kenyan with land ownership. While land distribution was not difficult for agricultural ethnic groups, a challenge presented itself in land distribution for nomadic groups, as the partitioning of nomadic areas into smallholdings was not conducive to pastoralism. As a solution to the challenge of providing pastoralists with land, large tracts of land were carved out of trust lands and given to individual Maasai clans. These were termed Group Ranches, though in reality the Maasai landowners did not recognise boundaries, and continued to herd cattle across the lands of neighbouring clans according to seasonal patterns of water and grass availability.

Group Ranches remained very much a theoretical partitioning of semi-arid nomadic land until the early 1980s when available arable land supplies dwindled due to the high rate of population increase in the country. Beginning at this time, people began to seek out opportunities for agriculture in semi-arid areas of marginal agricultural potential. This brought agriculture to Maasai areas and Maasai people began to sell or lease tracts of land (especially along watercourses) to agriculturists. Land had become a valued resource and one that provided opportunities for Maasai to join the cash economy of Kenya.

The advent of agricultural interests in the region prompted some Maasai to become interested in land adjudication and the potential of land dealing to earn money. Agricultural settlement and the growth of towns to serve new comers further brought a cash economy to the Maasai. Money became valuable to those who were exposed to the things that it could buy in towns and land dealing proved the most effective means of earning money. Suddenly, group ranches and membership in these held some importance, as everyone who could prove himself (males only are registered members) a member of a particular ranch potentially stood to gain a share in the proceeds of land sales.

At the same time as agriculture was moving in to the area, tourism interests also began to increase, with Nairobi based businessmen negotiating leases at very low values, due to the lack of literacy of appraised values. A stack of bills of any size was considered a lot of money in a culture that never had any to begin with. Maasai leaders acknowledge the that the exploitation of fiscally illiterate Maasai was common place, with tourism and agricultural interests being served as a consequence.

Change brought by the introduction of a cash-based economy to the subsistence traditions of the Maasai had significant implications for the structure of political leadership on Maasai Group Ranches. In 1994, enough Maasai in the Tsavo-Amboseli area had become accustomed to money and the value of land to realise that severe exploitation had been occurring due to the awarding of ridiculously low leases by Group Ranch Committees composed of elders who were still very much tied to subsistence nomadism as a way of life. Due to the threat of Maasai clans losing their lands to poorly informed decision making, all six Group Ranch committees in the Tsavo-Amboseli ecosystem were restructured to combine elders with younger, more literate members who had a better grasp of business in a monetary society. This combination was seen as a positive step in the evolution of leadership of Group Ranches.

Three years after the reconstitution of Group Ranch Committees, the jury is out on the wisdom of inviting more worldly representatives onto Committees. While the committees have certainly been able to raise the values of leases and thus increase Group Ranch revenue, the distribution of increased revenues to members is questioned by many on the Group Ranches.

Challenges to the Kenya Wildlife Service

The restrictions on consumptive utilisation of wildlife in Kenya inhibited the progress of community-based approaches to wildlife conservation which are taking shape in southern Africa. Models developed there were not appropriate or adaptable to the non-consumptive situation.

With the restructuring of Kenya's wildlife preservation effort through the establishment of the Kenya Wildlife Service in 1990, efforts began to be taken towards involving local people in wildlife conservation. This included indigenous people, who were still living in areas of relatively high wildlife numbers and who shared land with much of the estimated 70% of Kenya's wildlife population which lives outside of protected area boundaries (Western 1997; Western 1989).

Under the direction of the Kenya Wildlife Service, people living on the periphery of National parks and in rich wildlife areas were acknowledged as holding the keys to the long-term future of Kenya's wildlife. As economic demands for money to pay school fees, health care, transportation, taxes and other costs of westernised life became important, rural people around parks had begun to evaluate the environment and the wildlife in a speculative fashion rather than from within the traditional world view. It was evident that, in order for the conservation aims of the Kenya Wildlife Service (KWS) to succeed, wildlife would have to become as valued as, or more valued than, competing land uses such as irrigated agriculture, jobs stemming from settlement and poaching.

The solution of the KWS during the 1990s has involved the sharing of a portion of revenue generated from national park gate receipts with neighbouring communities to the parks as well as the establishment of the Wildlife for Development Fund (WDF). Both programmes have attempted to link funds to the continued presence of wildlife in areas of

activity. The sharing of revenue, which continues at present, mainly involves the KWS investing in education (scholarships, schools, furnishings) or water and health sectors (boreholes or clinics/dispensaries). The WDF is a programme funded by international donors (European Union, USAID) and has funded mainly enterprise development programmes in communities surrounding protected areas. Another of the WDF efforts to enhance the community acceptance of wildlife through profitability is by the granting of use rights in tightly controlled and managed situations. Communities or private landholders who can demonstrate through censusing that overstocking of wildlife exists, and who have submitted a feasible wildlife management plan can be granted a quota for an annual off-take of wildlife. Over 30 of these licenses have now been granted (Ndug'u and Kaaria 1997).

While this approach to translating tourism or donor revenues into community benefit is appreciated by many, there is a healthy level of speculation and even of resentment towards this programme. Many people living in boundary areas see the programme as 'a bribe' by the KWS to pay off the community to keep their (the KWS') wildlife for them. The transfer of ownership or involvement in stewardship of the wildlife resource does not seem to have been achieved in this programme. This leads one to question the future of wildlife in boundary areas should the KWS ever discontinue the revenue share programmes.

In the past three or four years, the KWS has seen the pitfalls in the revenue share programme. The realisation that the act of providing money or material improvements did not necessarily improve community attitudes towards wildlife conservation has prompted a re-think of the KWS' community partnership programmes. New additions to the programme include 'capacity-building' of communities - mainly the training of game scouts and local people to work in the wildlife sector. Plans call for an expansion of this to include entrepreneurial and tourism development, community development and training of people in other occupations. The success of such plans remains to be seen, however, due to the dependence of the KWS on international donor funding for such projects.

The WDF has not yet been subjected to an external evaluation. Internal evaluations tend to focus primarily on justifying expenditures through the description of a wide range of projects ranging from bee-keeping to cultural centres to animal husbandry to clinics (Ndug'u and Kaaria 1997). A report on WDF activities in the Laikipia District notes that cropping has not proven beneficial on a local level, as the benefits are realised primarily by the manager of the cropping (often a European private rancher). A few general observations of other WDF programs in the District highlighted poor financial accountability and lack of continued support of projects after establishment as factors which would likely affect the long term sustainability of many projects (Ndug'u and Kaaria 1997).

A unique approach of the KWS to gaining a greater level of buy-in by communities into the benefits of wildlife conservation to local development is the formation of Community Wildlife Sanctuaries. These sanctuaries, which involve the KWS assisting a community

to negotiate and declare a wildlife preserve and then to provide necessary infrastructure (gates, staff quarters) and training (management, rangers) are the latest attempt to more fully link community welfare and development with wildlife conservation in wildlife rich areas of Kenya. The first of these opened in February 1996 on the Kimana Group Ranch in southern Kenya. A few others have opened since then and others continue to be developed.

In spite of efforts of the KWS to enhance community involvement in, and stewardship of, wildlife resources, the current Wildlife Conservation and Management Act and the 1977 hunting ban are considerable restraints on the breadth of programmes. Besides the absence of consumptive utilisation as a tool in the generation of benefits, the inability of local communities to exercise control over wildlife resources which are a national domain could well limit the long term sustainability of community-based initiatives (Irigia 1995).

Conventional approaches to wildlife conservation today tend to focus on proving to communities in wildlife-rich areas that it is in their material and monetary interests to conserve wildlife. While this is indeed important, especially given the influence of capitalism in rural Kenya, the traditions and elements of indigenous culture which rural people cling to are often disregarded as important factors in conservation. This is one of the most serious omissions in the evolution of community/wildlife programming in Kenya, as the majority of people involved in projects are still firmly rooted in an indigenous culture. Capitalism is certainly an influence, but the mindset, attitudes and approach to life still involve traditional ways. These ways include strong, sharing communities and respect for the environment. In a culture such as the Maasai, where wildlife has always been protected, it should appear obvious that strengthening and reaffirming indigenous cultural practices and lifestyles would be one of the most effective tools in wildlife conservation in much of Kenya today. By encouraging traditional lifestyles, environmental stewardship and responsible resource management would also be promoted.

Is wildlife conservation/environmental protection gaining from a westernised view as a money-making sector of the economy? Is this the sole approach that should be assumed? Or is there validity in looking at other approaches and of combining the capitalist path with that of indigenous societies, of cultures which value wildlife and the environment not as a resource to be exploited as much as an integral part of their world? Are the effects of 'modernising' indigenous cultures necessarily going to lead to the most effective stewardship of resources? While westernised people may see this as the way the world works, do indigenous peoples faced with modernisation see the western lifestyle in the same light? These are questions that will be addressed in this paper. While it is perhaps easier to document the monetary benefit coming to a community from a wildlife resource, it is equally, if not more, important to affirm the value of wildlife as a cultural/heritage resource if wildlife is to survive in Maasai lands in Kenya.

Due to the presence of humans in Africa, and their contribution to forming the ecosystems which exist today, the exclusion of indigenous people from National Parks

may have disrupted not only the ways of life of various people, but also the ecological balance in park areas due to the removal of one factor in these areas.

The recognition of indigenous lifestyles and cultures in Africa's natural areas is thus of importance not only in preserving cultural diversity on the continent, but in the maintenance of ecosystems (Slocombe et al. 1993). The linkage between culture and the natural environment is brought closer when this is considered.

Community involvement in conservation is of importance from the perspective of ensuring responsible stewardship of land and resources. It is also important from the perspective of empowerment, as local people are being given a much greater sense of control over their environment, have a much greater awareness of the consequences of various land use options, and can feel confident in adhering to traditional cultural practices as a management technique if they so choose. Should local culture be placed on par with non-indigenous cultures, the range of choices and the knowledge base on which decisions are made is broadened. Communities thus stand to benefit from economic benefits stemming from community-based wildlife projects, and also in terms of gaining the greatest possible base of knowledge on which to determine directions. A spin-off alluded to already is the greater feeling of affirmation of cultural traditions even in the face of rapid, externally driven change.

This research addresses a lack of synthesis in the literature of community development, wildlife conservation and cultural survival. Through the research described herein, the importance of considering the interplay of all of these on each other and in the maintenance of natural and human systems will become apparent. The research will also contribute to those searching for non-consumptive wildlife utilisation models, of which there are few documented studies in Africa. Applications of the research to a more global level will provide food for thought for those practising community development and conservation world-wide.

Problems with current approaches to community-based conservation: The need for a closer look at project effectiveness

As mentioned to above, the approach being taken at present to environmental conservation in Kenya is very much tied to a capitalist world-view. In order for wildlife to survive, it must pay for itself. In order for an environment to remain in a natural state, the value of its remaining so must be equal to or greater than the value of converting land to some other, more profitable use.

This monetary valuation approach incorporates one important factor in the equation of Kenyan wildlife conservation today. What it does not take into account, however, is the background and indigenous lifestyles of the rural people targeted as being the keepers of the fate of natural areas and wildlife. The vast majority of wildlife and development projects operating in East Africa until now have also forgotten the indigenous side of the equation, focusing on very much the same strategies which the KWS uses. What is lacking is projects that value both lifestyles, both cultural approaches, and recognise the

importance of accepting that there is an Africanisation of development and conservation strategies necessary if local people are to appreciate the benefit of natural resources in their lives.

In the midst of concerns over making wildlife prove itself financially beneficial to people are questions of how to educate people to recognise this value. Again, education can be approached in numerous ways, the most general classifications being i) the academic approach, using facts, figures and theory to make a point, ii) an experiential approach using hands-on approaches to encourage learning, and iii) indigenous knowledge, which is based on the body of knowledge stored up by a culture over time. As with the emphasis on the capitalist view of wildlife conservation, education has tended also to largely overlook the input of the indigenous in forming a more holistic view of education as it pertains to conservation. This hearkens back to the tendency of many conservationists to undervalue elements of indigenous cultures that could actually be of great benefit in achieving their cause. Indigenous culture has not had a major place in conservation and, consequently, conservation is failing in its effectiveness in Kenya. The question is, how can a synthesis of old and new, modern and traditional, indigenous and foreign be achieved which will prove optimal in efforts to retain land use patterns which preserve Africa's natural heritage. The answer to this certainly must include a recognition of the importance of preserving cultural heritage as a basis on which to concentrate efforts. A balance must be achieved between indigenous vs. foreign ideology, between indigenous vs. academic/scientific approaches to educating and informing people of lifestyle choices, and between the cultural attitudes and practices of the various parties involved in conservation today. The primary reason for such a balance is to ensure that conservation policies gain support from indigenous communities who ultimately will determine their success or failure while simultaneously appealing to international organisations that could lend various types of support to local initiatives. How this balance is achieved is through the development of approaches to conservation that are inclusive of various perspectives and concerns, be they socio-economic or conservation-based. Community-based conservation is seen as one of the most important tools in seeking this balance.

Noting the importance of communities as an integral key to the success of conservation programmes, much attention was paid to attempts made at community involvement in conservation. The literature review that is summarised in this chapter was instrumental in identifying elements weighing in favour of a successful community-based project. The primary characteristic, not surprisingly, was community involvement in the project. As much as possible, government participation/interference is minimised unless necessitated at an institutional level (Gibson 1999). Reasons for minimising participation at the level of national governments deal mainly with increased potential for corruption or manipulation that leads to benefits being drawn away from local communities (Gibson 1999). Even the CAMPFIRE programme, which has full support of the government, endeavours to minimise the external influence of government by devolving powers to a local level (Murombedzi 1999).

Applying CBC approaches to the Kuku Group Ranch

This dissertation focuses on the development and implementation of a community-based conservation project on the Kuku Group Ranch in southern Kenya as a case study to demonstrate the value of Social Action Research in achieving community-based conservation goals. Situated in the Tsavo-Amboseli region of the country, the Kuku Group Ranch (KGR) is one of five Maasai clan-owned tracts of land that separate Tsavo West National Park from Amboseli National Park. These five group ranches are critical for wildlife migration and dispersal in the entire region.

Literature Cited

Archebald, K. 1996. How a community adapted to changing resources in Bwindi Impenetrable National Park, Uganda. Rural-Extension-Bulletin 10: 54-55.

Armbruster, P. and R. Lander. 1993. A population viability analysis for the African Elephant (*Loxodonta africana*): how big should reserves be? Conservation Biology 7(3): 602-610.

Atkins, H. 1998. The Il Ngwesi ecotourism experience. Travel News Nairobi, June.

Attwell, C.A.M. and F.P.D. Cotterill. 2000. Postmodernism and African conservation science. Biodiversity and Conservation 9(5): 559-577.

Baker, J.E. 1997. Development of a model system for touristic hunting revenue collection and allocation. Tourism management 18(5): 273-286.

Barrett, C.B. and P. Arcese. 1995. Are integrated conservation-development projects (ICDPs) sustainable? On the conservation of large mammals in sub-Saharan Africa. World Development 23(7): 1073-1084.

Barrow, E., Bergin, P., Infield, M., and P. Lembuya. 1995. Community conservation: Lessons for benefit sharing in East Africa. African Wildlife Foundation: Nairobi.

Belovsky, G.E., Mellison, C., Larson, C. and P.A. Van Zandt. 1999. Experiential studies of extinction dynamics. Science 286(5442): 1175 – 1177.

Belsky, J.M. 1999. Misrepresenting communities: the politics of community based rural ecotourism in Gales Point Manatee Reserve, Belize. Rural Sociology 64(4): 641-666.

Berger, D.J. 1993. Wildlife extension: participatory conservation by the Maasai of Kenya. Acts Press: Nairobi, Kenya.

Bonner, R. 1993. At the hand of man. Random House: Toronto.

Bothma, J. du P. 1989. Game ranch management. J.L. Van Schaik: Pretoria, South Africa.

Bryman, A. 1987. The debate about quantitative and qualitative research: a question of method and epistemology? British Journal of Sociology. 35(1): 75-92.

Caughley, G. 1994. Directions in conservation biology. Journal of Animal Ecology 63(2): 215-244.

Caughley, G. and A. Gunn. 1995. Conservation biology in theory and in practice. Blackwell Scientific: Cambridge Press, UK.

Child, G. 1996. The role of community-based wild resource management in Zimbabwe. Biodiversity and Conservation 5(3): 355-367.

Cook, S. 1996. Working towards a new solution. Swara 19(4): 30-31

Cowling, R.M. and W.J. Bond. 1991. How small can reserves be? – an empirical approach in the Cape Fynbos, South Africa. Biological Conservation 58(3): 243-256.

Cumming, D.H.M. 1993. Multispecies systems: Progress, prospects and challenges in sustaining range animal production and biodiversity in East and Southern Africa. In Proceedings, VII World Conference on Animal Production. Vol. I: Edmonton, Canada. 145-159.

Frankel, O.H. and M.E. Soule. 1981. Conservation and evolution. Cambridge University Press: Cambridge, UK.

Gallmann Memorial Foundation. 1990. About the foundation. Gallmann Memorial Foundation: Nairobi, Kenya.

Ghimire, K.B. and M.P. Pimbert. 1997. Social change and conservation: an overview of issues and concepts. In Ghimire, K.B. and M.P. Pimbert (eds.). Social change and conservation: environment, politics and impacts of national parks and protected areas. Earthscan: London, UK.

Gibson, C. 1999. Politicians and poachers: The political economics on wildlife policy in Africa. Cambridge University Press: Cambridge, UK.

Gibson, C.C. and S.A. Marks. 1993. Transforming rural hunters into conservationists: an assessment of community-based wildlife management programs in Africa. World Development 23(6): 941-957.

Government of Kenya. 1989a. Livestock and wildlife data summary. 1977 for Kenya rangelands. Dept. of Resource Surveys and Remote Sensing: Nairobi.

Government of Kenya. 1989b. Livestock and wildlife data summary. 1987-1988 for Kenya rangelands. Dept. of Resource Surveys and Remote Sensing: Nairobi.

Hackel, J.D. 1999. Community conservation and the future of Africa's wildlife. Conservation Biology 13(4): 726-734.

Happold, D.C.D. 1995. The interactions between humans and mammals in Africa in relation to conservation: A review. Biodiversity and Conservation 4(4): 395-415.

Heijnis, C.E., Lombard, A.T., Cowling, R.M. and P.G. Desmet. 1999. Picking up the pieces: a biosphere reserve framework for a fragmented landscape – the coastal lowlands of the western Cape, South Africa. Biodiversity and Conservation 8(4): 471-496.

Hinchcliffe, F., Guijt, I, Pretty, J.N. and P. Shah. 1995. New horizons: The economic, social and environmental impacts of participatory watershed development. Gatekeeper series: Sustainable agriculture programme, International Institute for Environment and Development. Number 50: London, UK.

Hitchcock, R.K. and E. Chambers. 1997. Cultural, economic, and environmental impacts of tourism among Kalahari Bushmen. In R.K. Hitchcock and E. Chambers (eds.) Tourism and culture: An applied perspective. State University of New York Press: Albany, New York. 90-123.

Hough, J.L. 1988. Obstacles to effective management of conflicts between national parks and surrounding human communities in developing countries. Environmental Conservation 15(2): 129-136.

IIED 1994. Whose Eden: An overview of community approaches to wildlife management. Russell Press: UK.

Inamder, A., de Jode, H., Lindsay, K. and S. Cobb. 1999. Capitalising on nature: protected areas management. Science 283(5409): 1856-1857.

Jenkins, T.N. 2000. Putting postmodernity into practice: endogenous development and the role of traditional cultures in the rural development of marginal regions. Ecological Economics 34(3): 301-314.

Lawson, D. and P. Mafela. 1990. Botswana: Development of the WMA concept. World Bank Paper 130. Living with wildlife: Wildlife resource management with rural participation in Africa. 151-155.

Leader-Williams, N. 1996. What is Wildlife Management Agreement (WMA) and Community-based Conservation (CBC) and how should they be defined? In Leader-Williams, N., Kayera, J.A. and G.L. Overton (eds.). Community-based conservation in Tanzania: Proceedings of a workshop held I February 1994. IUCN: Gland, Switzerland.

Lever, C. 1990. Lake Nakuru Black Rhinoceros Sanctuary. Oryx 24(2): 90-95.

Lewis, D.M. and P. Alpert. 1997. Trophy hunting and wildlife conservation in Zambia. Conservation Biology 11(1): 59-68.

Lincoln, Y.S. and E.G. Guba. 1985. Naturalistic inquiry. Sage: Beverley Hills, California.

Lindenmayer, D.B. and H.A. Nix. 1993. Ecological principles for the design of wildlife corridors. Conservation Biology 7(3): 627-630.

Lockwood, L. 1996. Lewa Downs: A new conservancy. Swara 19(3): 20-23.

Maandi, P. 1998. Local aspects of wildlife preservation and utilisation: Wildlife and land-use in Southern Africa, with a case study from Sankuyo, Botswana. Minor-Field-Studies 37. Swedish University of Agricultural Sciences: Uppsala.

Machlis, G.E. and D.L. Tichnell. 1985. The state of the world's parks: an international assessment for resource management, policy and research. Westview Press: Boulder, USA.

Makilya, J., Lembuya, P. and P. Ntiati. 1996. Linking enterprise to conservation: Examples from Kenya. African Wildlife Foundation: Nairobi.

Marks, S.A. 1989. Small-scale hunting in the tropics. In R.J. Hudson, K.R. Drew and I.M. Baskin (eds.). Wildlife production systems: Economic utilisation of wild ungulates. Cambridge studies in applied ecology and resource management. Cambridge University Press: Cambridge, UK: 75-95.

Mattson, D.J., Hererro, S., Wright, R.G. and C.M. Pearse. 1996. Science and the management of Rocky Mountain Grizzly Bears. Conservation Biology 10(4): 1013-1025.

McShane, T.O. 1990. Wildlands and human needs: Resource use in an African protected area. Landscape and Urban Planning 19(2): 145-158.

Mehta, J.N. and S.R. Kellert. 1998. Local attitudes toward community-based conservation policy and programmes in Nepal: a case study in the Makulu-Saran conservation area. Environmental Conservation 25(4): 320-333.

Milton, S.J. 2000. Community-based conservation: exploring positive feedback between economic development and conservation. South African Journal of Science 96(3): 119-120.

Murombedzi, J.K. 1999. Devolution and stewardship in Zimbabwe's CAMPFIRE programme. Journal if International Development 11(2): 287-293.

Murombedzi, J. 1992. The Communal Areas Management Programme For Indigenous Resources (CAMPFIRE): A Zimbabwean initiative for natural resources conservation. Zimbabwe Science News 26(10-12): 77-81.

Murphree, M.W. 1993. Communities as resource management institutions. Gatekeeper series - sustainable agriculture programme, International Institute for Environment and Development. Number SA36: London, UK.

Mustafa, K. 1997. Eviction of pastoralists from the Mkomazi Game Reserve in Tanzania: an historical review. Pastoral Lands Series 8. Institute for Environment and Development: London, UK.

Ndug'u, M. and B. Kaaria 1997. Assessment of WDF funded projects/ activities in Laikipia District. Kenya Wildlife Service: Nairobi.

Newmark, W.D. 1993. The role and design of wildlife corridors with examples from Tanzania. Ambio 22(8): 500-504.

Newmark, W.D. 1995. Extinction of mammal populations in western North American national parks. Conservation Biology 9: 512-526.

Norton-Griffiths, M. 1996. Why Kenya's conservation is failing. Swara 19(6).

Norton-Griffiths, M. 1997. Property rights and the marginal wildebeest: An economic analysis of wildlife conservation options in Kenya. Biodiversity-and-Conservation. 5(12): 1557-1577.

O'Connell-Rodwell,, C.E., Rodwell, T., Rice, M. and L.A. Hart. 2000. Living with the modern conservation paradigm: can agricultural communities co-exist with elephants? A five year case study in East Caprivi, Namibia. Biological Conservation 93(3): 381-391.

Omland, M. 1997. Exploring Ghana's tree-tops. People and the Planet 6(4): 28-29.

Otekat, J.E. 1995. Ecotourism: The people-friendly face of conservation. Swara 18(6): 5.

Parker, I. 1982. Conservation, realism and the future. In R.N. Owen-Smith (ed.). Management of large mammals in African conservation areas. Huam: Pretoria, South Africa.

Popper, K. 1959. The logic of scientific discovery. Basic books: New York.

Reckers, U. 1997. Nomadic pastoralists in Kenya: Human ecological aspects of the East-Pokot. Issue Paper 73. Dryland Programme. International Institute for Environment and Development: London, UK.

Redford, K.H. and S.E. Sanderson. 1992. The brief, barren marriage of biodiversity and sustainability? Bulleting of the Ecological Society of America 73: 36-39.

Robinson, J.G. 1993. The limits to conservation: sustainable living and the loss of biodiversity. Conservation Biology 7: 20-28.

Salomons, M.J. 2000. Evaluating community conservation in Kenya. MSc. Thesis. University of Alberta.

Schroeder, R.H. 1999. Geographies of environmental intervention in Africa. Progress in Human Geography 23(3): 359-378.

Sibanda, B.M.C. and A.K. Omwega. 1996. Some reflections on conservation, sustainable development and equitable sharing of benefits from wildlife in Africa: The case of Kenya and Zimbabwe. South African Journal of Wildlife Research 26(4): 175-181.

Simberloff, D.S. The contribution of population and community biology to conservation science. Annual Review of Ecology and Systematics 19:473-511.

Sinclair, A.R.E. 1991. Science and the practice of wildlife management. Journal of Wildlife Management 55(4): 767-773.

Skinner, J.D. 1989. Game ranching in southern Africa. In R.J. Hudson, K.A. Drew and L.M. Baskin (eds.). Wildlife Production Systems: Economic Utilisation of Wild Ungulates. Cambridge U. Press: Cambridge.

Slocombe, M.W., Roelof, J.K., Cheyna, L.C., and T. Noaloni, 1993. What works: An annotated bibliography of case studies in sustainable development. IUCN-CESP Working Paper 5. ICEPP: Sacramento, CA.

Songorwa, A.N. 1999. Community-based wildlife management in Tanzania: are the communities interested? World Development (Oxford) 27(12): 2061-2079.

Soule, M.E. 1999. Conserving nature at regional and continental scales – a scientific program for North America. Bioscience 49(10): 809-817.

Wainwright, C. and W. Wehrmeyer. 1998. Success in integrating conservation and development? A study from Zambia. World Development (Oxford) 22(6): 933-944.

Wells, M.P. and K.Z. Brandon. 1993. The principles and practice of buffer zones and local participation in biodiversity conservation. Ambio 22(2-3): 157-162.

Wells, M.P. 1996. The Social Role of Protected Areas in the New South Africa. Environmental-Conservation 23(4): 322-331.

Western D. 1989. Conservation without parks: Wildlife in the rural landscape. In D. Western and M.C. Pearl (eds.). Conservation for the 21st Century. Oxford U. Press: New York.

Western, D. 1994. Vision of the future: the new focus of conservation. In Western, D., Wright, R.M. and S. Strum (eds.). Natural connections: perspectives in community-based conservation. Island Press: Washington DC.

Western, D. and R.M. Wright. 1994. The background to community-based conservation. In Western, D., Wright, R.M. and S. Strum (eds.). Natural connections: perspectives in community-based conservation. Island Press: Washington DC.

Western, D. 1997. The origins and development of conservation in East Africa. In Kenya Wildlife Service 1997.

Western, D. 1998. Crisis management. Swara 21(2): 6.

World Commission on Environment and Development. 1987. Our common future. Oxford Press: New York, USA.

World Conservation Union. 1980. World conservation strategy: Living resource conservation for sustainable development. Gland: Switzerland.

World Resources Institute. 2000. Global database (1996-1997). http://www.wri.org/facts/country-data.html

Personal communications

Dublin, H. Worldwide Fund For Nature and Natural Resources. Nairobi. 1996.

Heath, B. Wildlife utilisation consultant, Nairobi. 1996-98.

CHAPTER IV JUSTIFICATION OF METHODS

Given the interdisciplinary nature of community-based conservation as outlined in the previous chapter, the methods utilised for this research will be categorised by many as interdisciplinary and falling between the disciplines of sociology and biology.

Within sociology the sub-discipline is community development and within the discipline of biology the sub-discipline is conservation biology.

One of the major contributions of the present study to the field of Community-Based Conservation (CBC) is to illustrate the importance of interdisciplinary thinking for the field of conservation biology to examine the role of collective organisation around the preservation of species diversity and landscapes on which diversity depends. In demonstrating the critical nature of blending social and biological sciences, the introduction of naturalistic and social action methods more akin to the social sciences than conservation biology is warranted. In this chapter, the suite of methods chosen for this research will be detailed and justified.

Choice of Approach

The approach used in this research was qualitative in its nature. This is not to say that quantitative methods were at times involved (an informal survey in Chapter VI may be seen by some as verging on the quantitative), but that rigourous statistically-based data collection techniques were not followed. Where quantitative approaches are based on scientific method of inquiry with the objective testing of predetermined hypotheses being at the core of research, qualitative methods do not necessarily begin with a clear hypothesis. In contrast, approaches involve the formulation of theory through observation and, in some instances, the involvement of the researcher as a participant in the research. In cases where the unpredictability of human decisions are integral to the unfolding of a research project or topic, qualitative research is deemed more appropriate. Where quantitative methods depend on the maintenance of controls and the minimisation of errors due to externalities, qualitative research takes the broad range of influencing factors into account, seeking to incorporate human unpredictability into the development of theory.

In this research, where human decision-making played an integral though unpredictable role in the development of the research project, as did the involvement of the researcher as a participant, qualitative strategies to research were chosen as the most appropriate and effective means of undertaking research. Qualitative strategies were thus employed, with research techniques following Naturalistic Inquiry (Lincoln and Guba 1985) and Social Action Research (Stringer 1996) methods.

Naturalistic Inquiry was chosen as a suitable qualitative approach due to its ability to accommodate researcher involvement as a participant rather than as a strict observer. Many other qualitative approaches, such as ethnography, prefer that the researcher maintain a distance from research subjects in order to make an objective and detailed recording of events and interactions within a study group. In the case of this research, the researcher was involved as a participant, acting as a facilitator of a concept that led to the development of a community-conservation model. Naturalistic Inquiry was deemed the most appropriate qualitative approach, and supported the Social Action Research methods utilised in executing the research.

Qualitative versus quantitative approach

Whereas quantitative research seeks 'operational definitions, objectivity, causality, and replicability' (Kolakowski 1972), qualitative research 'emphasises discovering novel or unanticipated findings and the possibility of altering research in response to such occurrences' (Bryman 1987). Qualitative research is used in a variety of social settings where peoples' or communities' responses to events are an intrinsic part of the overall research. Some of the applications of qualitative research include use in cultural anthropology, medicine, education, child behaviour and deviant behavioural studies (Neuman 1997; Strauss and Corbin 1990; Schutz 1967). Given its utility in social research, qualitative methods were adapted for application to community-based conservation study in this dissertation. The selection of multiple qualitative techniques was deemed important in seeking firm support for research conclusions. A solid piece of research would result in conclusions supported by the triangulation of varied methods (Neuman 1997).

The development of qualitative inquiry as an accepted research method in the social sciences came about in response to calls for a new paradigm in research that would be less restrictive than conventional methods of scientific inquiry (Lincoln and Guba 1985). Qualitative research has been deemed necessary to study the social world, where the often-unpredictable 'lived experiences of people' inhibit the use of natural science approaches (Schutz 1967). While the method is less prescriptive than conventional inquiry, the field has set standards that are deemed acceptable within the social sciences discipline (Neuman 1997; Bryman 1987). In developing methods for this research project, these standards were followed, as will be seen in the following section.

Where conventional quantitative inquiry depends upon replications to determine the credibility of research results, qualitative inquiry determines research credibility by obtaining consistent results from a diversity of techniques. Rather than hypothesis testing, qualitative research provides illustrations or evidence to show that a theory is plausible, or is instrumental in the creation of new theories (Neuman 1997). Methods seek to ensure that the researcher assumes an interpretative and critical approach with the intention being not only to test, but also to build theory inductively (Neuman 1997; Bryman 1987). The use of various techniques is equated to a type of replication. This is achieved by the triangulation of project results, where the results of various techniques support each other to add to the validity of overall conclusions drawn from the research.

Some of the mechanisms used to achieve results, and which were used in this study include:

- Surveys. Interviews of research subjects (Miller and Glassner 1997; Seale 1999)
- Participatory Research. Prolonged engagement in, and observation of, the research and participants in it accompanied by documentation of events, discussions and meetings (Bazanger and Dodier 1997; Stringer 1996)
- Reference to relevant documents concerning the study site, natural resources and the community
- Key informant interviews from a wide range of viewpoints (Seale 1999)
- Triangulation of project results from the above techniques to verify the formation of a central theory grounded in the research (Miller 1997; LeCompte and Gietz 1982; Denzin 1970).

Challenges to qualitative research

Given the placement of community-based conservation within the realm of conservation biology, there is bound to be considerable opposition from the natural and applied science community concerning the validity of qualitative research as 'science'. Opposition to these methods will likely cite a lack of statistics, controls, replication, objectivity and firm hypotheses. From a positivist point of view, these will indeed be found valid. It should be remembered, however, that a positivist point of view is not the only point of view, nor is it necessarily the only correct approach that can be taken in research. Certainly, this approach and the scientific method of inquiry that it uses has proven to be an effective strategy to answer cut-and-dried questions for which experimental conditions can be controlled. In other situations, however, especially where social behaviours are concerned, such attempts to fit research into the conventional scientific approach would be exceedingly difficult, if not impossible. As such, alternative research paradigms have been arrived at to approach these research questions.

The works of Kuhn (1970) and Mishler (1990) are important contributions to the development of an alternative paradigm to positivist inquiry. By viewing the research scientist more as a craftsperson than a logician, a new role for researchers was defined by Mishler. Rather than demanding adherence to standardised procedures or formal rules, the validity and trustworthiness of qualitative research is obtained through a combination of detailed methods and the understanding of the researcher of actual, situated practices in a field of inquiry. The claims of the researcher are ultimately tested via discourse with other researchers. Scientific knowledge is thus socially constructed through such discourse.

Kuhn (1970) suggested that applications of unconventional research techniques in a given discipline require 'exemplars' or 'concrete problem-solutions' in order to validate the use of such techniques in that discipline. In the case of this research, social action research methods are utilised in a conservation biology setting. The result (the development of a grounded theory of CBC based on the Kuku case study) is just such a 'concrete problem-

solution', in that the research demonstrates how qualitative social action techniques can be used in addressing community-based conservation questions.

In the case of this research, details of methods used are provided in this chapter as well as in the three following chapters which serve to demonstrate the contribution of participatory observation, informal interviews, and a comparison study towards the forming of a grounded theory of community-based conservation based on the Kuku case study. In the case of the participatory observation chapter especially, the cyclical nature of the research approach will become more apparent, as will the order and manner in which benchmarks / milestones were achieved. The details provided in that and other chapters contribute to the presentation of a study that is replicable (with adaptation to different cultural and social settings and environments) and can be challenged or refined by other researchers.

Qualitative research differs from quantitative research primarily in that it does not involve statistical tools, nor does it usually begin with a formal theory and set of hypotheses to test this theory (Mishler 1990). Rather, qualitative research utilises tools such as:

- Attention to social context. By documenting what social conditions existed prior to initiation of research, evidence of change related to research can be gained. This may be achieved through such techniques as participant observation or interviews.
- Case study analysis. Review of existing case studies on the topic permits the researcher to further set the context for research as well as to determine methods, potential pitfalls, and identify research questions. Treating the research project as a case study in itself provides a clearly understood means of communicating results.
- Triangulation. The integrity of the research and the researcher is a major issue facing qualitative research. The triangulation of concepts and insights using a variety of instruments contributes to the internal consistency of the research. The bias of the researcher is reduced by multiple forms of evidence supporting research findings and rigorous prior researcher training in research methods (Neuman 1997).

As far as theoretical contribution goes, while qualitative research begins with a general theoretical statement, theory evolves throughout the research process. Through research, a theory is built that is grounded in evidence obtained. The utility of qualitative theory is to seek theory from small research projects, use a case study format to demonstrate the grounded theory, and develop a theory from this that is replicable and generalisable to similar situations. The extension of lessons learned in a case study to more widely applicable grounded theory is critical in qualitative research, making a scholarly contribution to a given discipline or disciplines.

In the case of this research, the general theoretical statement that served as the starting point for research was:

In order for conservation to be effective at maintaining biodiversity and protecting habitat, the communities living in closest proximity to these resources must, in some way,

derive benefit from those resources as a means of valuing their perpetuation over alternative land and resource uses.

Social Action Research as the primary qualitative approach

Qualitative research itself incorporates a broad range of research approaches. While all of these share the general qualities of qualitative research set out above, various approaches have been developed that apply to different situations. For the purposes of this study, Social Action Research, rising out of Naturalistic Inquiry, was chosen as the primary approach to research. Other qualitative approaches, though valid in themselves, were deemed unsuitable for this particular study. Some of these, and the reasons for not using them, are discussed as follows:

- Ethnography. The basic intent of ethnographic studies is to study elements of a particular group or culture in a specific context. Ethnography often involved the field worker as both researcher and participant but it does not call for application on a universal level (Silverman 1997). The validity of research is in describing events or aspects of social behaviour as they pertain to a specific group. In the Kuku study, the intent was to develop a case study that was broadly applicable to community-based conservation on a universal scale. While participant observation, a common method employed in ethnography, is used in the Kuku study, the use of additional techniques takes the study beyond pure ethnography.
- Life history. This technique involves following a particular event from start to finish. This may be a human lifespan or portion thereof, or that of a society or group. Life histories tend to involve a sense of closure (Seale 1999). In this research, the study certainly had a definite beginning, but due to the long term over which the project will eventually prove or disprove itself, documenting its entire life history would have been an inappropriate time frame for this particular study. This piece of research could well be incorporated into a complete life history should the Kuku project continue to be followed from the standpoint of academic analysis.
- Phenomenology, or advocacy approaches, are used generally in situations where the researcher works with participants to 'understand and describe their view of the world' (Yardley 1997). Where this technique is particularly well suited to research involving descriptive analysis of a single cultural or interest group, the Kuku research, with its evolving nature and interplay of varying interests groups called for a more dynamic approach to research.

The above approaches are completely valid mechanisms of qualitative research. In the case of this particular research, however, yet another approach was used. Based on the objectives and realities of the research, a suite of research techniques referred to as qualitative inquiry (Bryman 1987; Lincoln and Guba 1985), naturalistic inquiry (Lincoln and Guba 1985), or more specifically, Social Action Research (Stringer 1996), was adopted.

Social Action Research is an accepted form of qualitative research that is commonly used in the fields of education and community health. It has, in recent years, been accepted for use in other disciplines as well. It is characterised by the following (Gonzalez-Berry 2000; Stringer 1996):

- Active research. The researcher is a participant in the experiment itself. Objectivity is maintained through consistent results gained through the use of various research techniques. The researcher gains knowledge and understanding through active involvement in the research project.
- Ongoing processes. Research often spans a period of years. The documentation of the process itself is an important research result in that it details human responses to decisions made or to the introduction of agents of change.
- Cyclic methods. Given the importance of the research process itself, methods are re-used throughout a given research period. For example, informal surveys and interviews would be repeated to document reactions to project evolution or to seek feedback that will lead to revision of research directions. The cycle of research tends also to oscillate between active stages of implementation and stages where the researcher and stakeholders pause to take time to reflect on the effects of their actions and upon the range of choices for further action. Later cycles in the research process are used to challenge and refine observations made in earlier cycles.
- Active listening. A feature of the research involves participants (stakeholders) being directly involved its unfolding. While involved in the research, the researcher acts as a participant observer to facilitate stakeholder involvement. The role of facilitation requires a high level of listening on behalf of the researcher. Recording of stakeholder responses to various stages of research is closely linked to listening.
- Collaboration. The involvement of all stakeholders in answering a research question requires considerable effort to encourage co-operation amongst these often-diverse interests. Collaboration with these varied interests serves to strengthen the results in that research directions are determined on as consensual a basis as possible.

Research objectives

Through the choice of qualitative Social Action Research methods, and given the above general theory, the following objectives for the research were achieved:

1. To develop a working model for community development and conservation that indicates the strong possibility of the long-term success of both human and environmental priorities being met.
2. To demonstrate that applicability of Social Action Research to the field of conservation biology. To justify the use of these 'alternative' methods in a field that has limited practical experience with them.
3. To emphasise the importance of interdisciplinary approaches to the evolution of community-based conservation as a sub-discipline of conservation biology.

A further set of considerations took into account the realities of practical field research in community-based conservation / conservation biology. These included:

1. Lack of controls. Positivist scientific method calls for the establishment of controls in order to determine whether particular effects noted were due to the treatment application or to some other factors. In community-based conservation, where every group of people and the decisions they make are less than predictable, the establishment of a control is difficult. Further, ecological variation will also prevent the establishment of ideal controls. Qualitative research isn't derived from control, rather systematic observations, recording of those observations, and triangulation where possible.
2. Inability to replicate. The development of this research project involved multiple years of work in one region. Due to the unavailability of exactly similar social and ecological conditions, replication of the research was not possible. This does not preclude a form of replication of the model in other situations, although these would require adaptation to local conditions.

Researcher Biases Addressed

For conventional scientists, objective research includes the removal of the researcher from the research itself. In a qualitative research situation such as this, the researcher becomes directly involved – in this case as a facilitator of the Kuku model's development. While this action does not fall within the accepted protocol for conventional scientific research, it is accepted as valid in qualitative research (Stringer 1996; Bryman 1987; Adler and Adler 1987; Gans 1982; West 1980), the reasons being:

- As trust is built up with research participants, insight can be acquired. This acts as a check against outsider perspectives that the researcher is also able to maintain. Checks for validity are continuous when the researcher is directly involved; participants and stakeholders provide a check to the researchers' actions, assumptions and procedures (Neuman 1997).
- Participation permits a more holistic view of events, decreasing the likelihood of a one-sided perspective being gained. This is true as long as the researcher continuously seeks feedback from all stakeholders involved in the research, regardless of their positions
- The use of multiple techniques to test and refine a theory reduces opportunities for bias to infect research.

Personal challenges of using qualitative process of inquiry

The use of Social Action Research methods in this research necessitated complete immersion of the researcher in the project. Maintaining objectivity was a constant consideration, especially given the desire not to see the project fail. Overcoming this obstacle was achieved in part through the use of triangulation techniques to verify conclusions that were drawn. The comments and criticisms of visiting researchers and academics, including Dr. Ross Wein and Michael Salomons (MSc candidate) of the University of Alberta, and Dr. Christopher Southgate of the University of Central Lancashire, UK, were also valued as critical and objective assessments of the research. By hiring research assistants from the community, objectivity was further encouraged.

The perspective of the community was more accurately captured through local assistants than would have been possible had the researcher undertaken all interviews. Ensuring that the community perspective was accurately determined was important in that it is the community that will ultimately decide the failure or success of the Kuku project – or any community-based project, for that matter.

The desire of the researcher not to see the project fail can be interpreted as a strength of the research, as the application of Social Action Research methods in the appropriate manner presented opportunities to regularly evaluate and strengthen the evolving project. Through the cyclical nature of Social Action Research, a project evolved that is capable of being replicated in a wide range of cultural and environmental settings.

Development of methods according to standards of qualitative inquiry

Using the above elements of qualitative research design as described by Neuman (1997), Lincoln and Guba (1985), Strauss and Corbin (1990), Stringer (1996), the methods for this community-based conservation research project can be detailed as follows:

1. Focus for inquiry

The conceptual problem addressed through this research concerns whether the objectives of conservation and community development can be attained simultaneously through an interdisciplinary approach to land-use planning. More specifically, the research project set out to develop a community-based conservation project in the Tsavo-Amboseli region of Kenya that would prove effective in terms of biodiversity conservation as well as in terms of community development economically, socially and culturally.

It was postulated at the outset, as guided by theory on community-based conservation, that the following elements were necessary for the establishment of a project that could meet human development needs in a way that would protect the integrity of regional biodiversity:

- Local community support for the project
- A strong and supportive local institution
- A financially self-sustainable system (not donor-dependent), with community members perceiving the financial sustainability of the project
- A clear conservation mandate, including a conservation education programme
- Local development would be promoted through the project's activities
- External involvement of mentors

2. Determination of an appropriate research approach to fit the research focus

Given the practicalities of community-based conservation research highlighted above, the adoption of conventional or positivistic inquiry for use in this research situation would

have been a poor fit. Qualitative inquiry was proposed as the research paradigm of best fit due to its acceptance of the following:

- A participant – observer role of the researcher. While involved in the development of the Kuku Field Studies Centre project, the researcher remained separated culturally from the local community.
- The impossibility to explain outcomes from a single cause or set of causes. Conventional research attempts to attribute experimental outcomes to a single cause or set of defined and measurable causes. In the case of this research, variables were too numerous to accurately determine the scale at which each affected the outcomes. While some factors would be noted to have a greater affect than others, the final outcome would be a unique one resultant from the interplay of multiple factors.
- The involvement of values in the research. As people were involved in the research, unpredicatable elements such as responses to decisions and to the implementation of decisions, individual motives, political / power motives and socio-economic priorities would come into play that are not well incorporated into the parameters of objective conventional research design.

3. Determination of 'fit ' of inquiry to substantive theory guiding the inquiry

The theory guiding the research is that community development and conservation goals can indeed be compatible land uses. The very nature of the theory demands that a trial and error approach be taken, given the difficulty of predicting the actions and responses of the humans involved in the inquiry. Again, participatory research / naturalistic inquiry is a best fit in terms of methods as the cyclic methods permit frequent assessment of and response to these human responses.

4. Determination of where and from whom data would be collected

The Kuku Group Ranch was chosen as a study site because the Maasai-owned communal lands between Tsavo West and Amboseli National Parks are critical as dispersal areas and migration corridors for large mammals. The primary assumption made was that the Maasai landholders on these Group Ranches controlled the future of development and of biodiversity conservation in the region. As such, these people were identified as the key subjects of the participatory research. The design of a community-based conservation model would have to involve these people, as benefits gained through the model would be intended to generate positive attitudes towards conservation. Of course, other stakeholders were involved, including the Kenya Wildlife Service, conservation and development agencies, members of other Group Ranches in the region, and conservation minded individuals globally. All could be beneficiaries if a successful model could be developed.

Data were collected in various ways as detailed in the three chapters of research results that follow. The three most utilised methods were:

1. **Participant observation.** Here, the researcher documented as precisely as possible the entire research process from its initiation until the research period ended. Documentation was in the form of field notes, photographs and video footage. Documentation began with initial contact with the Kuku Group Ranch community in 1995 to plan the establishment of the Kuku Field Studies Centre (KFSC). Notes were kept from this point until mid-1999 when the research period ended. From these data, it was possible to identify major benchmarks that were critical in the development of the KFSC as a model of community-based conservation. The identification of these benchmarks provides the basis upon which replication of the research can be based, and upon which the grounded theory developed through this research can be tested.
2. **Review of documentation and literature.** A literature review concentrated on the theory of community-based conservation, but also on the study site itself. It was important to determine a baseline upon which the research could be founded. To construct this, reference was made to any government or non-governmental organisation documents concerning the Kuku Group Ranch and the Tsavo-Amboseli ecosystem.
3. **Informal and formal consultations with stakeholders.** A number of stakeholders in the project were identified. These ranged from the local community to the Kenya Wildlife Service to the Rotary Clubs of Kenya as the primary donor. Informal interviews in the community conducted by locally hired research assistants who spoke the Maasai vernacular and, by virtue of their belonging to the community, were most likely to get the most accurate responses and reactions to the KFSC's development. Due to high illiteracy and a lack of familiarity with formal survey techniques, it was necessary that information and reactions from community members were gained through conversational techniques familiar to individuals. As such, qualitative, informal interview techniques were utilised in contrast to more formal survey techniques that are analysed quantitatively. Public meetings, informal interviews, meetings and key informant interviews with various stakeholders were conducted by the researcher and/or by research assistants. Responses to stakeholder consultations were instrumental in determining next steps at various stages of the development of the KFSC model.

In contrast to conventional research, which seeks to statistically determines sample size, naturalistic inquiry seeks to refine and focus sample size in order to facilitate data collection and encourage the evolution of the research project (Lincoln and Guba 1985).

While input into the project was sought from a broad representation of stakeholders, key individuals or groups were identified as the model developed. Identification of these groups was accomplished through initial interviews with key informants. Some of the primary informants were members of the Kenya Wildlife Service's community conservation department. These personnel were well known in the Kuku Group Ranch due to their efforts in seeking co-operation with the Maasai of the Tsavo-Amboseli ecosystem to share benefits from nearby National Parks with buffer communities. Knowledge of the general groupings (elders, councillors, politicians, youth leaders, neighbouring group ranches, local NGOs. Varying opinions within the Kenya Wildlife Service, etc.) were useful in further identifying stakeholder groups and varied interests,

especially within the community. While community response was initially through informal interviews initiated by the research team, the initiative shifted to the community itself when a local board of advisors was selected to regularly provide advise and direction to the project. The selection by the community of an advisory committee to the project not only focused local decision-making, but also, brought together a number of previously separate stakeholder groups. Those groups represented by the committee included elders, youth, Group Ranch elected officials, and those members of the community closest to the project geographically. The observations and opinions of each of these interest groups were represented through the committee and thus contributed to the ongoing development of the KFSC model. The advisory committee was one of the most important benchmarks in the KFSC's development, as it provided a locally relevant and comprehensible mechanism for community members to identify with and contribute to the project

As the project developed, key informants emerged from other stakeholder groups, such as the Kenya Wildlife Service, local and international development and conservation organisations, and conservation minded educators, researchers, and individuals from Kenya and abroad.

5. Determination of successive phases of inquiry, instrumentation and analysis

Phases of the research paralleled those identified by Lincoln and Guba (1985) and Stringer (1996):

1. Orientation and overview. This phase included an open-ended initial approach based on a literature review of community-based conservation theory and applications. In addition, information was gathered about the region and the Kuku Group Ranch community through government documents, interviews with local and external informants, and through first-hand observation and analysis. This phase, which lasted approximately one year, resulted in the identification of the theoretical question and the need to seek a working model for community-based conservation. It also resulted in the identification of the Kuku Group Ranch as a suitable natural and social environment to base the development of such a model.
2. Focused exploration. This phase, which lasted two and one half years, was the implementation phase of the Kuku Field Studies Centre. Through the focus of energies on the development of the Kuku Centre, a project developed that can serve as a working model to demonstrate the successes and challenges facing community-based conservation and development.
3. Checks for validity of research. Through community interviews, external contributions of opinion, third party observation, and local input through the advisory committee / focus group, the validity of research as contributing positively to community development and to conservation was established. This phase ran concurrently with the others, and will continue after the implementation phase is complete to monitor long-term effects of the project on conservation and development. Through key informants, focus groups, observation by the researcher, verbal and nonverbal cues communicated by community members, community

interviews and application of the project to the literature, a triangulation of concepts and insights was developed. Thus, conclusions were based not on one data collection technique, but were supported by several. The fact that these 'replications' reach similar conclusions adds validity to the conclusions.

6. Planning logistics / collection of data

Prior to project implementation, a number of steps facilitated the research. These included:

- Designation of agents for implementation, including the formation of the African Environmental Education Foundation, agreements of the Kuku Group Ranch to host the project, work permits for the researcher, and the identification of a local donor body (Rotary Club of Nairobi North).
- An acknowledgement of a locally-driven time frame for project development
- A stated intent to become donor independent and financially self-sustaining. This served to focus the community and all involved in the project on developing a project that would be independent of external finances and from the various stipulations and conditions that can accompany donor involvement
- Mechanisms for peer review of the project from a standpoint of community-based conservation were set up through the IUCN Commission on Education, African Conservation Centre, African Wildlife Foundation, and the Kenya Wildlife Service.
- Field excursions to the Kuku Group Ranch to meet the community, discuss the project, select a site, and document the state of the community and the environment prior to, and during the development of, the project.

7. Analysis of data

For the purposes of qualitative research, data are considered the volume of observations, interview results, literature and third party reports acquired and other information related to the project (Strauss and Corbin 1990; Seale 1999). Analysis is an ongoing process wherein data acquired are used to modify the direction of research in order to obtain research goals that are in keeping with the overall mandate of the project. Qualitative data are essentially new leads and avenues for further exploration and development rather than measurements or hard facts (Bryman 1987). In the case of this research, the objective was to further develop the theory that CBC could meet biodiversity conservation and human development goals. As data were acquired, the project was modified to better work towards the development of a model that would support and flesh out the theory. This process of developing concepts and theory grounded in the reality of the research is the core of the analysis of qualitative data (Shaw 1996; Rose 1982).

Analysis of qualitative research is generally ongoing throughout a given project (Neuman 1997; Strauss and Corbin 1990), in contrast to quantitative research where analysis is a distinct stage of research occurring once data are collected. The reason for ongoing analysis is due to the nature of qualitative research projects, where actions taken by participants / stakeholders will change directions and foci continuously. Analysis of early stages, for example, will provide insights that will suggest directions for next

stages. Analysis, therefore, is a tool not only for the researcher but for all participants in the research.

Data were collected over a three and a half year period beginning in 1996. Given the triangulation approach taken to verify concepts and conclusions (Neuman 1997; Bryman 1987; Kirk and Miler 1986; Glaser and Strauss 1967), analysis of results was done in three distinct manners. Each of these is treated separately in three chapters of this document. They are:

1. Participatory approach.
The process through which the Kuku Field Studies Centre model of community-based conservation was developed is documented in this chapter. The importance of recording details of this case study is to demonstrate the level of local involvement in the project, the interactions of various interest groups as the project developed, and to provide details that would permit the replicability of the research (with adaptations to suit local social and environmental conditions).

Documentation of the project's development is also important in bringing community-based conservation more fully into the academic realm of research. To date, it seems that much of the work being done in the field – and thus most of the advancement of theory in community-based conservation – is being tackled from outside of academic circles. By illustrating the necessity of an interdisciplinary approach to community-based conservation through the documentation of the process of model-building, it is hoped that this research will contribute to placing community-based conservation more fully in an academic realm.

2. Interview approach.
Loosely structured interviews based upon a survey instrument (Appendix A) were used in conjunction with key informant interviews to determine and verify attitudes, opinion, support and concerns of the Kuku Group Ranch membership and external stakeholders concerning the project's development. The importance of seeking response from a range of stakeholders was to ensure that the model that was being sought (detailed in the participatory approach chapter) would be supported and validated by the fullest range of interests. To arrive at a conclusion whereby the project was developed but without stakeholder support would have been a failure, as ongoing sustainability of the KFSC would certainly have been compromised. As an example, the participation of women in project development was important in determining the best ways of using the KFSC to better meet the material needs of children. Involvement of parent associations at schools helped to identify educational needs. By incorporating the interests of various groups, the project was refined and grew to be better able to meet the expectations of the community as a whole. Regular consultation with stakeholders thus ensured that the model being developed was being done so on solid and supportive footing.

The interview approach further contributed to the overall research by revealing themes that were otherwise overlooked in project development. Verification of observations and

interpretations documented in the Participatory Approach chapter further validates the importance of the interview approach.

A random selection of 42 individuals representing 42 different manyattas (villages of 10 – 50 persons) was made by Maasai research assistants. This subset of community members was chosen for informal one-on-one interviews with the assistants. The assumption made in choosing a relatively small sample (42 persons of a total of at least 12,000 Group Ranch members) was that these persons were part of an expansive information-sharing network composed of their entire manyattas and very likely adjacent manyattas also. By speaking with one person, a research assistant would be tapping into that person's information network and thus the opinions and views of numerous persons would likely be represented in a singe interview. The strength of oral communication and consensus-based decision making found within the Maasai contribute to the strength of this assumption. The absolute size of sample was not considered as critical as ensuring that points of view were brought to light. When responses to interview questions began to show replication of other interviews, the interview process was stopped (Neuman 1997; Lincoln and Guba 1985). The use of an open-ended survey instrument (Appendix A) is favoured in situations such as this where questions are designed to stimulate conversation and elicit opinion rather than be utilised as quantitative data for statistical analysis (Briggs 1986; Denzin 1988; Douglas 1985).

Analysis of interviews with various participants and stakeholders was instrumental in adjusting the direction of the models' development. Repeated interviews and the formation of a focus group provided regular opportunity for analysis and revision of research direction.

3. Comparative approach.

The final core component of data analysis compared the Kuku Field Studies Centre model for community-based conservation (CBC) with a second model in the Tsavo-Amboseli region. – the Tsavo-Amboseli region. The Kimana Community Wildlife Sanctuary was initiated as a CBC project at approximately the same time as the Kuku project. Being located on an adjacent Maasai Group Ranch to Kuku, and with key informants and some stakeholders common to both projects, sufficient commonalties existed to make for an insightful comparison of two diverse approached to a common goal, that being to investigate the claims made that community-based conservation is a legitimate approach towards the achievement ecological sustainability in the face of human development.

Analysis of Data

Data collected via informal interviews, community meetings and through discussions with various stakeholders were recorded in a series of field notebooks. A coding system was developed whereby the major elements recorded on a given page were summarised along the top margin of the page. When reflecting upon notes at a later date, the summary notes along the top margins allowed for their organisation into a number of central themes. Top margin notes were organised in another notepad according to these central themes. The main themes arising from the research included:

- Issues surrounding the equitable distribution of benefits within the community
- Cultural exploitation issues
- Conservation education concerns
- Local employment and training opportunities
- Visitor / community interactions
- Communication
- Appropriate (as determined by local objectives and priorities) socio-economic contributions to the community

The coding and subsequent organisation of data into various theme groups was important in subsequent planning of direction for the project. Given the cyclic nature of Social Action Research methods, the ability to summarise and clarify themes and issues related to these was critical to the progression of the research process. Discussions around the various themes resolved many issues and provided direction for further stages of the Kuku Centre's development.

As project development progressed, notes continued to be taken in the above fashion, themes reviewed and next steps planned and implemented. This iterative process continued for the duration of the research period.

8. Development of grounded theory

Development of theory stemming from, or grounded in, the research process is an important mechanism for creating broadly applicable results from case studies (Strauss and Corbin 1990; Glaser and Strauss 1967; Glaser 1978). Through the development of a grounded theory, "a theoretical formulation of the reality under investigation" is developed (Strauss and Corbin 1990), presenting a consolidated contribution to the discipline(s) involved rather than a group of loosely related themes. Concepts within the grounded theory are generated through the research and are thus provisionally tested, as they have arisen through a qualitative research process.

9. Replicability of research in a generalised sense

As with conventional quantitative scientific methods, qualitative research is designed to meet standards of replicability. In the case of the Kuku model, five basic tenets arose out of the research process. These formed the grounded theory that is the primary contribution of this work to the development of the field of community-based conservation within the academic discipline of Conservation Biology. These tenets are postulated in the form of grounded theory and are designed to be replicable based on conditional differences that have to do with attributes unique to specific situations, such as culture, level of development, local environment, local issues and social conditions, economic and political structures, and demographics (Strauss and Corbin 1990). Although the specifics of a given situation will differ, the basic theory remains unchanged, and researchers can set up a replicable situation to further test the theory.

A further question often asked of science is the relevance of a particular piece of research to its discipline. Research on case-specific results should often be testable or generalisable to broader level. The Kuku model and the process used in its development can be generalised to other situations, especially as concerns indigenous peoples in regions of rich biodiversity. While a specific location and human population and the unique suite of conditions that these carried with it are certainly not replicable, the theoretical contribution made by the research is applicable in rural situations where human development and conservation aims are in potential conflict. The scenario documented through this research concerns human needs and development priorities, time frames, mentoring, sustainability in an economic and ecological sense, and the value of education in harmonising seemingly polarised goals. The research results point to a series of conditions that, it is theorised, are important contributors to translating the theory of community-based conservation into tangible applications. In an effort to introduce some rigour into this emerging field and to establish it as a distinct field of Conservation Biology, a scientifically acceptable method was used upon which to develop a sound grounded theory for application elsewhere. By further testing the theory and elaborating on it through the establishment of other case studies globally, community-based conservation as an academic field should mature beyond its current status in development, non-government, and conservation organisations. The contribution made here is to promote the importance of interdisciplinary approaches in hopes of stimulating theory development.

Literature cited

Bazanger, I. and N. Dodier. 1997. Ethnography: relating the part to the whole. In D. Silverman (ed.). Qualitative research: theory, method and practice. Sage: London.

Briggs, C. 1986. Learning how to ask: a sociolinguistic appraisal of the role of the interviewer in social science research. Cambridge University Press: Cambridge.

Bryman, A. 1987. The debate about quantitative and qualitative research: a question of method and epistemology? British Journal of Sociology. 35(1): 75-92.

Denzin, N. 1970. The research act. Aldine: Chicago.

Denzin, N. 1988. Qualitative analysis for social scientists. Contemporary Sociology 17(3): 430-2.

Douglas, J.D. 1985. Creative interviewing. Sage: Beverley Hills, California.

Gonzales-Berry, L. Social Action Research: An overview. http://www.orst.edu/instruct/soc416/plaza2/eact.htm .

Glaser, B. 1978. Theoretical sensitivity. Sociology Press: Mill Valley, California.

Glaser, B. and A.L. Strauss. 1967. The discovery of grounded theory. Aldine: Chicago.

Kirk, J. and M. Miller. 1986. Reliability and validity in qualitative research. Sage: Newbury Park, California.

Kolakowski, L. 1972. Positivist philosophy. Penguin: Harmondsworth.

Kuhn, T.S. 1970. The structure of scientific revolutions. University of Chicago Press: Chicago.

LeCompte, N. and J. Gietz. 1982. Problems of reliability and validity in ethnographic research. Review of Educational Research 52: 31-60.

Lincoln, Y.S. and E.G. Guba. 1985. Naturalistic inquiry. Sage: Beverley Hills, California.

Miller, G. 1997. Building bridges: the possibility of analytic dialogue between ethnography, conversation analysis and Foucault. In D. Silverman (ed.). Qualitative research: theory, method and practice. Sage: London.

Miller, J. and B. Glassner. 1997. The 'inside' and the 'outside': finding realities in interviews. In D. Silverman (ed.). Qualitative research: theory, method and practice. Sage: London.

Mishler, E.G. 1990. Validation in inquiry-guided research: the role of exemplars in narrative studies. Harvard Educational Review 60:415-442.

Neuman, W.L. 1997. Social research methods: qualitative and quantitative approaches. Allyn and Bacon: Nedham Heights, Massachusetts.

Rose, G. 1982. Deciphering social research. Macmillan: London.

Schutz, A. 1967. The phenomenology of the social world. Heinemann: London.

Seale, C. 1999. The quality of qualitative research. Sage: London.

Shaw, I. 1996. Evaluating in practice. Aldershot: Ashgate, UK.

Silverman, D. 1997. Qualitative research: theory, method and practice. Sage: London

Strauss, A.L. and J.M. Corbin. 1990. Basics of qualitative research: grounded theory procedures and techniques. Sage Publications: Newbury Park, California.

Stringer, E.T. 1996. Action research: a handbook for practitioners. Sage: London.

Yardley, L. 1997. Material discourses of health and illness. Routledge: London.

CHAPTER V A PARTICIPATORY COMMUNITY AUDIT APPROACH TO THE DEVELOPMENT OF A COMMUNITY-BASED WILDLIFE CONSERVATION MODEL IN MAASAILAND, KENYA[3]

Summary

The Kuku Field Studies Centre in the Tsavo-Amboseli region of Kenya was established in 1995 and developed over a four-year period using a participatory approach. The objective was to build a small scale but financially self-sufficient centre for education and research supported by revenues collected from visiting national and especially international groups. Three months were required to find partnerships. Months 5-40 were needed to formalise the partnerships and months 11-40 were required to construct the facilities and develop the program. Twenty-one benchmarks were recognised within these three phases. It is concluded that many more months will be required before the community will invest in wildlife conservation. The interplay of community development, conservation, tourism, cultural empowerment and education resulted in a unique model for community-based conservation.

Key words - Africa, Kenya, community, conservation, Maasai, development model

Introduction

Considerable time and resources have been invested over the past decade in Kenyan community-based wildlife conservation. As over three quarters of all wildlife is dependent on land and water resources found outside of protected areas (Western 1989), considerable effort has been undertaken to assure the conservation of wildlife in non protected areas. With increasing human population pressures and demand for agricultural land, the possibility of establishing protected areas solely for wildlife use is declining. As such, the strategy of the Kenya Wildlife Service (KWS) since 1995 has been to seek partnerships with people living in wildlife-rich areas to find mutually beneficial solutions to wildlife and human resource needs (Kenya Wildlife Service 1996). Over twenty community-based conservation projects purport to demonstrate the economic and social value of wildlife to local communities through some form of revenue sharing. The origins of revenue are often in tourism, but in a limited number of projects, consumptive utilisation is being attempted on a pilot scale.

The design of community-based conservation projects that effectively link community and conservation goals has proven difficult (Hackel 1998; Wainwright and Wehrmeyer 1998; Barrett and Arcese 1995; Gibson and Marks 1995; Oates 1995; McNeely 1993; Southgate and Clark 1993; Brandon and Wells 1992). First, conservation projects

[3] Accepted by the journal World Development (Oxford)

claiming to have community benefits as a central focus often fall short of expectations of communities (Carpenter 1998). This is partly attributed to external funding, which drives the development of projects that may not include a strong community demand for the project. Progress is often based on the ability to operate the project on budget and within a short time frame set by the donor. Second, community development that overtaxes the resources leads to reduced effectiveness of conservation. Biodiversity and environmental stability are threatened in such cases (Hackel 1998; Spinage 1998; Stephenson and Newby 1997; Oates 1995; Robinson 1993). In spite of challenges, the incorporation of human development issues in conservation is seen as critical to the success of conservation globally (Stephenson and Newby 1997; IUCN 1996; IUCN 1994). Third, evaluation of community based conservation projects by the community is critical, yet controversial.

Solutions have been proposed. The community-based conservation literature (Barton et al. 1997; Borrini-Feyerabend 1996) describes a relatively recent field of research incorporating such social research elements as participatory action research (Foote-Whyte 1991) and a call for the incorporation of human developmental needs into conservation planning. Barton et al. (1997) defined three phases in the development of collaborative management projects involving community-based conservation. These included: 1) preparation for partnership, 2) development of a collective agreement, and 3) implementation and ongoing review. Borrini-Feyerabend (1996) elaborated on these by listing necessary steps to be taken within each phase. From a conservation standpoint, a number of indicators have been identified which provide feedback to the effectiveness of the social action process in achieving results in conservation (Borrini-Feyerabend 1997; Biodiversity Conservation Network 1996; Brown and Wyckoff-Baird 1992; Guevara 1996). These range from attendance at meetings and depth of discussion through to proactive efforts in conservation.

The objective of the present participatory research was to implement a small-scale community-based project through a multi-stakeholder partnership that would contribute both to Maasai community development and to conservation. Participatory methods (see Chapter III) were used to maximise community involvement in a community-based conservation project. Community audit principles have emphasised the importance of 'process' over 'outcomes' (Packham 1998), with collective action and participation leading to empowerment of groups and individuals (Treleavan 1994), and community-directed rates and directions of change (Humphries and Truman 1994). The community audit approach differs from other frequently used approaches such as Participatory Action Research (Foote-Whyte 1991). The community audit approach encourages full local involvement at every stage of the research and development process (problem identification, design and implementation) whereas Participatory Action Research, according to the point of view of many researchers, tends to involve local people in an externally determined research program (Bortei-Doku Aryeetey 1998; Packham 1998).

Methods

The Maasai people

This cultural group is widely recognised as distinct from other Kenyan cultures in that they have retained much of their traditional culture and attachment to the landscape and livestock (Spear and Waller 1993; Holmwood and Rogers 1991). This cultural distinctiveness is attractive to culturally sensitive visitors. The Maasai are not major consumers of wildlife and therefore wildlife use and management is not a high priority for them.

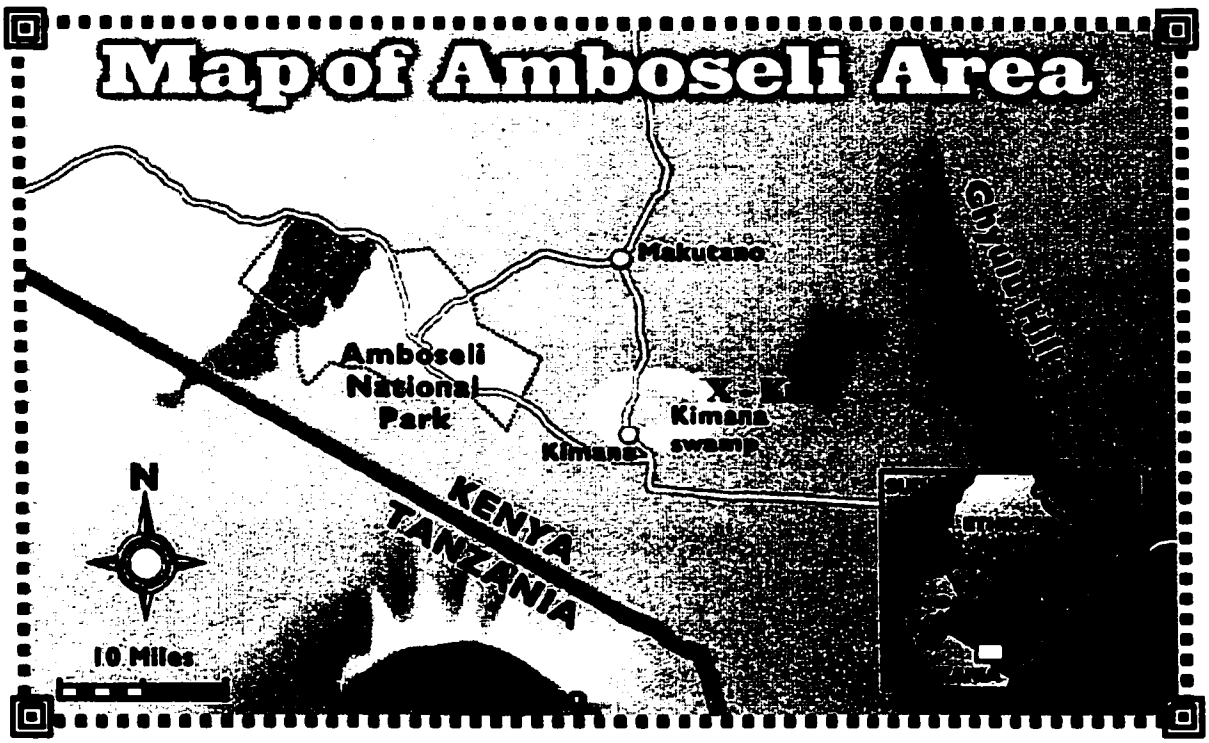
Study area

The Kuku Field Studies Centre is located at Lat. 2° 15' S, Long. 37° 50' E (Figure 5.1). Research was conducted on the Kuku Group Ranch (KGR), a 135,000 hectare tract of land owned by a Maasai clan numbering over 3,000 members (mainly male heads of families) and between 20,000 and 30,000 dependants.

Participatory methods

Participatory methods were used as part of a triangulation process aimed at generating a grounded theoretical contribution for the community-based conservation field through the Kuku Field Studies Centre case study (see Chapter IV for a detailed explanation of methods). Participatory techniques adapted to the combination of human and environmental considerations demanded by community-based conservation (Michener 1998; Borrini-Feyerabend 1996; Borrini-Feyerabend 1997; Guevara 1996) were followed. Input from local stakeholders helped to guide the extent to which conservation and community development could be incorporated into the project. The importance of indigenous knowledge in community development and conservation is reflected in recent works such as Grenier (1998). Ongoing evaluation tools included direct feedback from community members and project staff, a community survey, public meetings and key informant interviews, collection of comments from neighbouring communities and feedback from external stakeholders. Community response was sought in three general areas, these being tangible benefits, contributions to local knowledge, and contributions to conservation. Direct input was received from well over 700 individuals during the course of project development. This included twenty-six formal meetings, over fifty informal meetings, four community meetings and four multi-stakeholder meetings. All information collection was achieved through the efforts of young to middle aged male Maasai group members.

FIGURE 5.1: Location of the Kuku Field Studies Centre and Kimana Community Wildlife Sanctuary at Lat. 2° 15' S, Long. 37° 50' E (used with permission of Stuart Armstrong)



Results

A chronology of benchmarks in the development of the Kuku Field Studies Centre and program is given in Table 5.1. The results fall naturally into three phases suggested by Barton et al. (1997) and Borrini-Feyerabend (1996). Phase I (Months 1-3), involved seeking partnerships (African Environmental Education Foundation, Rotary Club Nairobi North, Kenya Wildlife Service and Kuku Group Ranch. Phase II (Months 5-40), involved strengthening and formalising partnerships. Phase III (Months 11-40), involved construction of the facilities and development of the program.

(a) Phase I - Seeking partnerships

Benchmark 1.1: African Environmental Education Foundation (AEEF) partner– March, 1995

The AEEF concept developed out of earlier research by Roth (1995) who concluded that a non-profit organization was less threatening to Maasai groups and would foster better ownership of education centres. There is a strong basis in the literature to support such approaches (Edwards and Hulme 1995).

Benchmark 1.2 - Rotary Club of Nairobi North (RCNN) partner– April, 1995
In the absence of official status in Kenya, the AEEF required an interim sponsor. The Rotary Club of Nairobi North was approached and agreed to sponsor the AEEF, as the Kuku project met with such Rotary ideals as human welfare, international understanding, the environment, and the building of goodwill for all stakeholders. The Rotary Club affiliation enabled funds to be raised, served as an umbrella for the establishment of the AEEF and provided financial responsibility and transparency. The majority of Rotary Club members initially chose to observe progress rather than to become actively involved because they felt that any initiative that could maintain itself operationally must be profit oriented. Sufficient support developed for sponsorship that included donating, or arranging donations of materials needed to build and furnish portions of the project and supplying a vehicle for local transport of goods. Volunteers for the AEEF's Board of Trustees demonstrated the fiscal responsibility of the Foundation.

Benchmark 1.3: Kenya Wildlife Service (KWS) partner– April, 1995
Initially, the endorsement of the project by the Kenya Wildlife Service was imperative in lending credibility to the concept. The KWS had done significant work in the Tsavo-Amboseli region in attempt to bolster community support for conservation. A letter of endorsement was provided and senior KWS personnel accompanied AEEF personnel during the partnership building process in the community.

Benchmark 1.4: Kuku Group Ranch (KGR) community partner– April 1995
Based on the various initiatives of the Kenya Wildlife Service to protect wildlife dispersal areas and corridors between Amboseli and Tsavo National Parks (e.g. the COBRA program), much encouragement was provided to place the Kuku project in this area. The KWS provided clearance for its development at an official governmental level as well as direction in meeting with Group Ranch leaders. Accompanied by senior KWS officials, a process of familiarisation with local group ranches and leaders was undertaken. It was determined that the Kuku Group Ranch members were most interested in the type of project being suggested. The conceptualisation of the project proved difficult to many due to being proposed by a 'European', not being a private tourist endeavour and not government funded. The idea that tourism revenue could be turned directly into community benefit was not fully understood, as no concrete examples were available locally. The presence of younger members played an important role in the ability of this particular group to grasp the intention of the project.

(b) Phase II - Strengthening and formalising partnerships

Benchmark 2.1: Community approval – July, 1995
The AEEF presented the proposed project as different from a typical tourist camp in that the community would control the facility and programs. The project would involve local training and employment as a priority, would provide educational opportunities for the community, and would reinvest revenues in the project and the community. The linkage to conservation was emphasised because tourists wish to view wildlife as well as to learn

about the Maasai culture directly from the community. The Kuku Group Ranch (KGR) Committee members were initially guarded in response, due to past experiences with both community development and tourism initiatives that did not meet with community expectations. After a series of meetings spanning nine months, the KGR Committee voted to commit the Kuku Group Ranch as the host community for the project. Outcomes anticipated by the community were modest in size and included increased employment, education, health, water, livestock and agricultural production, women's and youth benefits, and conservation benefits.

Benchmark 2.2: Selection of site – July 1995
After receiving approval in principle from the Kuku Group Ranch Committee, four potential sites were selected by the committee and visited. Subsequently, the project was situated on a site originally identified for commercial tourism. It was immediately adjacent to the first community-run wildlife sanctuary in Kenya that was in the process of being established by the Kimana Group Ranch. Wildlife was abundant in the area, a major pipeline carrying water from Mount Kilimanjaro to cities near Nairobi was within 100m of the site, the nearest town, Kimana, was within 12 km of the site, and there were numerous access roads. Habitat diversity included savannah and river ecosystems. To the south, Mount Kilimanjaro provided a superb backdrop to the site.

Benchmark 2.3: Approval by the KGR elders – July, 1995
While some elders were members of the elected community committee and were aware of the project from the initial meeting, other influential elders were not involved initially. Community members, and especially elected leaders, emphasized the importance of consulting with specific elders before the project was permitted to develop. The Group Ranch committee facilitated access to these elders only after several meetings. Elders were not asked to play an active role in project development, but their positive responses were taken as a stamp of approval that permitted the elected officials to proceed with a formal agreement on behalf of the community. The response of community elders tended to focus on the perceived benefit that would come to the community from training and education of youth as well as the exposure of youth to cross-cultural opportunities. Potential financial benefits were downplayed by elders, who generally commented that value would not be measured in terms of great financial success but in terms of demonstrated commitment to human resources development and to addressing social issues on the Group Ranch.

Benchmark 2.4: Initial acceptance by the KGR community- July, 1995
Public support for the project was initially limited to tolerance and curiosity at best. The Group Ranch membership accepted the project, as it was their decision, but the majority of people chose to act as observers. This is due to some extent to the unprecedented concept that a wildlife tourism project was claiming to be a tool for community development. Until the establishment of the Kuku project, local experiences suggested that tourism was exploitative of local people and environment, hence the degree of restraint and scepticism. A few community members offered support through words of encouragement. There were specific other offers to demonstrate a skill, to give a talk to international visitors, to seek employment, or to sell local foods and handicrafts.

Benchmark 2.5 - Kajiado District Development Committee approval – Dec., 1995
Kenyan authorities fostered approval of the Kajiado District Development Committee, the group of senior civil servants charged with directing the course of development in the Kajiado District (of which the Kuku Group Ranch is a part). Again, the assistance of the KWS was instrumental in expediting approval for the AEEF to work in conjunction with the Kuku Group Ranch. A formal acknowledgement of the AEEF / Kuku Group ranch partnership further testified to the merit of the application. This approval was in the form of a letter pledging the support of District personnel, the access to fresh water from the nearby pipeline, and the acceptance of the project by Government officials in the region.

Benchmark 2.6 - Registration of the AEEF – Dec., 1996
KWS personnel supported the registration of the AEEF as a non-governmental organisation in Kenya. Charitable status was sought to make the AEEF autonomous from the Rotary Club of Nairobi North. This would allow the AEEF to pursue non-Rotary funding opportunities as well as permitting the project to operate with a broad mandate to promote environmental and cultural education on a countrywide basis. The approval process was time consuming, and it was not until December 1996, eight months after the Kuku project was initiated, that registration was granted.

Benchmark 2.7 – Program review completed – April, 1997
Community feedback on the project's achievements and acceptance was slow. A survey undertaken over many months suggested that 50% of KGR members were not aware of the original goals, 30% were involved in any way, 40% affirmed that conservation was fostered. Women, and especially women within 10km of the Centre, were most aware of the Centre and could identify parts of the program. A major finding was the perceived need for an advisory committee that would give the community a clear conduit to the Centre and a strong voice in articulating direction and rate of development of the Centre's outreach programs.

Benchmark 2.8 - Community advisory committee chosen – September 1997
The advisory committee was not formed quickly due to local instability caused by drought and then the national elections. A well attended community meeting in September 1997 provided considerable feedback from a wide cross-section of the community. The community felt that the Centre should become more community-oriented through inclusion of more community members in decision-making processes. The meeting was also used by staff members to link the project to environmental conservation issues and to community development. At the end of this meeting a 15 member volunteer advisory committee was selected by consensus of members present. Members included a number of leaders (Vice-Chair and Treasurer of KGR Committee, Chairmen of the parents' committees of two local primary schools, a senior officer from a community-based social services organisation) and various others, including a number of youths and four women. The committee was formally charged with the responsibility of being the voice of the community in the future development of the KFSC. Since its inception, the committee has been meeting monthly. Attendance is high and there has been no attrition of members.

Benchmark 2.9 - Memorandum of Understanding: AEEF and KWS – August 1998
This agreement paved the way for closer co-operation in the development of environmental education and research programmes in the Tsavo-Amboseli region and elsewhere in Kenya.

(c) Phase III - Program implementation and review

Benchmark 3.1: Lease signing: the formal partnership – June 1996
Initially, the relationship between the community and the Kuku project was envisioned to be much stronger in terms of community investment. To demonstrate the extent to which Maasai tribes were losing revenue from tourism projects, a proposal was made to have no lease to the land, but to share revenues on a percentage basis directly with the Group Ranch committee. This option would have performed two purposes: Firstly, direct ownership in the project would have been transferred to the community, rather than the indirect, hands-off approach which is taken towards lessees; and secondly, the process would bring to light, through revenue figures, the potential of tourism. Many people on the Group Ranch are unaware of the rates charged to international visitors and the high rate of profit in the local industry. The purpose of an alternative to leasing was understood by KWS officials, community extension workers in the area and by the current chair of the Group Ranch Committee, but not by many others at a local level. There were several reasons for the Group Ranch Committee not agreeing to this proposal. Most members were unfamiliar with this approach to land adjudication. Leasing itself is a fairly recent phenomenon, hence it was no surprise that a committee still trying to come to grips with this would not want other alternatives to deal with, even though the intent was to provide this sort of comparison. For purposes of budgeting, the Committee felt they needed to know exactly how much money was coming into the Group Ranch coffers. With few on the Group Ranch fully understanding the concept of the Centre, the addition of more unknowns in terms of revenue was overwhelming. A signed lease was accepted by all to be a legally binding document, evidence that the negotiation had been done openly and that the larger community was to be the beneficiary. Negotiation of a price of 125,000 Kenyan Shillings (approx. 2,000 US Dollars) per year, with reviews every two years, was based on other current leases at other Group Ranches. A lease term agreed upon was seven years, the longest period negotiated for a lease in the area.

Benchmark 3.2 – Facility construction commences – January 1996
The Nairobi North Rotary Club members and business colleagues provided considerable in-kind support for construction through the donation of such items as a second-hand vehicle, fence wire and posts, wood, tents, beds and kitchen equipment. An advance deposit by the April visiting group provided sufficient funds to make these purchases, and to rent vehicles for transporting the visitors. Construction proceeded as revenue was generated from visiting groups. A cash contribution from the Rotary Club in mid-1998, and continued donation of building materials from Nairobi businesses, contributed further toward infrastructure development.

Benchmark 3.3 - Employment and training of Maasai staff – January 1996
An early challenge was in attracting and training staff. As there was, and still is, limited opportunity for employment on the Kuku Group Ranch, all Maasai staff came to the project with minimal work experience. Training was necessary not only in terms of developing skills to do certain jobs, but also in working in a cross-cultural atmosphere. Although Maasai concepts of time, work, responsibility and accountability were respected, it was necessary to familiarise employees with western conceptualisations of the same elements in order to ensure that staff would be able to understand, respect and cope with the expectations of international visitors. The Kuku Group Ranch committee facilitated identification of community members who fit various requirements for employment (Table 5.2). Initially, local Maasai staff members were trained by skilled external people (AEEF personnel, Kenyans and international volunteers) retained on a short-term basis. As Maasai staff acquired skills and confidence, the number of external people was reduced. After one year, the project was fully in the hands of Maasai staff. Maasai culture played a strong role in the development of a united team. The Maasai elder system was supported through hiring two staff members over forty years of age. Although the official manager, aged twenty-five years, was technically managing the Kuku project, Maasai tradition dictated that these elders be consulted before making any major decisions. Elders served as a stabilising factor in terms of instilling maturity and professionalism in the younger staff. Another cultural influence in staff dynamics is the consensus basis for decision-making.

Benchmark 3.4 – First international visitors - April, 1996
The intent of this project was to design and implement a development project that was donor-independent (in contrast to so many development projects in Africa and elsewhere). This meant identifying educational tourism groups interested in visiting southern Kenya to explore both the natural and cultural heritages of the region. A group of fifteen secondary school students from the International School of Lausanne, Switzerland, agreed to come to the Kuku project as the inaugural group. This group provided revenue to undertake an initial community project, the building of toilet facilities at a local pre-school. Community members were able to see the community development element of the project. The positive experience led to referrals to other international groups and an early indication of financial support for self-sufficiency and community benefits that were in excess of annual lease payments to the KGR committee.

Benchmark 3.5 - Community lending library opens – December 1997
The opening of a lending library was a major step in silencing critics who remained unconvinced of the dedication of the project to community development. Since its opening, the library has been popular with local school children who walk ten kilometres on a weekend day to exchange books and participate in various environmental education activities.

Benchmark 3.6 – First international group hosted by Maasai staff – March 1998
A solid indication of the development of a confident and competent local staff was their ability to successfully provide full services to a group of international students. Reviews

were positive and served as a major accomplishment in the eyes of staff, the AEEF and the community. Local staff recognised the need for further training following this visit.

Benchmark 3.7 – Advanced ecology training of Maasai staff – May 1998
The training of four Kuku staff members and one person from the adjacent Kimana Community Wildlife Sanctuary in conjunction with a Canadian university group was a first step in offering advanced education through the project. The course was well received by Kenyan and international students as well as the community, who saw further evidence of the project's community focus.

Benchmark 3.8 - Selection as community-based conservation centre by School for Field Studies - August 1998
Acknowledgement that the project was advancing towards its dual goals of community development and conservation education was reached when the project was selected as host for a well-recognised African wildlife management field school from the USA. The Kuku project was considered a strong model of community-based conservation in Kenya on the basis of clear community involvement and intention to use the project to promote wildlife conservation as well as socio-economic issues. A facility and local staff appropriate to the need of the program were also considerations in the decision.

Discussion and Conclusions

The schedule

In agreement with Barton et al. (1997), who defined three phases in the development of collaborative management projects involving community-based conservation, project development was compartmentalised accordingly. For the purposes of this research, these are termed: 1) Seeking partnerships, 2) Strengthening and formalising partnerships and 3) Program implementation and review. Considerable overlap was found in the timing of the phases since phase II and phase III are ongoing activities. In future projects, additional partners (possibly junior partners) are foreseen joining the project. From this experience, it seems that the three phases cannot be speeded up appreciably. These phases can take up to three years because a lengthy process of meetings and discussions was necessary according to the Maasai culture. Multiple stakeholders had to learn to work together to ensure that ongoing community and conservation benefits would be realised. Local human capacity building is necessary to take on increasing management and leadership roles. Project development and evolution was determined in large part by social change responses of the community. Stakeholder support, rather than financial or other drivers, was emphasised. Added to this is the realisation that much remains to be completed and the project may not yet be sustainable. It is suggested that grassroots community-based wildlife conservation projects may require up to five years to be sustainable.

Flow of information

Lessons learned from the development of the Kuku Field Studies Centre include the importance of high levels of community member participation in community-based development projects. The participatory approach taken in project development ensured that as shortcomings were identified, such as a perceived lack of community involvement and poor communication, steps could be taken to rectify these immediately. Cultural and landscape knowledge accumulation on local and regional topics provided opportunities to share knowledge with visitors and with the community. Also knowledge is power and this community-based approach empowers the community to counter dominating foreign interests. The knowledge and experience gained by Centre staff, places them in a strong position to act as mentors to others who wish to develop additional Centres.

Flow of finances

Funding was both a positive and negative factor to the project. In a positive light, minimal financial resources prompted all stakeholders to support the project on its own merit, and not due to the promise of instant economic reward to the individual or family group. On the negative side, the decision to finance infrastructure on the basis of in-kind donations and on operational revenue drained considerable energies of AEEF personnel that could otherwise have been targeted towards strengthening programs and partnerships, especially within the Kuku community.

Financing human resources development has been an important aspect of the community development project. Besides the hiring of people to build and staff the Centre, the first community interaction involved national and international students visiting Maasai homesteads. The family of a part-time instructor had volunteered to open their home to visitors, given their experience of doing this for a local tour operator. Initially, a cash payment was negotiated, as this was the means of payment to which the family was accustomed. A review of this through talking to representatives of the family revealed that only the men were benefiting from the money. The Maasai staff suggested a policy that would prohibit the transfer of cash from the Kuku project to the community except for the lease payment. The women in the homestead were supportive of the change and an alternate arrangement was made to 'pay' participating homesteads in staple foods obtained from a nearby town. While the alternative is still a payment for services, the substitution of food for money resulted in a wider distribution of benefits to more family members. Male members of the homesteads accepted this arrangement. Another challenge was community programmes that encouraged dependency rather than self-sufficiency. Eager to please the community, a number of projects were undertaken by the Centre members. One example was toilet construction for a local cultural centre. When the Kuku project staff and volunteers provided all the effort and resources for the project, this project was deemed a failure because the community did not participate. Another problem was a tendency for individuals to seek money and donations from international visitors. Discussions of the negative impression being left with the visitors ended this activity.

Financial independence and freedom from donor pressures have been key objectives for the project. Since its inception, the Kuku project was able to generate sufficient revenue to develop facilities and retain staff. The majority of revenue was derived from international groups that visited for 7 to 21 days. Kenyan schools paid a rate that amounted to little more than the costs of their visit. Revenue from international groups was allocated to four activities. For example in 1997-98, operating expenses were awarded about one-third. In the interests of completing the Centre's infrastructure, about one-third of the funds were assigned to Centre development. About 40% was allocated for Community Projects/Centre Development. To attain some level of long-term sustainability an endowment fund was established. Approximately 10% of revenues generated through international visitation is deposited with a national bank. Given high interest rates (15-23%), the potential for growth is substantial, though a corresponding risk is represented in the potential volatility of the Kenyan Shilling. The intention of the fund is to protect and increase the capital and use only the interest to counter inflation and for investment in community development and wildlife conservation.

Investment in wildlife conservation

The future of the Kuku project seems secure, given increasing levels of support and local involvement in the project. The role of the AEEF has been reduced from facilitator to the level of an equal partner as the community role was defined and expanded. While community development objectives are being met, there is concern that conservation objectives are still not receiving sufficient attention. Future project development must strengthen the conservation component if the Kuku project is to serve as strong model for community-based wildlife conservation. At the moment, a community development project has been established, but the extent to which conservation is connected with this development is in question, as informal interviews discussed in Chapter VI show. The community has little influence over wildlife management in Tsavo and Amboseli National Parks in the region, but the Kuku Group Ranch is a corridor between the parks. This means that investment in wildlife habitat protection could produce favourable returns.

Applying the model elsewhere

Implementation of this model at new or other field studies centres will require strong community support and direct involvement in decision-making, management and operations, as in the Kuku project. Minimisation of external dependency is also seems critical to building a project that is self-sufficient financially and is owned locally. A strong local institution in the form of the advisory committee will likely prove to have been a most important element in the longevity of the project. Maintaining a viable and relevant local governing institution for the project is perhaps the most important recommendation stemming from this research. By inviting other leaders of potential projects to work at the Kuku project for a period of time, leaders could adopt what is useful to their area and then incorporate unique features that will lead to a sustainable project.

Literature cited

Barrett, C.B. and P. Arcese. 1995. Are integrated conservation-development projects (ICDPs) sustainable? On the conservation of large mammals in sub-Saharan Africa. World Development 23: 1073-1084.

Biodiversity Conservation Network. 1996. Studying the social dimensions of biodiversity conservation: Strategies, approaches, methods and resources. Biodiversity Support Program: Washington, DC.

Borrini-Feyerabend, G. 1996. Collaborative management of protected areas: Tailoring the approach to the context. IUCN: Gland.

Borrini-Feyerabend, G. 1997. Beyond fences: Seeking social sustainability in conservation. IUCN: Gland.

Bortei-Doku Aryeetey, E. 1998. Consultative processes in community development in Northern Ghana. Community Development Journal 33(4): 301-313.

Brandon, K.E. and M. Wells. 1992. Planning for people and parks: design dilemmas. World Development 20: 557-570.

Brown, M. and B. Wyckoff-Baird. 1992. Designing integrated conservation and development projects. Biodiversity Support Program, Corporate Press: Maryland.

Carpenter, J. 1998. Internally motivated development projects: A potential tool for biodiversity conservation outside of protected areas. Ambio 27(3): 211-216.

Edwards, M. and D. Hulme. 1995. Non-Governmental Organisations – performance and accountability: beyond the magic bullet. Earthscan: London.

Foote-Whyte, W. 1991. Participatory action research. Sage: London.

Gibson, C.C. and S.A. Marks. 1995. Transforming rural hunters into conservationists: An assessment of community-based wildlife management programs in Africa. World Development 23: 941-957.

Grenier, L. 1998. Working with indigenous knowledge: A guide for researchers. International Development Research Centre (IDRC): Ottawa. 115 pp.

Guevara, J.R.Q. 1996. Learning through participatory action research for community ecotourism planning. Convergence 29(3): 24-40.

Hackel, J.D. 1998. Community conservation and the future of Africa's wildlife. Conservation Biology 13(4): 726-734.

Holmwood, K.M. and W.A. Rogers. 1991. Maasailand ecology: pastoralist development and wildlife conservation in Ngorongoro, Tanzania. Cambridge studies in ecology. Cambridge University Press: Cambridge.

Humphries, B. and C, Truman (eds.). 1994. Rethinking social research. Avebury: Aldershot, UK.

Kenya Wildlife Service. 1996. 1995 Annual Report. Kenya Wildlife Service: Nairobi.

McNeely, J.A. 1993. People and protected areas: Partners in prosperity. In E. Kemf (ed.). Indigenous peoples and protected areas. Sierra Club: San Francisco. 249-325.

Michener, V.J. 1998. The participatory approach: Contribution and co-option in Burkina Faso. World Development 26(12): 2105-2118.

Oates, J.F. 1995. The dangers of conservation by rural development – a case study from the forests of Nigeria. Oryx 29: 115-122.

Packham, C. 1998. Community auditing as community development. Community Development Journal 33(3): 249-259.

Robinson, J.G. 1993. The limits to caring: Sustainable living and the loss of biodiversity. Conservation Biology 7: 20-28.

Roth, R.M. 1995. An environmental education centre for Kenya. Master of Environmental Design Thesis: The University of Calgary, Canada.

Southgate, D. and H.L. Clark. 1993. Can conservation projects save biodiversity in South America? Ambio 22: 163-166.

Spear, T. and R. Waller (eds.). 1993. Being Maasai: ethnicity and identity in East Africa. Ohio University Press: Athens, Ohio.

Spinage, C. 1998. Social change and conservation misrepresentation in Africa. Oryx 32(4): 265-276.

Stephenson, P.J. and J.E. Newby. 1997. Conservation of the Okapi Wildlife Reserve, Zaire. Oryx 31(1): 49-58.

Treleaven, L. 1994. Making a space: A collaborative inquiry with women as staff development. In P. Reason (ed.). Participation in human inquiry. Sage Publications: London.

Wainwright, C. and W. Wehrmeyer. 1998. Success in integrating conservation and development? A study from Zambia. World Development 26(6): 933-944.

Western D. 1989. Conservation without parks: Wildlife in the rural landscape. In Western, D. and M.C. Pearl (eds.). Conservation for the 21st Century. Oxford University Press: New York.

Table 5.1. Chronology of major first time benchmarks, over 49 months of development of the Kuku Field Studies Centre. The benchmark number refers to the phase and the order of events within the benchmark.

Month #	Date	Benchmark (phase and order within phase)
1	March, 1995	1.1 African EEF partner
2	April, 1995	1.2 Rotary Club Nairobi North partner
2	April, 1995	1.3 Kenya Wildlife Service partner
3	May, 1995	1.4 Kuku Group Ranch partner
5	July, 1995	2.1 Community approval
5	July, 1995	2.2 Selection of site
5	July, 1995	2.3 Approval by KGR elders
5	July, 1995	2.4 Initial acceptance by KGR community
10	Dec., 1995	2.5 Kajiado District Develop. Comm. Approval
11	Jan., 1996	3.2 Facility construction commences
11	Jan., 1996	3.3 Employment and training of Maasai staff
14	April, 1996	3.4 First international visitors
15	June, 1996	3.1 Lease signed: the formal partnership
22	Dec., 1996	2.6 Registration of AEEF
26	April, 1997	2.7 Program review completed
31	Sept., 1997	2.8 Community advisory committee formed
34	Dec., 1997	3.5 Community lending library opens
37	March, 1998	3.6 International group hosted by Maasai staff
39	May, 1998	3.7 Advanced Ecology training of Maasai staff

41	Aug., 1998	2.9 AEEF-KWS MOU
42	Sept., 1998	3.8 Centre selected for internat. field studies school

Table 5.2. Maasai staff requirements for the Kuku Field Studies Centre

Job	Requirements
Manager	Fluent in English, Swahili and Maasai Minimum secondary school education Cross-cultural exposure Broad interests in the project, community and education Potential leadership skills; peer respect Business training/experience
Instructors	As above, but more specifically with special knowledge of subject matter and cross cultural sensitivity
Support Staff / Cook	Interest and aptitude for learning specific skills Dependability
Casual labourers	Hired as necessary for construction or as support to visiting groups

CHAPTER VI A SURVEY APPROACH TO EVALUATING A COMMUNITY-BASED CONSERVATION PROJECT IN MAASAILAND, KENYA[4]

Abstract

The Kuku Field Studies Centre in the Tsavo-Amboseli region of Kenya was established by the non-profit African Environmental Education Foundation to provide socio-economic and educational benefits to the Maasai community of the Kuku Group Ranch while promoting wildlife conservation. After 18 months, project promoters recorded considerable progress in attracting partners, receiving approvals for the project, hiring and training staff and developing the Centre's facilities and programs. A community survey of forty-two family groups (representing about 850 persons) was undertaken to determine community awareness, perceived benefits and costs and to seek ways to improve the project in the eyes of the community. Only 50% of families were aware of the project, one-quarter felt that social benefits were being derived, and there was little awareness of the original wildlife conservation mandate. This criticism early in the project resulted in the creation of a local advisory committee and more environmental education programs for local schools. Since the survey and stronger linkages, the project activities have accelerated. The project shows increasing evidence of being sustainable through pride of ownership and of investing in wildlife conservation. While recognizing the high time and other resources needed, annual evaluations by the community are recommended.

Introduction

Community-based conservation has been touted as a cornerstone on which conservation efforts must be based if protected area biodiversity is to be maintained and improved. This direction for conservation was formally stated at the 1982 IV International World Conservation Congress of the International Union for the Conservation of Nature in Caracas, Venezuela (IUCN 1994). Many models have been attempted and many projects have not been sustainable, beyond months or several years, for many reasons.

In theory, for community-based conservation, people and the environment are most affected by any given project and must be the focus of any project evaluation process (Case and Case-Davis 1990; Poff 1996). Frequent and comprehensive evaluation has been identified as a crucial ingredient for the development of effective and long-lived community-based conservation initiatives (Bortei-Doku Aryeetey 1998; Gow and Vansant 1983). In practice, there has been a lack of appropriate evaluation of projects to determine whether the objectives of their establishment and development have been met (H. Dublin, pers. comm.; H. Gichohi, pers. comm.; S. Okalla, pers. comm.). Inadequate evaluation may be linked to inadequate budgeting to include evaluation, to the separation of donors from, and consequent disinterest in, a given project, and to a narrow focus on

[4] Submitted to the Community Development Journal.

fiscally responsible project expenditures. In the latter case, the effects of a project on the intended beneficiaries or its effects on environmental conservation may be treated as inconsequential.

In Kenya, the need to incorporate human and conservation issues is increasingly important, given a combination of increasing human population pressure on arable land. Encroachment of agrarian peoples into semi-arid regions inhabited by high profile wildlife populations is now a reality; the greatest pressure is on the limited water resources. The Maasai tribal lands of southern Kenya are one of the regions currently facing increased pressures. The Kenyan Wildlife Service (KWS) has increased community-based wildlife conservation efforts since the mid-1990s in order to protect biodiversity outside of protected areas (KWS 1994).

The Kuku Field Studies Centre in the Tsavo-Amboseli region of Kenya was established by the non-profit African Environmental Education Foundation to provide socio-economic and educational benefits to the Maasai community of the Kuku Group Ranch while promoting wildlife conservation. To the promoters and to outside appearances considerable progress had been made after 18 months. Partners had been found, community, elder and district approvals were in place, facility construction was underway, staff were employed and trained and the first national and international visitors had taken advantage of the facilities and programs. Marketing of the project was well under way to ensure financial self-sufficiency and to provide local benefits. Among the Centre's staff there was some concern that fewer than expected community members were interacting with the Centre's programs.

Objectives

Given the general agreement that evaluation of programs are important early in a wildlife conservation projects, a survey was conducted to determine community awareness of the project's goals, community perceptions of benefits and costs and community perceptions of high priority improvements.

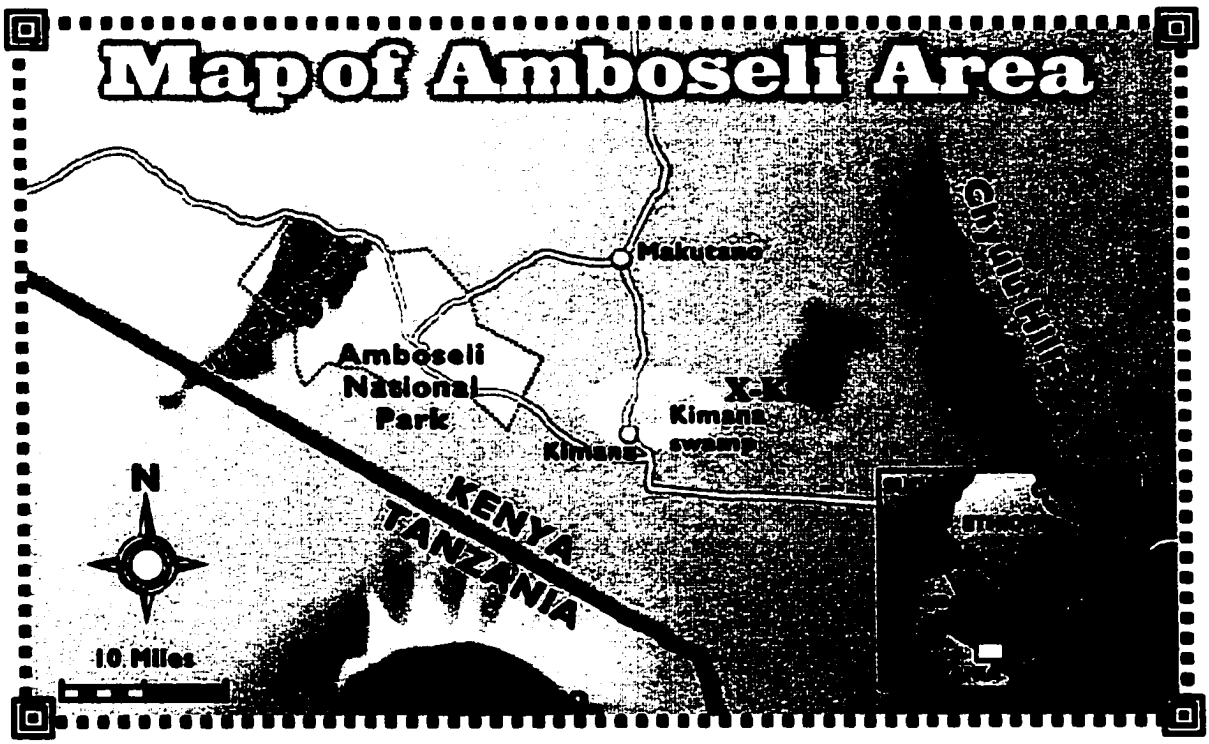
Methods

Study area

The Kuku Group Ranch is a 148 000 hectare tract of land bordering the western boundary of Tsavo National Park (Figure 6.1). There are few auto routes through this Savanna. Members of the Group Ranch are the approximately 3 000 male Maasai belonging to the clan that holds historic claim to the region. It is estimated that there are between twelve and fifteen thousand residents (Maasai men, women and children plus a small number of other tribal groups who have moved onto the land since independence in 1963) practising varying levels of pastoralism on the Group Ranch. While some residents are settled in small villages, a number of Maasai still live a nomadic cattle-, sheep- and goat-herding lifestyle and move according to water and forage availability (Spear and Waller 1993;

Holmwood and Rogers 1991). Oral tradition and indigenous education remain central to the maintenance of culture on the Group Ranch.

FIGURE 6.1: Location of the Kuku Field Studies Centre and Kimana Community Wildlife Sanctuary at Lat. 2° 15' S, Long. 37° 50' E (used with permission of Stuart Armstrong)



The Kuku Field Studies Centre lies between Tsavo and Amboseli National Parks of southern Kenya at Lat. 2° 15' S, Long. 37° 50' E. The Centre was established in 1995 by the non-profit African Environmental Education Foundation to attract educational tourism groups. Included in fees paid by international groups would be a contribution to local community development projects as well as to an endowment established by the Foundation for the Kuku Group Ranch community. The use of these funds for local social projects and for local employment and training was to be linked to protecting local wildlife resources. Over the first 1.5 years of the project, the Centre developed facilities to house 20 visitors in permanent quarters and employed 6 Maasai staff.

Field survey

Survey methods follow qualitative research methods delineated in Chapter IV. Surveys are one mechanism used in a triangulation process contributing to the formulation of a grounded theoretical contribution to community-based conservation through the Kuku

case study. Interviewers were carefully selected for the survey. Recommendations from researchers involved in previous surveys with Maasai people indicated that responses would be much more accurate and valid if locally known persons administered surveys (D. Campbell pers comm.; A. Mwangi pers. comm.). Interviewers were three male, young to middle age, Maasai from the Kuku Group Ranch who were fluent in the ki-Swahili and ki-Maasai languages.

Representatives of forty-two family groups living on the Kuku Group Ranch were interviewed informally in accordance with procedures used in Kenya by the International Centre for Research in Agroforestry (ICRAF) for community surveys (Polm and Vosti 1993). Each family group represents many individuals; numbers may range from 10 to 50. The nature of the Maasai culture, being one in which oral communication and consensual approaches to governance are key features, is the basis of a primary assumption in the interview process. That assumption is that by talking to one person, the thoughts and views of many others, both from within village groups and from neighbouring villages, are being represented.

The informal survey instrument (Table 6.1), with an open-ended format, was chosen for cultural reasons. In the Maasai culture, opinions and comments are generally gained through conversation rather than through direct questioning. In a pre-survey test, short answer or structured questions requiring scales or percentages were unsuccessful in generating feedback. The preferred format to which respondents seemed most comfortable and co-operative involved visits of up to two hours, when the survey questions were addressed in the order that seemed appropriate to the flow of the conversation. Interviewers could return to answers that were unclear, or could approach a question from another perspective; it was critical to ensure that an accurate representation of a respondent's opinion was recorded.

The survey was conducted at randomly select bomas (homesteads) along radials emanating from the project across the Kuku Group Ranch. Because the population of the Group Ranch is sparsely distributed over a large land area, distance from the project was used as a variable in the study. It was felt that distance would serve as an indicator of the project's sphere of influence on the Group Ranch. Gender was deemed important due to a need to determine the ability of the project to penetrate beyond the largely male-dominated leadership and decision-making structure of the Group Ranch to the women, who have the major role to play in the domestic operations of households, and to the children. The perception of benefit from the project towards women and children would indicate that the Kuku project was providing benefits on a community scale and not just to one interest group or gender. At each boma, one person was randomly selected by gender and age to participate in the survey. To assist interviewers in identifying the range of potential benefits that respondents may have encountered, a listing was provided that included economic, socio-cultural and conservation elements. A guide of actual and potential benefits to recipients was outlined to encourage respondents to consider the range of beneficiaries from an individual or family level through to the village, clan, ecosystem, Kenyan and international levels. Responses were tabulated according to gender of respondents and the distance they lived from the Kuku Field Studies Centre.

Results

Community awareness of project

Community awareness of, and involvement in, the Kuku project was modest. Only 50% of Group Ranch members interviewed were aware that the aims of the project were to provide community benefit and conservation education (Table 6.2). Only 33% of respondents felt any ownership of the project or reported that they had been involved with it in some way. Of those that did report involvement, the majority (12 of 14 family groups) were within a ten kilometre radius of the project (Table 6.3). Women, and especially women living within 10km of the project, were most aware of the purpose of the project and were most able to identify some aspects of the program. Responses revealed that little had been done to raise awareness of wildlife conservation issues. Only 40% of respondents affirmed that the project was encouraging conservation in the community.

Community perceptions of benefits

Concerning the flow of benefits from the Kuku project, 50% of the respondents felt that the community benefited from the project. Those closest to the project recognised that benefits had been realised, whereas those further away perceived that future benefits would come from the project. Benefits were considered to be primarily economic (people had been able to generate revenues as employees or through sales of various items) and community-based (with the most common references being to the project's work with local school children and with food relief during a drought early in 1997). One-quarter of respondents felt that that the African Environmental Education Foundation was the key beneficiary while one-quarter felt that individuals employed by the project were the key beneficiaries.

Community perceptions of costs

With regards to the costs of establishing the project, 26% believed that costs were borne by the project itself, while 21% noted that the community had shared a portion of costs, mainly through giving land to the project.

Community recommendations for improvement

A majority (67%) of respondents felt that increased communication through workshops, seminars or a community advisory committee was important in expanding community involvement and support for the project. The need for a stronger community voice in the project was considered the most important means by which the project could better serve the community. Monetary benefit stemming from the project was not raised as a priority.

Discussion

Sufficient evidence came to light through the survey to indicate that the Kuku Field Studies Centre project was neither fully community-based nor was it adequately meeting the original conservation mandate after 18 months.

Immediate solutions

Since there was a perception among community members that there was room for considerably more community involvement in the project, an advisory committee to the KFSC was appointed by Group Ranch members themselves. At a well attended public meeting in late 1997, the committee was chosen on a consensual basis and included men and women, old and young, recognised leaders and non-leaders, and persons with varying degrees of literacy and exposure to development and conservation issues. One representative of the committee was appointed to serve as the communication link between the local Group Ranch Council and the project. No committee member would receive remuneration directly. The committee was formally endorsed by the Chairman of the Kuku Group Ranch at the close of the meeting and appointed committee members were charged with the responsibility to attend meetings and represent the community's interests responsibly.

Another important result from the survey concerns the lack of linkage between community benefits and environmental conservation. Wildlife conservation education and awareness was sacrificed by the promoters in lieu of emphasis on community development and on efforts to establish infrastructure and financial sustainability of the project. These issues have been identified in the conservation literature (Spinage 1998; Stephenson and Newby 1997; Oates 1995; Robinson 1993). The post-survey community meeting provided an excellent opportunity for Maasai staff members of the Kuku project to address water conservation, land-use conflicts and wildlife population changes. The importance of wildlife resources as the drawing card to paying visitors, and thus to community development, was emphasised. Since the community meeting, Kuku staff ensure that the conservation linkage to the project's success is highlighted at all committee meetings and during any outreach activities in the region. The staff of the Kuku project has developed an environmental education programme especially directed at local schools. This includes an environment club at a local primary school, participation in an existing wildlife club at the local secondary school, and the hosting of local schools for days or overnight stays at the Kuku Field Studies Centre.

The future

Though it is too soon to determine the outcome of these measures, indicators of community support through a commitment to establish and support an advisory committee as local institution dedicated to the development and growth of the KFSC are positive. Recognising the potential role of the KFSC in the community, the Kuku Group Ranch Council has requested a land-use zoning policy. This is to ensure that land and water resources continue to be available to pastoralists and wildlife, while pressure increases to convert land to agricultural for a growing population. There also were

discussions about domestic and wild animal interactions. There is growing recognition and pride in promoting both the cultural and biological uniqueness of the area to visitors.

Conclusions

Community-based projects are dynamic and become increasingly valuable over time if the community members accept and take pride in their ownership of the project; therefore, there is a need to have the community continually evaluate the projects to ascertain whether expectations are being met. Frequent evaluations identify deficiencies and surveys are effective communication tools in promoting goals and approaches. Prompt response to insufficiencies or to changing approaches where necessary will add to the strength of community-based development and wildlife conservation projects. Even though surveys require considerable time and other resources in the short-term, they should be seen as a long-term investment in effectiveness of the programs and even the sustainability of the project. Annual evaluations of projects are recommended.

Acknowledgements

D. Campbell, Professor, Land and Resource Management, University of Michigan, H. Dublin, World Wide Fund for Nature, Nairobi, H. Gichohi, African Conservation Centre, Nairobi, S. Okalla, Kenya Wildlife Service, Nairobi and A. Mwangi, African Conservation Centre, Nairobi contributed through discussions as the survey was being formulated. I would like to acknowledge the people of the Kuku Group Ranch, for support of the concept and project development, and the Kenya Wildlife Service, for a wide range of support ranging from endorsement of the project to assistance with project logistics. The trustees of the African Environmental Education Foundation fostered the concept to reality. N. Krogman and V. Adamowicz contributed ideas that strengthened the work. P.A. Thomas kindly reviewed earlier drafts of the manuscript. Financial support for the research came from a Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship to the senior author and the Rotary Clubs of Kenya. This research was conducted in accordance with the ethical guidelines of the Faculty of Agriculture, Forestry and Home Economics, University of Alberta.

Literature cited

Bortei-Doku Aryeetey, E. 1998. Consultative processes in community development in Northern Ghana. Community Development Journal 33(4): 301-313.

Case, D. and D. Case-Davis. 1990. The community's toolbox: The idea, methods and tools for participatory assessment monitoring and evaluation in community

forestry. Community Forestry Field Manual Vol. 2. Peace Corps: Washington, DC.

Gow, D. and J. Vansant. 1983. Beyond the rhetoric of rural development participation: How can it be done?. World Development 11(5): 480-511.

Holmwood, K.M. and W.A. Rogers. 1991. Maasailand ecology: pastoralist development and wildlife conservation in Ngorongoro, Tanzania. Cambridge studies in ecology, Cambridge University Press: Cambridge.

IUCN. 1994. Resolution 19.23: Importance of community-based approaches. Buenos Aires: 19th General Assembly.

Kenya Wildlife Service. 1994. Human-wildlife conflicts. Kenya Wildlife Service: Nairobi.

Oates, J.F. 1995. The dangers of conservation by rural development – a case study from the forests of Nigeria. Oryx 29: 115-122.

Polm, I. and R. Vosti. 1993. Procedural guidelines for characterisation and diagnosis. ICRAF: Nairobi.

Robinson, J.G. 1993. The limits to caring: Sustainable living and the loss of biodiversity. Conservation Biology 7: 20-28.

Spear, T. and R. Waller (eds.). 1993. Being Maasai: ethnicity and identity in East Africa. Ohio University Press: Athens, Ohio.

Spinage, C. 1998. Social change and conservation misrepresentation in Africa. Oryx 32(4): 265-276.

Stephenson, P.J. and J.E. Newby. 1997. Conservation of the Okapi Wildlife Reserve, Zaire. Oryx 31(1): 49-58.

Table 6.1 Open ended questions posed by the community survey evaluating the Kuku Field Studies Centre project

Awareness

1. What level of awareness does the individual have of the project? Its aims?

2. What does the individual perceive as the goals /aims of the project?

3. Does the individual support the project? To what extent? If not, why not?

Benefits

4. Who does the individual perceive as benefiting from the project? What potential benefits could the project bring to the individual, the family, and the community? Does the individual think these will be achieved? When?

Costs

5. Who bears the costs (both economic and non-economic) of the project? What does the individual see as costs to the individual, the family, and the community?

Improvements

6. Does the individual see any linkage between the protection of the local environment (wildlife, water, trees, etc.) and the success of the project? If the wildlife, water, trees, small plants, etc. were depleted, would the project succeed? Is the project contributing enough to encourage conservation?

7. Do you feel that the project is being run as a community project? If not, whose project is it? Are you able to give opinion, take a role in decisions and become more involved?

8. How could the project be better managed as a community project?

Table 6.2 Positive responses of 42 family groups (representing about 850 persons) to the community-based evaluation of the Kuku Field Studies Centre project after 18 months of operation (values given as a percentage of respondents; n=28 male and 14 female respondents representing different family groups).

Awareness		
General awareness of the presence of the Kuku Field Studies Centre in the community	Men	32%
	Women	86%
Awareness of the project's community devleopment initiatives	Men	18%
	Women	64%
Awareness of the project's wildlife conservation / environmental conservation mandate	Men	36%
	Women	50%

Benefits		
Persons perceiving a flow of benefits to employed individuals	Men	29%
	Women	14%
Persons perceiving a flow of benefits to the community	Men	36%
	Women	79%
Persons perceiving a flow of benefits to the African Environmental Education Foundation	Men	36%
	Women	7%
Persons perceiving a potential flow of benefits from the project to the community	Men	54%
	Women	29%

Costs		
Persons perceiving the costs borne by the project alone	Men	32%
	Women	55%
Persons perceiving costs borne by both the project and the community	Men	29%
	Women	7%

Improvements		
Respondents calling for better communication / more community involvement	Men	75%
	Women	64%

Table 6.3 Variation of responses with varying distance from the Kuku Field Studies Centre. Positive responses of 42 family groups (representing about 850 persons) to the community-based evaluation of the Kuku Field Studies Centre project after 18 months of operation (values given as a percentage of respondents; n=42 respondents representing different family groups).

DISTANCE FROM KUKU FIELD STUDIES CENTRE

	0-10 km (n=22)	11-50 km (n=13)	+51 km (n=7)
Awareness			
General awareness of the presence of the Kuku Field Studies Centre in the community	68%	23%	43%
Awareness of the project's community devleopment initiatives	55%	8%	14%
Awareness of the project's wildlife conservation / environmental conservation mandate	45%	23%	57%
Benefits			
Persons perceiving a flow of benefits to employed individuals	23%	31%	14%
Persons perceiving a flow of benefits to the community	73%	23%	29%
Persons perceiving a flow of benefits to the African Environmental Education Foundation	23%	38%	14%
Persons perceiving a potential flow of benefits from the project to the community	27%	62%	71%

Costs			
Persons perceiving the costs borne by the project alone	27%	38%	57%
Persons perceiving costs borne by both the project and the community	14%	31%	29%

Improvements			
Respondents calling for better communication / more community involvement	59%	85%	57%

CHAPTER VII EVALUATING COMMUNITY BENEFITS AND ACCEPTANCE OF COMMUNITY-BASED WILDLIFE CONSERVATION PROGRAMMES IN MAASAILAND, KENYA[5]

Summary

Most evaluations of community-based conservation projects are based on finances; few are evaluated from the community benefits point-of-view. A comparative research approach was used to evaluate the contribution to community well-being by the Kuku Field Studies Centre and the Kimana Community Wildlife Sanctuary projects in southern Kenya. These projects had a common goal to use wildlife resources as a base for ecotourism, but with widely different origins, financial bases and approaches. Using a comparative and iterative community participatory research approach, about 100 informants and another 100 community members were asked to evaluate community acceptance and project benefits over a period of three years. Local interest in the well-funded Kimana project was high initially, but declined due to concerns about the distribution of monetary benefits to the communities. While the initially low-budget Kuku project met with indifference, local acceptance of, and participation in, the project increased over time. Grassroots involvement and equitable distribution of benefits were found to be more important to communities in the long term than projects which involved considerable financial resources but which overlooked non-financial issues. Informants suggested that community-based conservation projects must be evaluated according to a range of factors, including the degree of understanding, participation and acceptance of the project as well as the financial, infrastructure, human resource and intellectual resource and control benefits. It is concluded that frequent evaluation and refinement of goals, with considerable community input over many years, are necessary for sustainable projects.

Keywords: project evaluation, community benefits, Maasai, tourism, community-based conservation

Introduction

Over the last few decades the concept of community-based natural resource management has been gaining attention as a serious alternative to Fortress Conservation models of the past. Local efforts to involve community in conservation efforts in Africa as early as the 1950's and 1960's were followed by high-profile initiatives such as Zimbabwe's CAMPFIRE program. International acceptance of links between conservation and development was shown by publications such as the *World Conservation Strategy* (IUCN et al. 1980) and adoption of the 'Parks for People' model of conservation by the World Conservation Union (IUCN) in 1992 at the IVth World Congress in Caracas (Barzetti

[5] Submitted to the journal Environmental Conservation

1993). Since then, conservation organisations and academic researchers have further emphasised the importance of including local communities in the development and implementation of conservation initiatives (i.e. Hough 1988; Brown & Wyckoff-Baird 1992; Biodiversity Support Program 1993; IIED 1994; Albert 1996; Barton *et al.* 1997; Stephenson & Newby 1997). While there is general agreement that the long-term future of conservation initiatives revolves around the local communities deriving benefit from conservation (Adams and McShane 1992; McNeely 1995; Moffat et al. 1998; Western *et al.* 1994), there is little agreement as to what constitutes an effective community conservation project. The level of local participation, control and benefit varies widely between projects, ranging from minor incentives and education to projects devised and run by the local community (IIED 1994; Adams and Hulme 1998; Barrow and Murphree 1999). For all community conservation projects, however, people and the environment are the two elements most affected and both should be a major focus of any evaluation process (Case & Case-Davis 1990; Poff 1996; Salafsky and Margolis 1999). Discrepancies between traditional goals and knowledge systems and those determined by external participants are cited as a primary cause of failure of projects (Cox and Elmqvist 1997). Additionally, variation in the level of participation by individuals or factions within communities is also cited as a key factor contributing to project success or failure (White 1996).

The above philosophy applies for many peoples of the world, including the Maasai who traditionally occupied much of the Savanna of East Africa. During the colonialisation process the Maasai lost much of their land; the Maasai living in the Kajiado district of Kenya are now largely confined to a number of group ranches created shortly after Kenya's Independence. Members include all males born into clans holding title to the various group ranches. Six of the group ranches in the Loitokitok Division of Kajiado are particularly important areas for wildlife conservation as they serve as natural corridors for dispersal and migration of wildlife between Amboseli and Tsavo National Parks. The ranches are particularly important for the maintenance of Amboseli's elephant population because of the park's small size (400 km^2) and large number of elephants (currently over 1000).

Within the region, two community conservation projects were developed in adjacent areas in the mid-1990s. The Kimana Community Wildlife Sanctuary was inaugurated on 29 February, 1996 as the first community-based wildlife sanctuary in Kenya by the Kenya Wildlife Service (KWS). The management approach used at the Kimana Sanctuary was modelled after the paramilitary organisational structure adopted by the KWS. The Kuku Field Studies Centre began construction in late 1995 under the direction of a non-governmental organisation called the African Environmental Education Foundation. The KWS encouraged the development of this educational field studies centre as an alternative to sanctuaries and campsites proposed for other group ranches. The intent was to generate revenue for community benefits by hosting international educational groups and researchers. The management approach of the Kuku Field Studies Centre evolved to incorporate elements of hierarchical business organisation and the consensus–based style of the Maasai.

Conservation and development projects in Kenya, as elsewhere, have been evaluated in many ways to determine whether objectives have been met (IIED 1994; Kremen et al. 1994; Salafsky and Margolis 1999). Frequently, evaluations have been inadequate due to limited time and funds budgeted for evaluation, separation of donors from projects and/or a focus on project expenditures rather than on local impacts. While there is no questioning the importance of ensuring fiscal responsibility, the project donor is usually not the most directly affected stakeholder. With these ideas as background, the objective of this research was to use community informants and other community members in a comparative research approach to evaluate two community-based Kenyan wildlife projects. Specifically, community informants and members were asked: 1) to evaluate community understanding, participation and acceptance of the projects and 2) to determine the community view on financial investment, infrastructure, human resources and intellectual resources and control benefits to the communities.

Methods

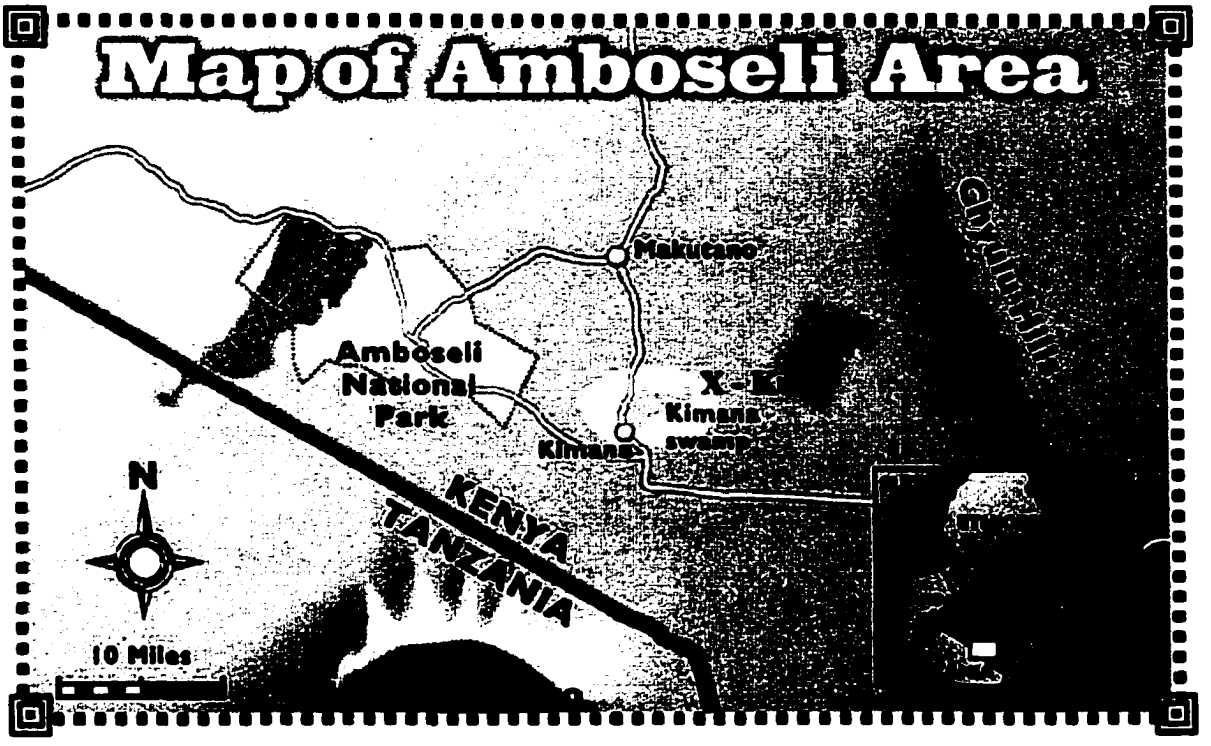
Study area

The volcanic-origin savannah landscapes (Happold 1995) of the study area receives only 400 mm of rainfall annually, is dominated by Mount Kilimanjaro to the south and is drained by the Tsavo River and tributaries (Figure 7.1). Tsavo West and Amboseli National Parks and the surrounding region support some of the largest concentrations of wildlife accessible to international tourists arriving from Nairobi.

Two Maasai-owned group ranches connect Tsavo West and Amboseli National Parks. The 25 0000 ha Kimana Group Ranch to the east of the Amboseli National Park has 850 registered members (representing a population of approximately 6000) most of which live a pastoral lifestyle land or live in 2 small villages, of which Kimana is the largest at approximately 1500 people. The Kuku Group Ranch, on the boundary of Tsavo West National Park, is a 148 000 ha area ranging from the Chyulu Hills in the West to the boundary of the Kimana Group Ranch. The 1200 registered members of the Kuku Group Ranch live on the land and in 6 villages, of which Inkisanjani is the largest at approximately 750 people.

The Kimana Community Wildlife Sanctuary (approximately 4000 ha) has a headquarters at Lat. 02.45'24"S , Long. 37.31'11"E . A set of buildings that includes a main office for ticket sales, staff quarters and a toilet block. The Kuku Field Studies Centre (8 ha), located at Lat. 2° 15' S, Long. 37° 50' E, is within the Kuku Group Ranch (148 000 ha) and only 150 metres from the Kimana Sanctuary boundary. Facilities include a tented camp for 60 visitors, housing for staff, library, classroom block, large covered classroom / meeting / dining facility, workshops and offices.

FIGURE 7.1: Location of the Kuku Field Studies Centre and Kimana Community Wildlife Sanctuary at Lat. 2° 15' S, Long. 37° 50' E (used with permission of Stuart Armstrong).



Collection and verification of information

Research methods for are based on qualitative Social Action Research methods (see Chapter IV). The validity of structured surveys and questionnaires in rural Africa has been called into question (Mitchell & Hugo 1991). These concerns had particular validity in the study area as very few Maasai Group Ranch members have had any formal education and the Maasai traditionally have a strong distrust of outsiders (Herren 1991). In a participatory research approach, community member evaluations of the projects were collected over a three-year period beginning in August 1995. Unstructured interviews were conducted with informants and then verified through larger group interviews. Community informants represented group ranch councils, influential elders, and people directly involved with or employed in the projects (Table 7.1). Other observers, including Kenya Wildlife Service officials, United Nations Environmental Programme advisors, Rotary International advisors and teachers from Kenya and internationally were consulted to provide an even greater objective assessment of progress concerning each of the projects. The proximity of the projects facilitated access to informants who could speak for one, or more commonly, both projects. Most comments were from members of the Kuku and Kimana Group Ranches who were interviewed in their native language by Maasai staff of the Kuku Field Studies Centre.

In discussions with conservation informants, a template emerged for the comparison of the projects that revolved around a number of themes and sub-themes. Quantification was desired but, in answer to most questions, only qualitative data were given. To verify the information within the themes, a triangulation approach was employed; any discrepancies in answers became the source of further investigation. In all cases, special attention was made to corroborate community member reports with other sources. Maasai staff tested the ideas with the same and other informants, and also raised the ideas with larger groups when the community members had already assembled for other meetings. Data collection continued until no new information emerged from the interviews.

Results

Community understanding, participation and acceptance

Maasai communities have continued to hold strongly to their traditional ways of life, have had experience in terms of development and land-use issues, and were aware of current international conservation approaches (Table 7.2). Maasai informants were well aware of the high profile nature of the Kimana project but did not recognise this as important to the community. Community members most strongly identified with local aspects of community conservation and recognised that understanding community-based conservation projects required considerable communication between the projects and communities. Maasai in the region do not depend on newspapers or radio for transmission of information; verbal sharing of news and events is the primary mode of information transfer. Promoters perceived the projects as newsworthy and they expected that news would travel quickly to the community. In the case of the Kimana project, information transmission was readily facilitated by the project being only four kilometres walking distance from the Town of Kimana, the major settlement on the Kimana Group Ranch. Strong local involvement from the beginning, both in terms of staff and a local board of directors ensured that information transfer was frequent and effective. The Kuku project, on the other hand, had less information transmission due to the remoteness from settlements; the nearest Kuku Group Ranch settlement is seventeen kilometres from the project site.

The degree of local participation differed between projects and over time (Table 7.2). In the case of Kimana, participation at a community-wide level was sought to gain approval for the Sanctuary establishment. Final agreement to establish the Sanctuary was given in a meeting attended by the majority of the Kimana Group Ranch registered members. Community members were asked to avoid use of the Sanctuary for cattle grazing except under extreme drought, in exchange for the development of the Sanctuary as a tourism destination that would bring economic benefit to all members. Community involvement past this meeting was negligible, because discussions with donors, the Kenya Wildlife Service and tour operators, were with the appointed Board of Directors. The Kuku project was approved at a community meeting in 1996 but local involvement in decision making was minimal until 1997. In August 1997, efforts were made to address this shortcoming through the formation of a community advisory committee. This committee was recommended at a community meeting called to formulate a strategy to increase local

participation. Further participation of local people included demonstrating elements of indigenous lifestyle in educational programs and commitments to work with the project towards meeting such community defined goals as supporting secondary school education and building a health clinic.

A considerable difference, in terms of community acceptance, arose over time between the projects (Table 7.2). The initially well-funded Kimana project was the focus of much positive attention for the first two years. During the third year, local support decreased due primarily to the failure of the project to provide benefits to the majority of community members. Besides charges of corruption within the Sanctuary Board of Directors, community support lessened as evidenced by continuing cattle grazing in the Sanctuary despite good rains and plentiful forage elsewhere. In 1998, conflicts between the Board of Directors and the KWS resulted in a suspension of some of the funding pledged by the KWS for salaries. From a local and regional perspective, the Kuku project has been favourably received and has earned some level of recognition; neighbouring communities have asked the Kuku project to partner in other regional efforts. By early 1999, the Kimana Community Wildlife Sanctuary had failed as a community-run project and was leased to a private operator.

Both projects received national and international recognition. The Kimana project was adopted as a 'success story' by the KWS, and internationally the project was recognised as the British Airways 1997 'Tourism for Tomorrow' award winner. The Kuku project also gained national recognition through the 1998 fundraising efforts by the Rotary Club Board of Directors. International recognition included acceptance as a World Community Service Project by Rotary International and by other countries using the Kuku model.

Community benefits

Community members clearly recognised the range of contributions to community well being (Table 7.3).

Financial investment/endowment benefits

Initial investment in the Kimana project was high and completely external. International monies of approximately US $75 000 were channelled to the project through the 'Wildlife for Development Fund' administered by the KWS. Additional funds for gate construction were given by an international tourism company. Administration expenses in the Kimana project were fully funded from the initial investment. Full time staff were employed by the directors until conflict over expenditures occurred. Scholarships were provided from the initial funds.

Investment for the Kuku project was small initially and relied on local and national volunteer labour. The Rotary Club of Nairobi North, a Kenyan organisation, provided in-kind support and limited finances. International funding was provided through provision of services (accommodation and food, educational programmes, guided walks) to people

who visited the project. Approximately US$5 000 was contributed to the project by sponsors while a further US$10 000 was raised through provision of services to visitors. The endowment fund of the Kuku project was recognised as useful by the community because it was established only to fund community projects from a portion of the annual interest earnings. Much of the administration expense was donated or came from earnings. The Kuku project hired only three staff time staff, three permanent part-time staff and various casual part-time staff as warranted initially and the salaries were incentive based. By mid 1998, project staff included five full for construction or to run programmes for visiting groups. Funds raised from visitors were used to provide scholarships and to contribute towards other local needs as determined by the community.

Infrastructure benefits

For the Kimana project, infrastructure benefits included a main gate and approximately twenty kilometres of gravel road. A pledge to build a fence to separate wildlife from irrigated agricultural areas was independently financed by the European Union. All of this was contributed through the initial external financial contributions. It is unclear whether any revenue was distributed in an egalitarian manner to the Kimana community.

For the Kuku project, infrastructure benefits depended on funds raised from within the project or through small donations from sponsors. Over the first three years, monetary contributions were sufficient to build a fence around 8 hectares of land allocated to the project, to install a pipe from the Kilimanjaro-Nairobi water pipeline, and to build kitchen and toilet facilities. In-kind donations included tents and furnishings for the accommodation of groups of up to twenty persons. A combination of funds, raised through revenues and donations, permitted the construction of staff housing and a library/office structure. The support of an international university consortium resulted in the completion of all facilities by January 2000.

Human resources benefits

The Kimana project was able to hire and train approximately sixteen staff and over time, the staff remained stable (Table 7.3). No training or skills review had been undertaken at the Kimana project since the completion of the initial three month training period. A manager trained over a one year period by the KWS never did take up his position due to a dispute over funding for his salary. From a management perspective, the Kimana project utilised a hierarchical chain of command for the flow of information and direction. Members of the Kimana community were removed from any substantial involvement in the project.

The Kuku project used on-the-job training for all staff. Initially this was undertaken by people external to the community, but after eighteen months, original Kuku staff felt qualified to provide training to newer employees. The selection of an advisory committee to the project from the local community further involved local people in the project and provided an opportunity for training in community leadership. Volunteers from the

community occasionally participated in the delivery of programming for international visitors. Training at the Kuku project included a consensus-based approach to dividing responsibilities equitably among the staff.

Intellectual resources and control benefits

These benefits included all forms of information incorporated into a collective sense of ownership and control (Table 7.3). In the case of Kimana, the strategy was to appoint a local board of directors for the project. This approach did not lead to a high level of indigenous knowledge input, as the directors chose to model the development and management of the project on top-down military management styles.

The Kuku project operated by consensus. The incorporation of indigenous knowledge increased as the role of Maasai staff increased over time. The dissemination of local knowledge increased with indigenous influence in management style, in contributions to visitor programmes and in community development. Indigenous knowledge of geography, flora and fauna, culture and historical changes were some of the subjects welcomed by the project. This information was prepared and transmitted by Maasai staff to local teachers and students and to international visitors. The collection of information was held in the library, which was open to all visitors, especially teachers and students from local schools.

Discussion

The value of comparing the Kimana and Kuku projects lies in drawing attention to the range of variables involved, the varied approaches and the dramatically different results, as viewed from the point-of-view of local community members. It is suggested that the evaluation of community-based conservation initiatives should draw upon diverse economic and social facets in order to determine overall effectiveness, as did (Ashley and Hussein 2000). Evaluations conducted by donor-driven projects often focus on financial accountability as the main indicator of project effectiveness. In contrast, a rural community may base effectiveness on the contribution of the project to their own livelihood and development objectives. A successful community-based conservation project must serve the local community, conservation interests and external supporters.

Although the Kimana and Kuku projects claim to be anchored to both community development and natural resource conservation in southern Kenya, there was little indication from informants that either project effectively promoted conservation to date, although they certainly recognised the attraction of wildlife to visitors. It is assumed that conservation may be more effective over the longer term if communities benefit more. It is also important to note that without these two projects, conservation issues could have worsened. Failure to protect the Kimana Swamp from unrestricted agricultural development might have led to progressive drainage, use of water in irrigation, the consequent failure of the area as a node in the Tsavo-Amboseli conservation corridor, and the consequent decline in wildlife populations. Without the Kuku Field Studies Centre,

there would be no endowment fund to ensure the long-term continuation of the Centre and a flow of benefits to the community.

It seems reasonable that environmental protection goals are met when the community gains more control in project management. With the Kimana project, community involvement has not been promoted. Decision-making has been effectively removed from the community and vested in a Board of Directors who may or may not be working in the interests of the community as a whole. With no programmes for ecological management or monitoring of water, land or biotic components, it appears that the conservation mandate of the Sanctuary has been largely forgotten. The focus of the project has turned from conservation to revenue generation and maximisation of tourism-derived benefits. In the case of the Kuku project, the advisory committee has expanded its focus from the strengthening of community involvement in the Centre to serve as a forum for discussions concerning land-use and water resource distribution. With a project promoting both development and conservation as a template, community members began to include environmental concerns into management discussions. Also, environmental education activities carried out in local schools used the Kuku project activities as examples.

This research emphasises that community-based wildlife conservation projects can be initiated through grassroots community participation as well as through outside capital investment. Whereas financial elements are important, budget size may not capture a project's ultimate value to a community. Practitioners of community-based development who are looking to establish an effective project, or who are attempting to determine the potential longevity of existing projects, would benefit from an evaluation procedure that takes into account a diversity of indicators. While this comparison of two projects is valuable in illustrating the differences between approaches, this is but a snapshot of progress after four years of operation.

It appears that frequent evaluation, followed by prompt response to the community in resolving issues, can only add to the strength of community-based wildlife conservation projects. Continued monitoring of progress will provide more evidence of project effectiveness and will be necessary to improve the model for new projects. A transparent protocol for the determination of a project's effect on conservation should be developed. This would require establishing a baseline wildlife-habitat-community monitoring process and then monitoring progress over time. The development of tools to accurately assess both community and conservation elements of these models is critical to the ultimate success of approaches to natural resources conservation.

Acknowledgements

I acknowledge the vital support of the people of the Kimana and Kuku Group Ranches and of the Kenya Wildlife Service. Professor N.T. Krogman, Professor V. Adamowicz, M.J. Salomons and two anonymous reviewers contributed ideas that strengthened the work. Financial support for the research came from a Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship to the senior author, from the

Rotary Clubs of Kenya. The research was accepted under the Ethics Committee of our Faculty at the University of Alberta.

Literature cited

Adams, J. S. and T. O. McShane. 1992. The myth of wild Africa. Norton: New York.

Adams, W. M. and D. Hulme. 1998. Conservation and communities: Changing narratives, policies and practices in African conservation. Institute for Development Policy and Research: Manchester.

Albert, P. 1996. Integrated conservation and development projects; examples from East Africa. BioScience 46(11): 845-855.

Ashley, C. and K. Hussein. 2000. Developing methodologies for livelihood impact assessment: Experience of the African Wildlife Foundation in East Africa. Overseas Development Institute: London.

Barrow, E. and M. Murphree. 1998. Community conservation from concept to practice: A practical framework. Working Paper 8, Institute for Development Policy and Management, University of Manchester: UK.

Barton, T., Borrini-Feyerabend, G., de Sherbinin, A. and P. Warren. 1997. Our people, our resources: Supporting rural communities in participatory action research on population dynamics and the local environment. IUCN: Gland, Switzerland.

Barzetti, V. (ed.). 1993. Parks and progress. IUCN / Inter American Development Bank: Washington D.C.

Biodiversity Support Program. 1993. African biodiversity: foundation for the future: a framework for integrating biodiversity conservation and sustainable development. Biodiversity Support Program: Washington, DC.

Brown, M. and B. Wyckoff-Baird. 1992. Designing integrated conservation and development projects. Biodiversity Support Program: Washington, DC.

Case, D. and D. Case-Davis. 1990. The community's toolbox: The idea, methods and tools for participatory assessment monitoring and evaluation in community forestry. Community Forestry Field Manual 2. Peace Corps: Washington, DC.

Cox, P.A. and T. Elmqvist. 1997. Ecocolonialism and indigenous-controlled rainforest preserves in Samoa. Ambio 26(2): 84-89.

Happold, D.C.D. 1995. The interactions between humans and mammals in Africa in relation to conservation: A review. Biodiversity and Conservation 4(4):395-414.

Herren, U. J. 1991. Socioeconomic strategies of pastoral Maasai households in Mukogodo, Kenya. University of Bern: Bern.

Hough, J.L. 1988. Obstacles to effective management of conflicts between national parks and surrounding human communities in developing countries. Environmental Conservation 15: 129-136.

IIED. 1994. Whose Eden? An overview of community approaches to wildlife management. International Institute for Environment and Development: London, England.

IUCN, UNEP, and WRI. 1980. World conservation strategy: Living resource conservation for sustainable development. IUCN: Gland, Switzerland.

Kremen, C. and A.M. Merenlender. 1994. Ecological monitoring: A vital need for Integrated Conservation and Development Programs in the Tropics. Conservation Biology 8(2): 388-397.

Margolis, R. and N. Salafsky. 1999. Measures of success: designing, managing and monitoring conservation and development projects. Island Press: Washington, DC.

McNeely, J.A. (ed.). 1995. Expanding partnerships in conservation. Island Press: Washington, DC.

Mitchell, J. and S. Hugo. 1991. Listening to rural people in Africa: The semi-structured interview in Rapid Rural Appraisal. Disasters 15(1): 10-12.

Moffat, D. and M.N. Ngoile. 1998. The reality of the stomach: Coastal management at the local level in Eastern Africa. Ambio 27(8): 590-598.

Poff, C. 1996. Survey of management approaches for participatory appraisals. IUCN: Gland, Switzerland.

Salafsky, N. and R. Margolis. 1999. Threat reduction assessment: A practical and cost-effective approach to evaluating conservation and development projects. Conservation Biology 13(4): 830-841

Stephenson, P.J. and J.E. Newby. 1997. Conservation of the Okapi Wildlife Reserve, Zaire. Oryx 31(1): 49-58.

Western, D., Wright, R.M. and S. Strumm. 1994. Natural connections: perspectives in community-based conservation. Island Press: Washington DC.

White, S.C. 1996. Depoliticising development: the uses and abuses of participation. Development in Practice 6(1): 6-15.

Table 7.1 Types and numbers of informants who evaluated two community-based conservation projects.

Type of informants	**Kimana Community Wildlife Sanctuary**	**Kuku Studies Centre**
Local political leaders	9	14
Elders	3	7
Project employees	9	5
Group ranch members	40+	60+
KWS personnel	21	15
Other observers	8	5
Total	*90+*	*106+*

Table 7.2 Community evaluation of degree of understanding, participation and acceptance of two community–based wildlife conservation programs.

	Kimana Community Wildlife Sanctuary	**Kuku Field Studies Centre**
UNDERSTANDING		
Concept	Local and national (KWS)	Local to international
Over time	Rapid, then slowed.	Increased slowly.
PARTICIPATION		
Donors	KWS and tour company	Small-donor contributions. Local volunteer labour.
Community	Limited to directors and employees. Agreement to minimise cattle grazing in the project area.	Volunteers in educational programs. Community advisory committee.
ACCEPTANCE		
Locally	Initially high, then dwindled.	Accepted slowly as a resource for education and land-use planning.
Regionally	Awareness high due to promotion.	Neighbouring communities expressed interest in partnerships.
Nationally	Kenya's first community-based conservation project. Publicity was external to local community.	Accepted as case study for conservation by Rotary Club.
Internationally	Winner of British Airways 'Tourism for Tomorrow' award in 1997 for innovative approaches	Ugandan Environmental Education Foundation established on Kenyan model.

Table 7.3 Community evaluation of financial, infrastructure, human resource and intellectual resources and control benefits from two community-based wildlife conservation programs.

	Kimana Community Wildlife Sanctuary	Kuku Field Studies Centre
FINANCIAL INVESTMENT/ENDOWMENT BENEFITS		
Initial investment	High initially. Revenue administered by Directors.	Low initially. Local labour donated.
Endowment	None established.	12% of revenue placed in endowment under trustee supervision.
Administration	Majority of revenues used by directors or distributed to their families/clan.	All volunteered or supported by external funding.
Salaries, scholarships and operating expenses	17 full time staff employed initially. Project funds dispersed by 1998.	Earnings determined staff number and salary level. Four full-time staff initially. Scholarships, school and healthcare projects.
INFRASTRUCTURE BENEFITS		
Facilities	Immediate construction of entrance gate and roads.	Housing for 20 visitors and staff built as funds became available.
HUMAN RESOURCES BENEFITS		
Origins of staff	Local staff hired by directors.	Local staff hired under advice from local advisory committee. Foundation director and trustees not local.
Staff training	Staff provided one-month course. Proposed manager was	External trainers for 2 year period.

	trained offsite for 6 months. Clerk came to job with training. Decisions through hierarchical system.	Training a continuous process of mentoring, external courses and opportunities. Decisions by consensus.
Training of new employees	No new staff acquired.	By senior employees. Work experience for secondary school students offered in holidays.
Training of community members	Staff interactions with community. Reports of directors to local council.	Interactions with international visitors, education programs and environment clubs at local schools. Staff interactions with community.
Training of manager	No manager. Directors/ Sergeant have management responsibility.	Trained in financial management. Frequent contact with trustees and director.
INTELLECTUAL RESOURCES AND CONTROL OF BENEFITS		
Ratio of foreign to indigenous management knowledge	Modelled after military chain of command. Managed with global management principles.	Consensus management. Global management style for international guests. Local management style for internal operations.

Indigenous knowledge	Minimal. Operated as a revenue-generating project using established traditional park management strategies.	Integral part of programs. Community development projects determined locally. Visitors exposed to indigenous approaches to meeting needs.
Data bases/library resources	Visitor record maintained and monthly summaries generated. No library.	Local information retained. Library developed and opened to all visitors.

CHAPTER VIII SUMMARY - GROUNDED THEORY DEVELOPMENT FOR COMMUNITY-BASED CONSERVATION

Introduction

The research conducted for this dissertation was based upon the theory of community-based conservation, which states that an interdisciplinary approach, seeking to improve the welfare of human communities as well as sustaining biodiversity, is a valid approach to conservation (World Conservation Union 1980). On the basis of this theory, the Kuku Field Studies Centre was developed as a model for community-based conservation. To record the stages of development of the Kuku Field Studies Centre in itself is an important contribution to the practice of community-based conservation, serving as a working, documented model for what, at least in Kenya, is often discussed theoretically to a greater extent than one finds working applications. The contribution of the KFSC project is also academic in nature, however, and this is the focus of this chapter. Through analysis of the project parameters, a number of contributions to theory were formulated. These contributions are replicable and general, demonstrating the ability of specific case studies to make a contribution to the field as a whole.

Contributions to Community-based Conservation theory

In Africa, documented case studies of community-based conservation have tended to be focused on consumptive wildlife-use situations in southern African countries. The CAMPFIRE and ADMADE programmes are two of the most well-known examples. Each of these programmes have made a significant contribution to understanding the utility of community-based conservation as a tool for overall biodiversity and habitat management in African and other developing world situations. As cited by Gibson (1999), however, applications of these programmes outside of their own institutional framework and outside of the laws and policies guiding wildlife management in their respective countries can become difficult. In the situation of Kenya, for example, where wildlife policy since 1977 has prohibited hunting and since 1978 has prohibited the trade of wildlife and wildlife parts, many options open to southern African programmes in terms of generating local support and benefit are unavailable as solutions.

The general contribution of this research to the academic discipline of conservation biology was to provide a case study in a non-consumptive wildlife management situation from which a grounded theory of community-based conservation could be developed. The Kuku Field Studies Centre and a comparison of its evolution with the now failed Kimana Community Wildlife Sanctuary brought to light a number of realisations that would only have become clear upon testing of CBC theories that have been developed over the past two decades.

While it became clear from this research that CBC does hold the potential for meeting both conservation and community development aims, the suggestion of Inamder et al. (2000) and Hackel (1999) that CBC cannot conclusively be upheld as an effective tool for

biodiversity conservation is supported by the Kuku findings. The findings of this research are in agreement with another published case study (Mehta et al. 1998) that maintains that biodiversity conservation will only succeed if i) community economic benefit and ii) institutional stakeholder participation in management are assured. Economically, the Kuku project illustrates that projects do not have to be expensive and also that they are capable of revenue generation, thus challenging claims to the contrary in the literature (Inamder et al. 2000) and questioning the necessity of high-budget development projects in rural Africa. While community benefit through employment, education, empowerment for decision-making, and various projects can be directly attributed to the Kuku project, there is little evidence to conclusively indicate the value of the project as a contributor to conservation objectives in the Tsavo-Amboseli ecosystem. This is not to say that the conservation element of the project failed, but only to acknowledge the difficulty of attributing conservation success to a single element in a situation where numerous activities, stakeholders and influences are interacting to set the direction for land-use and thus conservation in the region. The identification of the Kuku project's contribution to these decisions would be difficult, and the time frame necessary to prove its lasting benefit to biodiversity conservation is likely in terms of decades at the least. Perhaps a generational change would be a suitable benchmark to determine the lasting impact of a project on training, education or even conservation.

In spite of no tangible conservation successes, the efforts being made in environmental education at school levels and in land-use planning at the adult level is ensuring that biodiversity conservation is being discussed in the community. This awareness can only be a positive contribution to the future decisions made by stakeholders in the region.

The Kuku project, on its own and in comparison with the failed Kimana Community Wildlife Sanctuary approach to CBC, contributes a grounded theory for community-based conservation that extends the general theories of Western (1994), Ghimire and Pimbert (1997) and others who have been instrumental in the development of CBC theory to date. While the Kuku case study does not refute the general theory that community development objectives can be compatible with conservation aims, the case study did identify a number of elements that are suggested as being fundamentally important for community-based conservation projects. Without these elements, it is theorised that community-based conservation initiatives will fail in both community development and conservation goals.

A grounded theory for community-based development based on the results of this research is as follows:

Community-based conservation does hold the potential to meet both community development and conservation goals but only under the following conditions:

For short-term development of projects:

- A locally relevant time frame for projects is established
- A locally relevant scale is chosen for the model; projects must be of a scale that can be conceptualised by local stakeholders

- A mentoring situation is adopted in which an external agent (researcher or otherwise) is involved to facilitate development, provide support and education to stakeholders, and to act as a go-between in a multi-stakeholder environment. This person would be neutral to the various biases and opinions held in the community and would be able to make suggestions and provide leadership without the subjectivity that a person from the community would have. The facilitator/mentor does not have to be from a different nationality or ethnic group, only a person distanced enough from the community to maintain neutrality. The facilitator/mentor would be present as a catalyst to development only and would in time gradually withdraw from the project, turning over all aspects of its operation to local institutions.
- The project is truly grassroots in its involvement of community members
- Care must be taken to avoid raising stakeholder expectations regarding socio-economic benefits
- Transparency and accountability in terms of finances and also of decision-making is ensured

In the short term, emphasis must be placed on generating community support and focusing on socio-economic elements of a given project. Survival and betterment of lifestyles are of primary importance in any human society. Unless socio-economic needs are being catered for, it is difficult to enter into discussion concerning conservation goals of a project beyond efforts to consistently draw a linkage between development and environmental protection, be it protection of locally-important natural resources or the protection of wildlife species as having some undetermined future value. With the Maasai of the Kuku Group Ranch in particular, the effects of drought or disease took precedence over the project's conservation goals. Only when these events subsided and immediate concerns of survival subsided could the project continue to evolve. The assistance of the KFSC in providing some food relief and veterinary medicine was deemed a far more important function than was conservation education. This is not to say that the Maasai do not have a strong conservation ethic – they value and protect their environment to sustain their lifestyle. It is rather the amalgamation of western-style conservation aims with the indigenous conservation ethic that will take time.

To achieve CBC goals in the long-term:

- Verification that effective and representative organisational institutions are present or are being developed to lead a given initiative once mentors and other external supporters withdraw from the initiative This institution will also provide a direct interface between the project and the community
- Both short- and long-term goals of the community (social and economic) are considered and provided for
- Long-term biodiversity conservation and habitat protection goals are set and provided for in land-use planning
- Economic benefits are perceived as being significant enough to adopt conservation-based land-uses as opposed to more economically beneficial land-uses that may be contrary to biodiversity protection
- Conservation education programmes are established to link community benefits to biodiversity conservation

- Mechanisms for both individual and collective benefit arise from the project
- Continuous monitoring, evaluation and adjustment of the project to reflect stakeholder attitudes and priorities.

While drawn from the KFSC model, it is suggested that the above conditions are necessary regardless of the location, cultural background or specific conservation/ development objectives of any given CBC project.

The extent to which community-based conservation serves as a tool for biodiversity conservation in the long-term can not be readily verified in the short term[6]. As communities, societal goals, economics (local and global), demographic structure and developmental priorities change, attitudes towards conservation will also change. The strength of a CBC programme is fully dependent on the strength of the linkage between community benefit and conservation. If conservation cannot be found to produce local benefits that are appreciated as such, projects will not succeed indefinitely. Once alternative land-use strategies are demonstrated to be more lucrative economically or in terms of social benefit, community support for conservation activities will erode.

Key contributions of the research to grounded theory of Community-based Conservation

The above listing of factors deemed necessary for any CBC project, both in the short- and long-term illustrates the breadth of the research and attests to the importance of interdisciplinary thought in its approach, a few major conclusions have been reached. These are discussed below:

The importance of building strong, local institutional support

The Kuku Field Studies Centre was established in setting of minimal governing institutions as compared with CBC projects in southern Africa where various levels of government involvement are involved. In the pastoral regions of Kenya, direct government involvement in the day-to-day life of individuals is almost non-existent, being reduced to efforts of the parastatal Kenya Wildlife Service in community-based conservation endeavours that mainly support education. The major institution of the Kuku Group Ranch is its Committee, with its twenty members meeting monthly to discuss matters pertinent to the group ranch as a whole. The Committee is concerned mainly with land and resource allocation along the Chyulu Hills and, aside from collecting an annual lease from the KFSC, has little involvement with the project or the community around the project.

[6] Biodiversity conservation aims of a CBC initiative might only be measureable on a generational basis (ie. 25 years or more). The extent to which biodiveristy conservation successes are attributable to CBC will likely be difficult to separate from other factors, both non-human- and human-induced.

The absence of a strong local institution at the inception of the Kuku project is important from the perspective of grounded theory development. In the early stages of the project's development, local involvement was on an *ad hoc* basis, with members of the community finding employment and training on full- and part-time bases. Initial efforts to incorporate the project into the community were made from a one-sided perspective, with project staff and the researcher meeting regularly to develop strategies to extend both its socio-economic and conservation mandates into the community. Results were less than convincing as the relevance or benefit of the project within the community (Chapter VI). Without the strong involvement of the community, only limited growth of the project along the lines of its mandate occurred.

The eventual public meeting that was held to discuss the barriers between the project and the community resulted in the formation of a local institution that was given the authority by the Kuku Group Ranch Committee to link the community as a whole to the KFSC project. With the establishment of the advisory committee to the project, a clear line of communication was created, people began to show a more active interest in the project, a mechanism was created to propose and discuss community development projects and a forum was found to begin the work of more strongly linking conservation to community development benefits.

This project provided a clear indication of the importance of a local institution in community-based conservation. That the origins of the institution were grassroots in nature and in response to local dissatisfaction at the lack of local empowerment concerning the project was also important. The application to CBC theory is that, regardless of the presence or absence of a local institution at the onset of a project, it is important that efforts be made to allow the development of an institution that responds to the needs of both the project and the community. In other words, it is suggested that permitting the growth or evolution of an institution in response to and along with the development of a CBC project will be more effective than the outright creation or appointment of an existing institution for the sake of having linkages at the inception of a project. In situations where existing institutions must be involved, it is recommended that flexibility be encouraged in order to strengthen their supporting roles and to fully incorporate and empower local communities.

The importance of both communal and individual benefits

While community-based conservation tends to focus on whole communities deriving benefit from a given project, the KFSC project clearly demonstrated the importance of providing individual benefits as well. Community-based conservation tends to be romanticised at times in the assumptions it makes of indigenous communities. These assumptions centre around these communities being consensual in their governance and co-operative in an economic sense. On the basis of these assumptions, CBC projects often tend to focus mainly on providing benefits at the community level. As Gibson (1999) and Barrow and Murphree (1998) note in their analyses of the CAMPFIRE and other programmes, there is a case to be made for providing opportunities for individual benefit through these projects as well. In the case of the KFSC, individual motivation of

staff and community members closely associated with the project encouraged their involvement and their acceptance of increased roles within the project. At times, individual motivation was linked to financial remuneration. Other times, individual motivation was derived from training received or from the satisfaction gained through increased responsibility or position that arose as the project developed. It is the recognition of non-monetary motivations that is the contribution of this research to the suggestion that individual benefits be accorded some value in the development of projects. Though it may seem to some that placing benefits in the hands of a few is contrary to the concept of community benefit, the development of vocational skills or leadership traits in individuals will ultimately be of benefit to the whole community as these are shared with others.

First things first – the importance of achieving short-term developmental goals prior to addressing longer-term conservation goals

Initially, it was assumed that the KFSC project would be able to address both community development and conservation goals from the outset of the project. In reality, however, the logistics of developing the project, of gaining local support and of developing an institutional framework for communication and local empowerment took precedence in the short term. The focus on the human components of the project initially were interpreted as a shortcoming of the project and an indicator that conservation objectives were not being addressed. In retrospect, however, it is likely that without the establishment of the project as a respected part of the community, any attempts to introduce conservation motives would receive limited, if any positive response. Resistance and scepticism towards the activities of the Kenya Wildlife Service in the region illustrate the limited utility of an external agent in terms of encouraging stewardship of wildlife resources. Unless the KFSC project was viewed as a part of the community, it would also be seen as an external agent trying to influence local decision-making. In this light, it is apparent that the conservation mandate of the project would be served by first developing a solid foundation within the community. As a result of this research, it is suggested that the focus on the community and on socio-economic and human resource development in the short-term is necessary to build the institutions and foundations necessary to achieve a project's conservation objectives.

Financial self-sustainability and the endowment – reasons not to oppose conservation

Gibson (1999) observes that, in contrast to Zimbabwe where clear benefits flow from wildlife to local communities, pastoral Kenyans have no good economic reason not to oppose conservation activities. Where structures have been put in place in other countries, mainly in southern Africa, to generate local benefit from wildlife resources, the Kenyan situation has, since independence, progressively removed wildlife resource rights from local communities and placed control in the hands of central government or high-ranking personalities within government. Animosity towards protected areas and conservation are not without substance and the prevailing attitude certainly seems to favour alternative land-uses to biodiversity and habitat conservation.

The Kuku project, like a few others in Kenya (Salomons 2000), makes an attempt to demonstrate the potential of wildlife conservation as a source of economic and social benefit for the communities most in contact with these resources. Of immediate importance has been the creation of employment and provision of skills training for the membership of the Kuku Group Ranch. Although few have benefited in this way as a proportion of the total membership, the progress of these few is a step forward in developing a local talent pool that will benefit the community. Proceeds from the Kuku project that are now being used for scholarships, school infrastructure projects, and for other small projects as these are identified by the advisory committee are further evidence of immediate benefits from the project.

While short-term benefits stemming from international educational tour groups are now providing community members with reason to maintain the biodiversity of the region, the establishment of an endowment fund has been created as a deliberate effort to ensure that benefits carry on into the long term for the community. Given the high levels of political, economic and environmental stochasticity in much of Africa, including Kenya, a continuous flow of benefit via the project is not guaranteed. It is hoped that the endowment fund will eventually grow to enable the KFSC itself as well as its ongoing outreach into the community to weather periods of economic downturn.

By incorporating a long-term strategy for financial stability, it is suggested that CBC projects will be able to address socio-economic needs of its host communities in a reliable manner. By ensuring that these needs and expectations are catered for, such projects can then focus on the longer term conservation goals that will complete the overall vision of community-based conservation.

The importance of interdisciplinary linkages

In the case of the Kuku Field Studies Centre model, five factors often treated quite separately from a disciplinary perspective in addition to those highlighted above were found to be critical to ensure that the tenets of the grounded theory delineated above were achieved. These were:

1. Community development. The impetus for conservation on the Kuku Group Ranch will be socio-economic in nature, rather than conservation driven. This is increasingly the case as capitalist influences penetrate into the Maasai culture and the culture evolves to evaluate land and water resources in terms of monetary gain as opposed to the intrinsic value of their environment.
2. Conservation. Without a plan for conservation, the Kuku project would not qualify as a community-based conservation project. The challenge is to maintain an effective conservation strategy that is appropriate to biodiversity and socio-economic considerations simultaneously.
3. Education. This is crucial to communicating the linkage between conservation and community benefit stemming from the Kuku project. Without wildlife, visitors would not come to Kuku and there would be no community benefit resulting. Education ensures that people make this connection. Education is also

important in encouraging environmentally and culturally sustainable land-use choices are made in the community.

4. Financial self-sustainability. The financial self-sufficiency of the Kuku project ensures that community development and education programs can continue, thus increasing the probability that conservation aims will be promoted and that conservation will be looked upon as a favourable land-use. Additionally, financial independence ensures that donor dependency is avoided, thus bolstering local decision making as regards management and evolution of the Kuku project. The presence of an endowment fund for the project should help to ensure the long-term sustainability of the project.
5. External involvement. The role of the researcher in the Kuku project was instrumental in facilitating the project's evolution. The role was not to dictate directions of the project, but rather to provide support to the development of a project that would meet the expectations of the community as a whole. External involvement also included short-term donors, project evaluators, volunteers and clients, all of whom have played or continue to play an important role in the ongoing evolution of the project.

Drawing from the Kuku Field Studies Centre study, it is suggested that the interplay of the factors mentioned above plus the presence / development of a strong and supportive local institution are necessary elements for community-based conservation to develop and thrive. It is further recommended that CBC project must incorporate all of these factors to a greater or lesser extent in order for a given project or case study to develop in a stable and solid manner. While the extent to which various factors are accorded importance may vary somewhat with differing projects and local conditions, it is suggested that the conditions offered above are universal and fundamental to community-based conservation initiatives.

Contributions to community-based development practice

Besides its contribution to the academic body of knowledge, this research will contribute greatly to a limited body of work available detailing the mechanisms, time frame, successes and shortcomings of a practical application of community based conservation. While published information on the theory behind community-based conservation is considerable, there is limited documentation of projects that exist or have been tried. This dissertation takes pains to detail the process utilised in setting up the Kuku Field Studies Centre project. Milestones were recorded in order to provide a working model from which practitioners can glean information or can use as a foundation on which to construct similar projects that have been adapted to suit local conditions, both ecological and social. Appendix B contains additional information concerning the role of the KFSC in the realm of community development.

A further contribution of the research is the illustration of a need to acknowledge that both short- and long-term goals exist in terms of community development. Through the provision of contributions through employment and small injections of funds into local education, members of the Group Ranch were able to satisfy short-term expectations of

tangible benefits. The establishment of an endowment fund for the community addresses the long-term sustainability and provision of benefit to the community from a conservation project. It is this long-term element that seems so often to be lacking in development schemes, as evidenced by failed projects across the African continent.

Linked to the economic benefits stemming from the project is the importance of creating a realistic level of expectation concerning benefits stemming from a project. In the case of the Kuku Centre, benefits to the community were stated from the outset as being uncertain, with the researcher presenting the project as having an option to generate benefits. With low expectation in the community, the project evolved in an atmosphere free of pressure to meet high community expectations. This concurs with the findings of Milton (2000) in South Africa.

The position of the researcher in the midst of the model's development emphasises the role of external agents as catalysts / facilitators / mentors. A clear role was played in instigating and assisting the model to develop, though at no point was the researcher in a position to make decisions that would direct the model's development and its adaptation to the Maasai approach to development. While ideas were certainly contributed and suggestions made concerning issues and challenges that arose, these contributions were considered alongside those made by others. Ultimately, decisions were made by the community and in accordance with cultural norms. The position of the researcher was to stimulate the discussions, debates and initiatives that would led to the building of the Kuku Field Studies Centre as a working model for community-based conservation. This is in agreement with the findings of Metcalfe (1996), whose review of the CAMPFIRE program in Zimbabwe acknowledges the role of external agents and agencies in developing CBC projects.

Time sensitivity is a further contribution of this research to the field of community development. The ability of the project to be guided by local rhythms rather than the pulse of external development agencies contributed substantially to local support of the project. The pace was such that members of the Group Ranch felt in control of the Centre's development and were able to internalise the process. The project was not parachuted into place, but developed out of the community and according to local time frames. Members could understand the project, had defined its aims and goals, and were able to work towards them in an informed manner. Time is often a limited resource in development, but in community-based development, it appears to be a necessity.

Contributions to the Kuku Group Ranch Maasai

For the immediate participants in this research - namely the members of the Kuku Group Ranch - the development of the Kuku Field Studies Centre illustrated an option for development that had previously been only vaguely conceptualised through the words of Kenya Wildlife Service officials who claimed that wildlife could provide economic benefits to communities. Through the project, a community of Maasai persons were able to glimpse - sceptically at first, but then with increasing hope - the ability of biodiversity conservation to live up to these claims. In no way is the Kuku model completely

successful in stemming destructive land uses in the region, but a conservation- and development minded option has been demonstrated. Ultimately, decisions will be left to the landholders, but at the very least, the Kuku model has opened the eyes of the Kuku Group Ranch members to a fuller spectrum of options from which to choose land-use strategies into the future. Through the addition of an option that permits a convergence of conservation and development priorities, Group Ranch members will be able to base future decisions upon a broader knowledge base. This can only be positive for development and for conservation in the region.

As a result of this research, the Kuku Group Ranch members and members of neighbouring group ranches who now are starting community-based conservation projects of their own were empowered to develop a locally appropriate strategy for development. The Kuku community recognised that development and decision-making did not have to be dictated from external sources, but that solutions that embrace globalisation as well as maintaining respect for culture and the environment on which culture has developed are possible.

Recommendations and future directions

The derivation of a grounded theory of community-based conservation that is supported by a case study contributes a more solid foundation to this emerging field of conservation biology. A number of recommendations are proposed as follows that will further test this theory and contribute to a better understanding of the role that community-based conservation could play in biodiversity protection globally. These are as follows:
Following from the development and evaluation of the Kuku Field Studies Centre in southern Kenya, the following recommendations are made with the intention of improving the effectiveness of community-based conservation projects in terms of community as well as environmental benefit in the future:

For researchers in community-based conservation:

i) The integration of conservation with development is clearly demonstrated in this dissertation. By recognising the social, economic and conservation elements of these types of projects, their fullest potential can be realised.

ii) Ensure that monitoring and evaluation of projects is as extensive and inclusive as possible. Many evaluations are undertaken which, for lack of time, money or interest, are incomplete and potentially erroneous in their conclusions. An evaluation must include elements of economics, human resources, social response and environmental effect to be fully representative of the success/failure of a project.

iii) The grounded theory developed in through the Kuku Field Studies Centre suggests a number of critical elements that will contribute to a solid foundation for community-based conservation initiatives. The theory can thus be tested by

reviewing past or present projects to determine the existence of these elements and whether there is a correlation between their presence and the strength of the projects. Additional testing of the hypothesis could be done through their inclusion in future projects.

iv) The relative youth of the Kuku Field Studies project precludes declaring it a successful model for community-based conservation. While the project is successful at this time, a programme of continuous evaluation followed and resultant recommendations for improvement is necessary.

v) Related to the short time period from project inception to present is the inability to determine what effect the Kuku Field Studies Centre has had on environmental conservation in the Tsavo-Amboseli region. Follow-up with the intention of establishing a link between the project and conservation (perhaps wildlife / plant populations and diversity, or community perceptions and attitudes towards natural resources as a result of education programmes) is another avenue for exploration.

vi) Evaluations should be, wherever possible, undertaken by individuals not involved with a given community-based conservation project. Kuku Field Studies Centre evaluations suffer from this flaw, as do a considerable number of other projects of this type. An easily followed system of evaluation is proposed in this dissertation that could be used by an external and impartial reviewer. There is a role for universities in performing these evaluations.

vii) Replication of the Kuku Field Studies Centre as a model of community-based conservation should be undertaken through the development of other sites in East Africa and beyond. The model would be especially suitable for other situations involving indigenous peoples.

For practitioners of community-based conservation:

i) Planning for the future via the incorporation of a permanent endowment fund will ensure that communities will perpetually benefit from a given project. Community-based conservation need not focus solely on short term benefits, but on the long term as well.

ii) Ensure that training and education equally incorporated into a community-based conservation project. While training will ensure that individuals are capable of performing functions necessary to run a project, longer term investment in education will ensure that:
- individuals grow to assume ever-changing roles and increasing responsibilities within a project
- local ownership is entrenched in the project through the value placed on it as a source of lasting benefit to people

- the longevity of a project is enhanced within a community by virtue of people valuing the philosophy and long term goals of community development and conservation
- individuals receiving training will further develop to become trainers and educators themselves, thus passing on skills and building capacity within the community

Conclusion

Community-based conservation in itself is unlikely to be a solution to conflicts between socio-economic development and biodiversity conservation objectives in Africa and globally. Rather, it is an important tool for conservation practitioners, and one that has considerable merit in situations where the human-biodiversity interface is narrow. Such is the case in many tropical countries where the land requirements of human population growth is in conflict with the land base necessary to support biodiversity conservation. An additional use for CBC, as demonstrated through this research, is in situations where local community institutions have a direct and strong effect upon the future of the local environment. Such is the case with many indigenous peoples globally.

Through the Kuku Field Studies Centre research, a number of key elements have been identified that practitioners of CBC are suggested to incorporate in their own work. These elements could also be utilised as indicators for evaluating the effectiveness of current and future initiatives in the field.

The model of the Kuku Field Studies Centre raises the importance of community-based conservation as a tool for the field of conservation biology. Through this research, a number of important factors have come to light that, it is suggested, are important ingredients for any community-based conservation project. The most critical of these are the selection of a time frame, budget and training programme that is appropriate for a given community. The involvement of a facilitator/mentor for a CBC initiative is also important, helping to create an environment conducive to co-operation and the selection or creation of locally-based institutions to support the initiative in the long term.

Through the Kuku model and the grounded theory evolved from it, a contribution has been made to Community-based conservation on a global scale. The development of initiatives that are mindful of the critical factors outlined earlier in this chapter should, with adaptations to local cultural and environmental circumstances, have a global appeal. The establishment of CBC initiatives using these factors as guidelines will serve to support this hypothesis.

Literature cited

Barrow, E. and M. Murphree. 1998. Community conservation from concept to practice: A practical framework. Working Paper 8, Institute for Development Policy and Management, University of Manchester: UK.

Ghimire, K.B. and M.P. Pimbert. 1997. Social change and conservation: an overview of issues and concepts. In Ghimire, K.B. and M.P. Pimbert (eds.). Social change and conservation: environment, politics and impacts of national parks and protected areas. Earthscan: London, UK.

Gibson, C. 1999. Politicians and poachers: the political economics on wildlife policy in Africa. Cambridge University Press: UK.

Hackel, J.D. 1999. Community conservation and the future of Africa's wildlife. Conservation Biology 13(4): 726-734.

Inamder, A., de Jode, H., Lindsay, K. and S. Cobb. 1999. Capitalising on nature: protected areas management. Science 283(5409): 1856-1857.

Mehta, J.N. and S.R. Kellert. 1998. Local attitudes toward community-based conservation policy and programmes in Nepal: a case study in the Makulu-Saran conservation area. Environmental Conservation 25(4): 320-333.

Metcalfe, S. 1996. Whose resources are at stake: community-based conservation and community self-governance. Rural Extension Bulletin 10: 14-18.

Milton, S.J. 2000. Community-based conservation: exploring positive feedback between economic development and conservation. South African Journal of Science 96(3): 119-120.

Salomons, M.J. 2000. Evaluating community conservation in Kenya. MSc. Thesis. University of Alberta: Edmonton.

Western, D. 1994. Vision of the future: The new focus of conservation. In Western, D., Wright, R.M. and S. Strum (eds.). Natural connections: perspectives in community-based conservation. Island Press: Washington DC.

World Conservation Union. 1980. World Conservation Strategy: living resource conservation for sustainable development. Gland: Switzerland.

APPENDICES

Appendix A - Open ended questions posed by the community survey evaluating the Kuku Field Studies Centre project

Awareness

1. What level of awareness does the individual have of the project? Its aims?

2. What does the individual perceive as the goals /aims of the project?

3. Does the individual support the project? To what extent? If not, why not?

Benefits

4. Who does the individual perceive as benefiting from the project? What potential benefits could the project bring to the individual, the family, and the community? Does the individual think these will be achieved? When?

Costs

5. Who bears the costs (both economic and non-economic) of the project? What does the individual see as costs to the individual, the family, and the community?

Improvements

6. Does the individual see any linkage between the protection of the local environment (wildlife, water, trees, etc.) and the success of the project? If the wildlife, water, trees, small plants, etc. were depleted, would the project succeed? Is the project contributing enough to encourage conservation?

7. Do you feel that the project is being run as a community project? If not, whose project is it? Are you able to give opinion, take a role in decisions and become more involved?

8. How could the project be better managed as a community project?

Appendix B – Contributions of the Kuku Field Studies Centre Model to Community Development

Introduction

The KFSC has definitely become an accepted part of the landscape at least in the western portion of the Kuku Group Ranch. This is perhaps the single most important result of the evaluation process, as it provides a solid footing on which to continue to build education, community development and awareness programmes. Without acceptance in the community, it is very difficult to be respected and to gain local recognition that programmes offered are acting in the best interests of the community.

Though the KFSC has had some successes and an equal or greater number of shortcomings thus far in its development, it is fair to say that the potential has been demonstrated for it to become a successful and replicable model for community-based conservation and development in an indigenous culture.

Objectives

The Kuku Centre will be discussed in the context of community development and then, more specifically in terms of four areas related to community development in which it is most involved, these being tourism, cultural self-determination, education and conservation. Through this discussion, the contributions of the project to community development will become apparent. The objective, then, is:

- To show the potential that exists to preserve not only natural environments but also the cultures that depend upon them through the model that evolves.

Community Development

The foundation of the KFSC project is its intent to provide for community determined needs via revenues generated from conservation education programmes. At all stages in the community development process, the Centre and projects undertaken in partnership with it are continuously linked to the presence of wildlife in the region. Further, the continued presence of wildlife is linked to the practice of responsible stewardship of water and land resources by the indigenous people of the region.

Community involvement in the KFSC was initially hesitant and slow to materialise. Due to exploitative land use agreements made by the Kuku Group Ranch and European tour operators in the recent past, there was a strong feeling of scepticism amongst many that the project would also develop into an exploitative relationship. A further reason for the slow acceptance of the project is the nature of the Maasai people themselves. Rather than jump to any immediate conclusions, people choose to observe from a distance until sufficient information has been accumulated and then form an opinion. A number of

people chose to observe their elders, taking the cue from them concerning what to think of the project. As a result, it was a full two years from the introduction of the concept to the Kuku Group Ranch in August 1995 that it was finally received officially as a member of the community.

The formation of a 15 member advisory panel to the KFSC was an important milestone towards the project living up to its claim of being community based. Through discussions concerning the Centre and its place in the community, it has been agreed that the advisory committee itself must be the key player in determining community needs and in motivating people to take steps to meet these needs. Rather than the Centre suggest various projects or be seen to be pushing any particular form of development, a decision was made by Maasai staff to purposely refrain from making suggestions as to the form of assistance the Centre might provide until a clearly defined need was articulated by the community. Such a need was articulated in April 1998, when the committee met to invite the KFSC to participate in the establishment of a clinic in the region. A community fundraiser is to be held after which time the AEEF will contribute funds accumulating from the first 2 years of the Kuku project's existence to meet the financial needs of the project. Community members will provide labour for the construction of the building, while the AEEF and the Kuku Group Ranch Committee jointly presented the proposal to the Kajiado District government for approval in May 1998. While the clinic project is still in its infancy, the grassroots initiative shown augurs well for its success.

The community clinic project outlined above illustrates the model that the KFSC intends to take in facilitating community development in the region. Instead of being seen as the donor organisation, providing finances and direction from outside the region, the KFSC is being treated as a partner in development. The Centre will be consulted for a financial contribution only after the community has done its own fundraising. Assistance in the management of the project is at the request of the community, which sees the Centre's staff as having the proper skills to ensure that the project is carried out in an efficient and transparent manner. Rather than creating or prolonging dependence, as so many development projects do, the clinic is a result of a co-operative and community driven initiative. What will result is a project which has been chosen by local people, represents a financial contribution of local people, was built with local labour and will be managed by the local people in conjunction with the KFSC and the Kenyan Ministry of Health. It is anticipated that future projects will take this same approach. The Centre is simply the facilitator of development, rather than the director of it.

Following from the last comment, an important distinction in the contribution of the KFSC to the community is that it facilitates, rather than dictates, development and change in the region. By virtue of the international component to the KFSC in terms of its direction and student visitors, the Centre possesses the ability to bias change in many ways. This 'power' to direct change has been of concern to the staff of the KFSC since its inception. A great many staff meetings concerned such topics as 'How will a particular decision affect the community?', 'Will this decision create dependency of the community upon the Centre in any way?' or 'Is the approach of the Centre towards this issue in

keeping with the Maasai approach?'. While the Centre certainly does play a role in identifying directions and options for the community in terms of development directions or priorities, a conscious effort is made to ensure that the decisions themselves are made within the community. The contribution of Maasai staff in this context is critical to the Centre's ability to walk this fine line.

A further means by which the KFSC makes a contribution to the Kuku Group Ranch is through the establishment of an endowment fund which will provide an ongoing source of funding for development projects[7]. Approximately ten percent of all revenues generated by the KFSC through student visitation is placed in the endowment, which earns approximately 20% interest per annum. As yet, interest from this fund has been reinvested, although a portion of interest earned will eventually be used for community-determined uses. Regardless of the Centre's success in any given year, a visible display of the project's value will be provided to the community. The endowment has not yet been accorded any great importance by the community, at least in part due to the fact that the concept is not clearly understood. Those that are aware of it, however, including the Centre's own staff, tend not to be terribly interested in it, due in part to their satisfaction that the project is contributing in other ways to the community. While at the moment there appears no real need for additional support, should that time come, the endowment will be available.

With the acceptance of the KFSC as a full member of the Kuku Group Ranch community came a frequent flow of visitors to the Centre. This flow has been incremented with the completion of a borrowing library targeted primarily at local school students. Students come from over seven kilometres on Saturday mornings to exchange books, meet student groups and spend time with the staff on various environmental projects and activities. The library, composed of books contributed from international student groups, is another much appreciated contribution of the Centre to the community, given that the average school library in the region consists of only one or two shelves of books for hundreds of students.

A further element of community development stemming from the project is the training of local people in the skills necessary to operate the KFSC. The Centre is currently one of the major employers on the Group Ranch, with seven full time staff and numerous part time/casual employees. Initially, none of the staff had any formal training beyond secondary school. After two years of operation, trained instructors are leading international and local student groups on their own and all support (cooking, cleaning) is being accomplished without any external assistance (initially, cooks were hired from outside of the Group Ranch, as no one was skilled enough to take on this job alone). The Centre's cook is now training younger Maasai in this skill, while Centre instructors have

[7] The endowment fund concept is currently being used around the Bwindi Impenetrable Forest in south-western Uganda. The United Nations Environment Program has created an endowment of over $4 million US to provide for community projects in the area surrounding the largest remaining Mountain gorilla population in Africa.

been approached by a Ugandan environmental education centre to provide training according to the model which the Kuku Centre provides.

In April 1998, the Maasai staff at the KFSC were consulted with regards to a lease arrangement by a tourism officer on the eastern side of the Group Ranch. The leaseholder of this project had initiated 'a project to train game scouts and rangers' at the same time as the KFSC lease negotiations were progressing. In the interim, however, the leaseholder, whether intentional or not, abandoned the concept of a training centre and began building a very exclusive tourist lodge. The leased land and unfinished structures, leased at an annual amount of approximately USD 2,250, were subsequently sub-let to an operator at USD 20,000 per year. Understandably, the community were concerned about the re-valuation of land and the obvious profit which the original leaseholder was enjoying. This sort of exploitation of the Group Ranch is precisely the type of situation which created an initial hesitancy of the Group Ranch committee towards approving the Kuku project's establishment. It is heartening to find, 3 years after the initial contact was made, that the Group Ranch is no longer sceptical of the Centre, but is turning to its staff for advice and opinion concerning key issues. The position of the Centre in the community is definitely solidified by situations such as this. A distinction has been drawn between the traditional tourism project and the community orientation of the KFSC project. Such a recognition is perhaps the most pertinent evidence that the project is moving in a healthy direction.

While at the outset community response to the Kuku project's establishment was noncommittal, the advice of local elders to be patient, for 'every long journey starts with a small step', was certainly correct. A local approach which centred on slowly gaining community acceptance through small gestures eventually won over support. The gaining of support through small, inexpensive measures (donation of books to a school, welcoming local students to the Centre to learn alongside international students, giving people a lift into town) is an important factor in the avoidance of an early situation of dependency being created around the project. Community members were given a clear message that the Centre was there for the community, and would support community initiatives and respond to needs, but only if local people were sufficiently motivated to take the initiative in projects and schemes themselves. By the time the Foundation had raised sufficient funds to assist in financing a major project in the community, ground rules had already been set out, the key rule being that the Centre would not instigate community projects but would encourage and respond to community-inspired initiatives. As a result, the KFSC is, in the area of community development, considered a partner in development, rather than a donor – an important distinction in a country where donor handouts are the norm and too many development projects fail due to lack of community subscription to them.

Tourism

The Africa of the tourist and the real Africa are very different. To a typical tourist, Africa is a tropical beach or a haven for wildlife. Everywhere a person goes, there is a wildlife reserve or National Park at the end of the road full of wild animals. Comfortable

lodges or luxurious tented camps guarantee comfort at the end of a long, dusty day. For those who find the poor state of roads to be too difficult, air travel to all National Parks ensures a smooth and rapid journey from park to park. In the period of two weeks, a tourist will return home with wonderful photographs and tales of their whirlwind trip through Kenya.

If a typical tourist were asked if they met many African people on their safari, the answer would of course be 'yes'. Indeed, at every hotel or camp there were many Africans - most tourist lodges have a staff:visitor ratio of at least 1:1, and this rises if the lodge is operating below capacity. As for witnessing traditional cultures, this was also incorporated into the journey, as video footage of traditional dancing at a roadside 'cultural centre' attests to. It doesn't matter that women were dancing to songs which are traditionally the domain of men only, or that with every step taken in the cultural village, someone was trying to sell a bracelet, necklace or other curio. This was all part of the experience. It is the way African people live.

That is the tourist's view of Africa.

There is a second Africa. The real Africa, where the very wildlife that tourists are coming to see is in grave danger of disappearing to poaching - not as much for profit as for subsistence - or due to habitat destruction. An Africa which is as much about people as it is wildlife. People of varying cultural backgrounds, holding diverse opinions, and facing numerous economic, social and political issues. An Africa torn between the indigenous way of life, where communities thrive and the extended family is of premier importance, and the westernised lifestyle, valuing individual wealth and success over tradition.

This is the Africa missed by the tourist.

By virtue of its placement in the heart of an indigenous Maasai community, the Kuku Field Studies Centre is able to present a much more rounded view of Africa than a typical safari would. The concept of Kuku is to remove the clients from the world to which they are accustomed and immerse them in a lifestyle much more attuned to the world around them. Having reduced such creature comforts as running water, electricity, television and radio (guests are asked to put their walkmans away) and having rid themselves of the burden of timekeeping (through the removal of watches), visitors are much better prepared to absorb the many lessons which the local environment and people have to teach. Rather than spending whole days in a vehicle, as most tourists do, visitors to the KFSC are provided a programme which emphasises walking. This includes the opportunity to walk in the Kimana Community Wildlife Sanctuary, spotting African wildlife on foot. Foot safaris such as this are a rarity in Kenya and throughout Africa, however the relationship of the Centre with the Kimana Sanctuary has made this an option.

Tourist activities at the KFSC are highly education-oriented. A typical programme, be it three days or three weeks, would include activities focusing on the indigenous way of life

and the indigenous environment before turning to look at the way various forces of change have affected the local region (Appendix C). The first third of a typical programme would centre on indigenous lifestyles demonstrated through the life experiences of Centre staff as well as visiting Maasai bomas (villages). A similar focus on the indigenous environment is achieved through a walk through the Kimana Sanctuary, while the evolution and dependence of the Maasai culture is connected to the natural environment through the interpretative skills of instructors. The importance of nature as a source of medicine, building material, clothing, water and food supplements is readily grasped as the programme unfolds.

Having provided visitors with a basic understanding of the Maasai and their environment, the focus of the programme changes to investigate the role of various external agents of change on the region. Through visits to schools, towns, market places, medical facilities, a National Park and a tourist lodge, visitors are challenged to see these elements in terms of how they affect the environment and indigenous culture. Every effort is made to present these at face value, without bias, in order that the visitors may draw their own conclusions about the benefits and costs of these various agents in the region. In addition to gaining a perspective on the region which is much deeper and accurate than that received by the typical tourist, visitors are also challenged by what they experience to think about their own culture and their own interactions with the environment and other cultures. The experience thus becomes one with direct relevance to their lives and as such will stay with them for some time.

While the typical tourist returns home after a safari with many pictures, a person who has had a deeper experience returns home with stories about every photograph, with the ability to explain and interpret for others their memories. More importantly, they become an ambassador for countries such as Kenya which depend to a very great extent upon tourism for their domestic economy, and an ambassador of indigenous cultures such as that of the Maasai.

On the part of the local community, the presence of tourists who are genuinely interested in learning from the area and its people is heartily welcomed. Interactions with local people tend to become a dialog, with the Maasai asking as many questions of visitors as do the guests. Time together is valued by local people, especially as they would otherwise have no way of finding out what life is like outside of the region.

Visitors also do much to shatter stereotypes, both positive and negative, about the world beyond Tsavo-Amboseli. Often, Maasai people are surprised to find that poverty and social problems exist in developed countries, as their image of these countries is of wealth and success, as is seen in the well-fed, camera and jewellery-sporting tourists who pass by en route from Tsavo to Amboseli. For the Maasai, the interest shown by visitors and the positive comments offered concerning the indigenous culture is important in balancing out the negative perception which is often conveyed regarding the Maasai lifestyle (see Cultural Determination).

The Kuku Field Studies Centre also goes some distance in shattering the common perception that Africa is a very expensive place to visit. Of course, the plane fare is costly, ranging from USD 1,300-2,000 depending on the season, but once in Kenya, visitors pay USD 65 per day for everything, including transportation, accommodation, food, programme fees and park fees. This is very favourable when compared to the cost of a holiday in North America and very inexpensive when compared to travel in Europe.

The mass tourism offering of lodges, high mileage and wildlife oriented safaris not only leaves visitors to Kenya with a limited view of the country, but it also leaves Kenyans themselves with a narrow view of the potential contribution of tourism to their country. Asked of the benefit of tourism to Kenya, most Kenyans would reply that tourism earns considerable revenue for the country. Continuing along with the conversation, however, one would find that few Kenyans actually feel that tourism benefits them directly. An investigation into the destination of earnings will usually reveal that lodges and transport arrangements are provided by multinational companies or successful businessmen in Nairobi. A portion, amounting to approximately twenty percent of total revenue earnings, is remitted to the Kenya taxation department. A further portion is used for operating the lodges, vans and other elements of the tourism product. It is this portion which would be expected to be of most direct benefit to individual Kenyans through employment, supplies acquisition or lease arrangements with communities. The reality, however, is that local benefit is very rarely realised (Din et al. 1997; Nepal 1997).

Using a typical safari lodge as an example, the limited local benefit of tourism will become clear. Traditionally, lodges have been established within National Parks or National Reserves, with the operator making an annual lease payment to the Kenya Wildlife Service or to the local government of the area in the case of a National Reserve. In the former case, people surrounding the parks are circumvented altogether, while in the latter case, mismanagement and misappropriation of funds is an all too common scenario. In the past decade, a number of operators have negotiated with Maasai Group ranches and other communities owning high quality wildlife habitat as a means of finding a quieter, more exclusive setting for a lodge or camp. While this would seem to be the most effective way of ensuring that tourism revenues were shared at a local level, a number of arrangements that have been made exploit the ignorance of community elders of market values for land and the potential for tourism earnings. It is not uncommon for a luxury camp to charge USD 300 per person per night yet pay the landowner a lease of USD 2,000 or less per year. Great potential exists for local benefit but it is too often not realised locally.

Having seen that lease arrangements rarely translate into individual benefit, another option for the safari lodge to provide local benefit might be through employment. Again, however, the potential is unrealised. The reason for this is usually either that the owner gives most positions to people from his/her own ethnic group or that trained staff is placed in the unit from elsewhere in the country. In the case of Maasai areas, which contain the majority of tourist lodges in the country (apart from the coast), a lack of educated Maasai generally limits the options for local hiring even if an operator wished

this to happen. Token efforts to hire locally often include the employment of a local group of Morans to provide evening dancing for guests.

A final opportunity for the typical tourist lodge to share benefits with the community is through purchasing goods and services from the region. Especially in the case of properties operated within a larger group or chain, this rarely occurs, as purchasing is done through Nairobi with supplies transported to lodges on a weekly basis. Crafts and curios for gift shops are also purchased centrally and again, local people are cut off from another avenue of potential benefit.

While not immediately apparent, the structure of Kenya's tourism industry is heavily stacked to benefit a few at the expense of many. While owners in cities or abroad utilise land and wildlife resources for tourism purposes and profits, it is the Maasai people and others who own wildlife-rich lands who have sacrificed access to land and water resources, or who are being encouraged to forego alternative land uses for the sake of tourism. With a growing need for money as materialism begins to take a hold in rural areas, however, these custodians of the environment and wildlife may not be prepared to carry on making such sacrifices in perpetuity. This has been seen in the conversion of wildlife areas to wheat farms in the Maasai Mara (Opala 1996) and in the increased interest shown in irrigated agriculture in the Tsavo-Amboseli region.

From the above example, it should be evident that tourism does not necessarily benefit all Kenyans. In semi-arid areas, home to the majority of Kenya's wildlife species, this is especially true. Nomadic groups, most notably the Maasai, are almost completely bypassed by tourism benefit in spite of their 'hosting' most of Kenya's wildlife on their ethnic lands (Berger et al. 1996). Under current practices of minimal benefit sharing with such people, it is understandable that considerable inroads are being made by other land uses (especially agriculture) in these areas, as these provide greater benefits than does tourism. Unfortunately, land uses such as agriculture are not compatible with either pastoralism or wildlife conservation, as is seen by the rising incidence of human-wildlife conflicts in the Tsavo-Amboseli area since agriculture began to increase[8]. With time, at current rates of land conversion, optimal land will have been taken over for agriculture in the not too distant future, severely limiting wildlife and cattle access to perennial water and emergency grazing areas outside of National Parks.

As a monetary society continues to establish a presence in the Tsavo-Amboseli region, there is little alternative for proponents of cultural survival/pastoralism and wildlife conservation but to demonstrate on a local level that traditional and ecologically sustainable land uses can also provide benefit to the Maasai Group Ranches. The Kenya Wildlife Service's revenue sharing program has made some inroads towards meeting this challenge, although the feeling of ownership and control over the wildlife resource has

[8] Traditionally, the most common human-wildlife conflict has been hippopotamus attacks on people as they wash or fetch drinking water from rivers. With the introduction of agriculture in the area, Zebra and Elephant raids on farms have become the most reported incidents in the Tsavo-Amboseli region.

not accompanied this endeavour. The linkage of the revenue share to tourism is also quite vague for many on the Group Ranches, as they see the payments as being a KWS attempt to keep the government's animals safe rather than a profit share.

The Kuku Centre intends to make the linkage between tourism and community benefit much more directly evident. With no major sponsor for the first two years since its inception, the building of the Centre and limited community projects have been possible as a direct result of international student tour groups coming to the Centre. The construction of a tangible camp and the provision of scholarships, books and relief food to neighbouring bomas is evidence of the potential for tourism to provide rewards to communities in rich wildlife areas. With growth of the Centre's reputation, projects will continue to provide a very real demonstration of this potential.

The KFSC is not the ultimate in generating benefit from tourism. The primary aim of the Centre is to provide educational opportunities for Kenyan and international students. As such, fees are kept to a minimum in order to permit as wide a range of students as possible to visit the Centre. In attempting to maximise returns to the community, however, local people are seeing the returns of tourism. Through extrapolation, it is hoped that leaders will eventually be able to see that their land is worth much more than the USD 2,000 annual leases which luxury lodges and camps pay to Group Ranches. The Kuku Centre, then , is but the tip of the iceberg in terms of maximisation of benefits of tourism and wildlife-related activities in the region. The role of the KFSC is to sensitise local people to the true value of this resource and to educate local people on how to achieve the fullest benefits.

In operating a tourism enterprise that is of benefit to local people, the KFSC in turn receives privileged opportunities to introduce its visitors to the Maasai culture and local practices on a very intimate level. Local staff orchestrate a rapid immersion of visitors into the rhythms of the community and, with a combination of teaching styles ranging from lectures to direct interaction with neighbours in their bomas, visitors are introduced to the human element of African cultures which would otherwise pass them by on a typical safari.

Through the KFSC project, knowledge is transferred both ways as visitors come to meet local people as friends rather than as photographic subjects or video stars. This is in direct contrast to the typical experience, where visitors are taken, for a price, to observe a 'canned' version of culture. In such situations, photographs cost extra.

The development of a tourism product that goes beyond superficial encounters with local people has led to a further, unexpected benefit to the Kuku community. A number of people, on returning home, have taken upon themselves to either put together a package of books and other needs items identified during their visit, or even to make a financial donation individually or as a result of a fundraiser held in their own community/school. The experience is able to transcend the distance and return to a person's normal life. This is perhaps the strongest indication of the value of a more interactive version of tourism that the KFSC is encouraging in Kenya.

Cultural self-determination

The history of the Maasai people in Kenya is peripheral to the modernisation trend exhibited by the mainstream of society. Over the colonisation period, the nomadic Maasai had continually been forced out of highly productive areas of potential agriculture to semi-arid lands on the margins of these areas. Only in the past 50 years have the Maasai reached the Kilimanjaro region, where they have proudly resisted the various changes which other Kenyans have adopted in the name of modernisation. According to many Maasai, the resistance to join Kenyans in modernisation resulted in the polarisation of and discrimination against the this and other pastoral groups, the consequence being that, while most other ethnic groups in Kenya have all but lost their traditional cultural practices, the Maasai have been able to proudly hold on to their traditional lifestyles. While this is considered backwards by many, Kenyan visitors to the Centre have been struck with respect for the Maasai, as they have managed to retain their culture in the face of change.

At the initiation of the project, it was evident that the general opinion of the Maasai held by Kenyans had influenced some Maasai to accept that they were living in a cultural backwater. Especially young Maasai, including the Centre's own instructors, believed that the culture had to change if there was to be any future for the people. The initial response to suggestions that the culture would in fact be as important an element in Centre programmes as the wildlife was "Why would anyone be interested?". While Centre staff did develop programmes that highlighted the lifestyle of the culture, they could not believe that anyone would look at such practices as cattle herding or reliance on resources from nature instead of from a store with anything but disdain.

Student admiration and respect for the traditions of the culture have led to a growing sense of pride amongst Maasai in the vicinity in the value of their own culture. Whereas one instructor initially was hesitant to explain the construction of the traditional cow dung hut to students, today he proudly drives home the point that his house was built completely of locally available materials that cost him nothing.

Generating a more balanced view of Maasai culture amongst the Maasai themselves is increasingly becoming an important factor that could affect the survival of the culture itself. Change in the Tsavo-Amboseli region has been rapid in the past fifteen years and continues to accelerate. Some notable indicators of change are described as follows:

An important indicator of the beginning of considerable external influence in the community is in diet. Local women recall that the maize meal staple of Kenya's sedentary communities only appeared on the Kuku Group Ranch twelve years ago. The significance of the introduction of agricultural produce is just that – that the traditional diet of milk, blood, meat and indigenous herbs was about to be supplemented, and then replaced, by agricultural products. In order to sustain this change of diet, the Maasai began to welcome non-Maasai farmers into the region. The stage was set for the changes in land use patterns that are a threat to wildlife and pastoralism today.

In the past three years, the growth of agriculture has been noticeable on the Kuku Group Ranch. In addition to irrigation schemes being set up along watercourses, whether seasonal or perennial, people are now irrigating with water originating from broken air breather valves of the water pipeline that takes water from Kilimanjaro to Machakos. An irrigation scheme was started directly across the stream which is the KFSC border with a neighbouring group ranch. This has been operational since August 1997, though no harvests have come from this scheme as yet due to extremes of weather. Irrigation of areas once considered too unpredictable (such as water pipeline breakages which are regularly fixed) or too remote (around the Centre) are now considered appropriate sites for irrigation and the production of vegetables. With this non-traditional land use becoming so lucrative, a challenge is being set up between pastoralists and farmers for prime land and access to water. A challenge to pastoralism is in effect a challenge to the Maasai culture itself.

The Kilimanjaro-Machakos water pipeline has inadvertently led to a major shift in cultural behaviour on the Group Ranch. Broken air valves along the pipeline, especially those which are irreparable, have created more or less permanent sources of water along the western boundary of the Kuku Group Ranch. A consequence of this has been the establishment of permanent bomas along the pipeline's path. Some bomas have been in the same spot and continuously inhabited for ten years. Concentration of population (human and especially domestic stock) along the pipeline has created situations of overgrazing (indicated by unpalatable herbs replacing rich grazing grasses such as *Themeda triandra*). While providing a convenient water supply, the increasing settlement is causing an impoverished situation by reducing the health of the surrounding land base.

Concerning other external agents influencing the indigenous culture, the church has of course been instrumental in leading to certain changes in the region. Christianity itself has not been a major factor in the erosion of culture, due to the Maasai being a monotheistic people. Oral tradition traces the roots of the Maasai back to one of the twelve tribes of Israel, hence missionaries to the area brought with them an account which the Maasai were somewhat familiar with and could easily relate to. The major impact of mission activity in the region was the establishment of schools and the introduction of formalised education to the culture. Education has certainly been cause for much debate in the region, with two sides being taken towards its value. On one hand, education is evil, taking children away from families and thus reducing the labour pool available for animal husbandry. According to this view, formal education teaches nothing which can help a child to cope in the world of the Maasai. Rather than spending her/his time in school, a child should be getting an education from the elders, by becoming familiar with the lie of the land and the correct use of local resources for sustaining life. People subscribing to this opinion begrudgingly comply with truancy laws by sending their least valued children – the ones they feel are for one reason or another least capable of contributing productively to the family.

On the other hand, a number of Maasai see education as an absolute necessity which will help children, families and the community to cope with change. These people are often those who have somehow come into contact with the world outside of the Maasai culture, be it through travel, business, education or church. While it is unlikely that they would send all their children to school in order to maintain their traditional lifestyle, a high proportion of children of this group will be sent to school. The range of attitudes of people sending children to school ranges from people looking from the point of view of ensuring that children will be able to live a Maasai lifestyle and be able to cope with westernisation to those who are preparing their children to abandon an archaic culture which will not survive much longer.

Urbanisation is yet another external force which has affected the indigenous lifestyle of the Maasai in the Tsavo-Amboseli region. Although most Maasai have shunned actually relocating to towns, frequent visitation is undertaken, especially by men. Given that most activities in an urban society require money, Maasai who wish to join this society also must gain money in some way. This is usually achieved through selling cattle or goats at a weekly auction. Earnings are theoretically used for the purchase of staple foods, cloth or other necessities for the family. The reality for many, however, is that money is spent in bars or on prostitutes in the towns, with little benefit flowing back to the family. A visit to a town in the region on market day provides substantial evidence of this, as do the complaints of women leaders of households who must cope regardless of the provision of goods. The use/abuse of alcohol is a growing trend in the area, though it has been identified as a threat to community and culture only by a few to date.

Being a young Maasai person today is in many ways like a person walking a tightrope. Staying on the tightrope requires a sustained ability to maintain a balance between tradition and modernisation. Should a person lose his/her balance, the consequences are either remaining in the indigenous culture or becoming a full member of the mainstream. Due to the skill, stamina and endurance required of the person, few will be able to maintain this walk indefinitely. As the influence of westernisation becomes greater, people will fall off the tightrope on the side of the mainstream with greater frequency, diminishing the pool of knowledge and practice of the indigenous way of life. Calls for help from this younger, below thirty year-old, generation fall on deaf ears, as the threats perceived by these youths are not fully understood by those not educated in or aware of the force wielded by external agents of change.

Can anyone remain on such a walk indefinitely? Is the will to remain on a tightrope of cultures strong enough amongst young Maasai leaders today? Or is the Maasai culture destined to join the majority of Kenya's once rich cultural diversity, being reduced to a name and a place in history? Answers to these questions will ultimately unfold over time. What is known, however, is that the answers will be determined not by outside sources or influences, but by the resolve of leaders within the culture to define directions for themselves and their people.

The role of the KFSC in cultural self-determination is not to sway the balance of cultures in any particular direction, but to provide as much knowledge and encouragement as

possible to ensure that whatever decisions are taken by the community regarding their future are as informed as possible. As was mentioned previously, the predominant view of most Kenyans to Maasai culture is derogatory. With this negatively skewed basis on which to base decisions, it would not be surprising to find a situation of rapid abandonment of indigenous culture in the future. What does not enter into the equation, however, is the cost of making this shift, in terms of positive attributes of the culture.

Through the visits of international and Kenyan people to the KFSC, Kuku Group Ranch members have had opportunities to glimpse the positive and negative elements inherent in the cultures of visitors. Through interactions with visitors, the community has discovered that elements of their culture are held in high esteem by outsiders, and that the Maasai should feel fortunate and enriched to have cultural components which have been lost to other cultures. Such elements as community identity, the value of people and individuals to each other, close ties to the environment and co-operation in every aspect of life are to many visitors elements which their societies are now trying to recover after having lost them. Through the sharing of ideas and knowledge, the people most involved with the KFSC are coming to see that there is much in the indigenous culture which is of value. A balance is being restored by the identification of choice pertaining to cultural determination. With the knowledge that a range of options exists – that cultural change is not necessarily an all or nothing proposition – people of the Kuku Group Ranch are gradually becoming empowered to more steadily walk the cultural tightrope which they are on.

The process of change towards westernisation is not unlike the experience of countless other indigenous people globally. The sequence of events being enacted in the Tsavo-Amboseli region and described above is the Maasai re-creation of the experience of indigenous Canadians or Australian aborigines, for example. Where the experience differs, however, is that whereas substantial portions of indigenous cultural practices have disappeared around the world, the Maasai are still holding on to their culture. The loss of identity, language and cultural lifestyle which has been felt by indigenous peoples globally has not yet been experienced in the region as yet. An intact but endangered indigenous culture exists in the Tsavo-Amboseli region.

In keeping with its intent to provide options for development and cultural change, there is likely great value to be realised by using the KFSC as a catalyst in creating dialog between the Maasai and indigenous peoples who have experienced the full circle of cultural change from the intervention of a foreign culture to assimilation and back towards recovering elements of indigenous culture. In this case, the Maasai culture might derive significant benefits from the experiences of others who have already had to deal with the entry of western culture into their lives. An opportunity exists, through a cultural exchange programme of some form, to further the role of the KFSC in broadening the basis upon which cultural directions are determined in the community.

Education

The concept of offering appropriate environmental education in a Kenyan field setting was the topic of my Master's degree project at the University of Calgary (Roth 1995).

The major reasons for establishing an environmental education centre in a developing country such as Kenya as follows:

- Environmental field studies provide students with first-hand glances at their natural heritage and a high level of experiential learning. Through programmes, students connect academic matters with real life experiences and issues.
- An environmental education centre would introduce non-formal teaching methods such as simulation gaming, role-play, debate and issues-based problem solving into programming than would schools. A programme designed for the formal education system would likely be forced to use lecture and rote learning methods.
- An environmental study centre can serve as an asset to a local community, providing education, support and outreach to many more people than would be touched through school programmes.
- Due to the ability of a centre to hold residential multi-day programmes, students are given the opportunity to experience group living as well as to explore their own personal development and role in their communities and in society.
- An environmental education centre also can become a pivotal force for positive change within a community. By reaching out to communities and inviting communities in to learn, a centre can provide a core around which communities can rally for social improvements, for taking action on environmental issues, or simply to come together to discuss common issues. In addition, a centre could become a focal point for maintaining traditions and value systems that are deemed important and central to a culture (Mason 1981).
- A centre would also provide a valuable role as a listening post, hearing community concerns and addressing needs as well as maintaining flexibility to deal with changing needs in a community. Effective and knowledgeable resident staff are a resource in themselves, providing up to date information and resources to guide communities in decision making.

Education at the Kuku Field Studies Centre

Some remarks concerning the Kuku Group Ranch and the Kuku Field Studies Centre appear as follows:

The Kuku Field Studies Centre offers educational opportunities to Kenyan and international students. The Centre's own programmes have a fourfold objective:

i) Environmental / conservation education
ii) Cultural awareness
iii) The interdependencies of human lifestyles/cultures and the environment
iv) Opportunities for personal growth of participants

The objectives of programmes are achieved in an experiential learning environment. While there are times of lecture/discussion at the Centre, the majority of educational activities occur off-site in the community. The programme which most international visitors follow is based on the sample eight-day programme (Appendix C). Towards the end of any group's visit, times are set aside for personal reflection and discussions held to draw relevance of the experiences in Africa to the everyday lives of students once they return home.

An evaluation carried out at the end of every programme has provided numerable comments affirming the value of the educational experience. Some of these comments are provided in Appendix D.

Students attending programmes at the Centre initially arrive full of excitement about seeing African wildlife. The most effective marketing for the Centre is its position immediately adjacent to the Kimana Wildlife Sanctuary, in the middle of the Tsavo-Amboseli migration route and proximity to Amboseli and Tsavo National Parks. Added to that, the opportunity for Centre visitors to walk in the sanctuary – a rarity in much of Africa – results in very wildlife-oriented students. The students are certainly not disappointed, given the high wildlife populations, both resident and migratory, in the Kimana Sanctuary and surrounding regions.

After the first few days of euphoria, the ubiquitous wildlife becomes just another part of the environment. Although it is still a thrill for students to see the animals, they generally become satiated. At this stage, the cultural element of the programme begins to grow in terms of relevance and importance to the students. Initially very few students would predict that the people would be the highlight of their trip, or that their most impressionable moments would be with members of the community. The interaction of the natural and human/built environments that is emphasised throughout the programme makes some definite impressions on students. Comparisons and contrasts are made between the Kuku region and their own homes, and a variety of personal revelations are made by students and teachers alike.

A high number of visitors to the KFSC provide an indication of the value of their experience when, upon returning home, they make efforts to send books, to talk about the Centre, to organise the sponsorship of a scholarship, or to start a pen-pal programme with their school and one in the region. Others act by making a cash donation to the Foundation for its programmes or its construction (which is still ongoing). Regardless of the form of action taken, such acts are an indication of the desire felt by visitors to say thank-you and to return the kindness shown to them by the community. In making a contribution, people are giving back something to a place and a community which they know, and which gave them a valuable opportunity/experience/insight or perhaps awakened them to some realisation about themselves. The value of the education received is evidently deep for people to make a conscious effort towards action on their return home. To the Maasai instructors at the KFSC, the fact that their efforts are remembered and appreciated provides impetus to continue to develop, improve and strive for excellence in programming.

For students visiting the Centre from elsewhere in Kenya the opportunity to visit a rural area, to discover wildlife from the perspective of walking rather than from a car or bus window and to live in the midst of a people intricately connected to their environment is greatly appreciated. Many students, especially those from urban areas, have little opportunity to visit rural areas, hence the experience they receive is a rare insight into the way of life of a majority of Kenya's population.

The evolution of educational programming at the Centre extended into post-secondary education in May 1998 with the hosting of a second year Ecology course by the Centre in conjunction with Red Deer College, Canada. The three-week programme provided an opportunity for participants to mix the theoretical with direct practical application and experiences in terms of individual research and low student:professor ratio that are usually reserved for graduate schools. The value of the course was further enriched by the presence of five Kenyan students (four KFSC staff and one employee of the neighbouring Kimana Community Wildlife Sanctuary). Interactions between Canadian and Kenyan students were much appreciated by all. While all gained from the ecology course itself, the Canadians benefited from a wealth of indigenous knowledge from the Kenyans, whilst the latter gained in terms of confidence in writing, public speaking and sharing ideas and opinions in a group situation. The training of Kenyans in that course received much attention from regional leaders. Visits by representatives of the Kuku Group Ranch Committee, influential local leaders and the management of the Kimana Wildlife Sanctuary testify to the importance of such activities to the region.

The KFSC is well placed to act as a research base for the research of senior undergraduate and post-graduate students wishing to pursue studies in a Savanna ecosystem or pastoral culture. In keeping with the mandate of the African Environmental Education Foundation to provide educational opportunities for Kenyans, a programme is being developed at present which will facilitate the twinning of Kenyan and international counterparts with similar or compatible research interests to provide mutual assistance to each other while based at the KFSC. In addition to furthering individual knowledge, the researchers will contribute further to the growth of a broad knowledge base in the Kuku community. Through this means, local leaders will have yet more sources from which to take information in generating a well-informed strategy for the future of the Group Ranch and the region. The concept of matching Kenyan and international researchers has been endorsed by the Kenya Wildlife Service in hopes that it will provide invaluable training opportunities for Kenyans as well as making inroads into answering some of the many research questions which the KWS is financially unable to tackle (Western, pers. comm.; Waithaka, pers. comm.). It is further hoped by the KWS that this approach to research will be replicable throughout Kenya.

Positioning a conservation research centre outside of a National Park or Reserve is uncommon in Kenya if not throughout East Africa. By doing so, interactions are being encouraged between indigenous and scientifically generated knowledge that are difficult to achieve when scientists live and work within a boundary that local people are not permitted to freely cross. The position of the KFSC in a wildlife and culturally rich

region will very likely provide a site for interdisciplinary research that could well lead to more informed and holistic approaches to conservation, community development and ecological knowledge being derived. The placement of researchers and post secondary students at the KFSC is a first step in recognising the potential benefits to be derived by foreign and local people at an intellectual level. For the Maasai, further opportunities are provided to add to indigenous knowledge banks and thus be better equipped to control and manage change in the region. Indigenous knowledge will likely be better preserved as scientists incorporate and write down information gleaned from Maasai people in the course of their own work.

For schools on the Kuku Group Ranch, the Centre has provided various enrichment opportunities to supplement educational content. In Kenya, the educational system emphasises rote learning, with national examinations at the end of the eighth and twelfth grades determining whether students move on to secondary school or post secondary education. The vast majority of class time throughout a student's educational years revolves around core texts and multiple choice quizzes modelled after the national examinations. While this is the reality of the situation, students do not have opportunities to practice problem-solving skills or to benefit from other educational techniques such as first-hand experience, experiential learning, debate or educational games. The pressured situation created by the current system initially caused some questions regarding the usefulness of these alternatives for students. As such, initial interactions with schools were undertaken during school holidays, with the Centre sponsoring various local students to join international groups. Students returned to class with positive reports of having an opportunity to practice English, socialising with people of other cultures and learning about geography and biology through experience rather than through books. From this point, local schools began to get involved with the Centre. Presently, a combination of student interactions with visiting students, either at their school or at the Centre, environment clubs, pen-pal programmes, scholarships, and other support programs all contribute to a growing relationship amongst the Centre and educational institutions in the region.

The emphasis that the Centre places on education and youth is important in transferring information to the Kuku community. While the Centre's advisory committee provides a conduit for information transfer, it is the students and teachers who are most in contact with the Centre's programmes and its educational endeavours. By infecting students with a healthy respect for their environment and exposing them to the positive and negative aspects of other cultures as they meet and discuss with their foreign peers, it is hoped that enthusiastic responses are taken back to families and bomas. In effect, the youth become the teachers, passing on information and sharing experiences.

While indirect education in the community occurs to some extent through the students' recounting of experiences concerning the Centre, evaluation comments from the community are a strong indication that this is not effective enough. People in the community are obviously interested in learning and would certainly appreciate the opportunities to hear about conservation and the environment. The KFSC has certainly been lacking in this area. It remains a major challenge to the KFSC to effectively fill this

gap in the community. It is certainly the weak link in the chain that joins all components of the Kuku project's interdisciplinary approach.

The inability of community-based conservation projects to effectively link conservation and economic/social benefits through education has been postulated as a major flaw in the approach of more than one initiative in the Tsavo-Amboseli region. According to some Kuku Group Ranch members, donors or sponsors of community-based conservation projects fail to provide necessary follow-up to the building or implementation of the community development element of these initiatives that would link the project to conservation priorities. Without education of project beneficiaries that the funds or resources for a given initiative were provided to encourage conservation as well as development, only the development element remains in peoples' memories. Linkages of community benefits to conservation must be voiced in order to solidify the position of wildlife and indigenous natural resource-related projects as a viable alternative on the Maasai group ranches. A lack of motivation amongst the project teams has been the stumbling block to the reinforcement of this message locally. An example of this is the revenue sharing programme of the Kenya Wildlife Service. While local people are made aware that a given school building has been constructed by the Kenya Wildlife Service, the KWS fails to drive home the message that the animals which indirectly provided the financial stimulus to enable the building of that school are the same animals which are being poached. Community response to evaluations provided an early warning to the KFSC that it is following this same pattern.

The provision of conservation education in the community is a priority, given that this is the major complaint of people concerning the Centre. Initial difficulties with this element were due to a lack of confidence of younger leaders (junior elders in the Maasai hierarchy) to speak with any authority in the community. With the formation of the advisory committee and the consequent vote of confidence in the Centre and its programmes, confidence has been growing. Consultations between the Centre's Maasai staff and Group Ranch leaders and the invitation of staff to important community meetings have also served as acknowledgement of staff as community leaders. Armed with these assurances and their increasing level of comfort with teaching and facilitating discussion, staff are now prepared to tackle environmental education needs of the adult segment of the local population. Education will be primarily in the vernacular and will be oral and visual given the high level of illiteracy in this age group.

The training of game scouts in environmental stewardship and communications skills discussed in the Community Development section will contribute, in time, to the level of awareness and education available to all members of the community. The continued involvement of adults in post-secondary programmes at the Centre will also provide ongoing opportunities for training.

While the KFSC certainly must register its environmental education efforts locally as its major shortcoming thus far in its development, this is in no way due to the relative unimportance of education to the project's success in terms of community development and conservation. On the contrary, education in responsible resource use and stewardship

of water and land in the region must be central to other activities of the Centre. The success of community development efforts and the Centre itself is based upon the continued existence of the rich wildlife resource in the region. Through teaching people of the dependence of wildlife upon human activities and decisions, the message must be solidly instilled in the community that their actions will decide the fate of both wildlife and the KFSC project. Without making this connection clear, the KFSC will indeed come to be regarded as a provider of benefits without anyone understanding why the Centre is able to bring such benefits to the community. Should this fail to occur, the Centre is most certainly doomed to fail.

Conservation

Conservation of the natural heritage of the Tsavo-Amboseli ecosystem of Kenya was the basis on which the KFSC project grew. As the project evolved, however, the realisation was made that not only were conservation purposes being furthered, but that community development, cultural self-determination, tourism and education were also integral components of the project. Without any one of these, the project would not have worked as well as it has thus far. The interdependency of each of these on the others is a very important tenet of the Kuku Field Studies Centre, and is the basis of the model that it provides for community-based conservation in East Africa, if not all of Africa.

In Kenya, the continued existence of high numbers of wildlife is far from assured. Declines in populations as a whole over the past two decades has left the country with a fragment of the great wildlife resources it once had. Although international attention focused mainly on elephant and black rhinoceros decline (Bonner 1993), all of Kenya's large mammals have declined in number due mainly to habitat destruction and subsistence poaching. In only two of over sixty Districts in Kenya have wildlife numbers increased in the past fifteen years (Norton-Griffiths 1996). The Laikipia District attributes an increase to its many European-owned private ranches, whose owners have noted the potential value of wildlife as opposed to cattle and are for the most part actively encouraging populations to increase in order to provide an attraction to tourists, or in hopes that current debate on hunting in Kenya will lead to their being licensed as hunting concessions for foreign hunters. The Kajiado District, in which the Kuku Field Studies Centre is located, attributes its rising wildlife populations to increased anti-poaching activities in Amboseli, Tsavo and Nairobi National Parks as well as to the considerable effort placed in community-based conservation programmes throughout the District since 1993.

The concept of wildlife conservation is readily supported by the Maasai of Kajiado district. The Maasai culture deems wildlife as a co-occupant of the world alongside the Maasai, hence the people have no right or reason to kill wildlife. This traditional view of wildlife, still practised today by many, has been challenged in the past decades by a failure to respect the lifestyles of the indigenous culture while implementing wildlife policy in the Tsavo-Amboseli area. As with national parks world-wide, policy decisions of the past tended to favour wildlife at the cost of human needs from any given landscape. In Amboseli and Tsavo, Maasai were denied access to prime dry season

watering and grazing areas. It is understandable, in this light that the Maasai would have taken a negative view to the wildlife which they had always respected, coming to regard it as the domain of the Wildlife Department. As such, migrations outside the boundaries of National Parks came to be viewed as the Government's property trespassing on Maasai land. Wildlife, especially large herbivores such as elephant and rhinoceros but also large cats such as lion and cheetah became targets of Maasai anger towards the government to the extent that by 1984 the last rhinoceros had disappeared from Amboseli and lion and cheetah disappeared in 1990 according to a former warden of the Park. Elephant numbers tended not to be disturbed, due for the most part to international support for the work of the renowned elephant behavioural researchers Cynthia Moss and Joyce Poole in Amboseli. Hostility shown towards elephant outside of the park boundary led to an increase in population in Amboseli and eventually to severe degradation of the park's vegetation.

A move in the late 1980s to degazette Amboseli from National Park status to become part of the Tsavo-Amboseli biosphere reserve under the UNESCO programme paved the way for the amelioration of relations between the Maasai and the Wildlife Department. Under the biosphere reserve status, Maasai and their cattle were legally permitted access to Amboseli for emergency grazing in dry seasons. In exchange for this 'normalisation' of relations, the Maasai in the region once again accepted/tolerated wildlife in community areas. Consequently, KWS personnel report that lion returned to Amboseli in late 1996 while cheetah were again observed in April 1998 (personal observation). Decreased elephant densities have also followed and Amboseli is again beginning to be revegetated. Now that a certain degree of understanding and tolerance exists between local people and wildlife interests, it is a priority of the KWS to ensure that wildlife continue to enjoy access to traditional migration routes across Maasai lands between the two parks.

While community tolerance of wildlife is improving, another obstacle has risen up, this being the growth of the agriculture sector in the region. While the Maasai themselves do not practice agriculture, a number of perennial springs in the Tsavo-Amboseli region provide excellent potential for small-scale irrigation. As arable areas elsewhere in Kenya are largely under cultivation at present, new farmers are looking to the region with interest. Various forms of land leases/rents/sales are being negotiated with Maasai landowners to allow the establishment of agricultural enterprise. The location of the area between Nairobi and Mombasa adds to the attractiveness of the region for agriculture, especially the growth of tomatoes and onions. As early as 1995, it was estimated that 50% of tomatoes and onions sold in Mombasa and 30% of those sold in Nairobi originated in the Tsavo-Amboseli region (Krugmann 1995). Production has been increasing steadily in the past few years.

Maasai people themselves are not farmers, however, the arrival of other ethnic groups willing to pay substantial amounts for access to land has led to a gradual transition of water courses from indigenous vegetation to planted crops. Of course, the disappearance of prime grazing areas as well as reduction in downstream water flow has had a negative impact on cattle grazing and wildlife, but for the Maasai, the trade-off between loss of graze/watering sites for financial gain from land agreements is worth the sacrifice.

Currently, agriculture stands as the more lucrative land use compared to traditional uses or wildlife uses (Norton-Griffith 1995a) and until one of the latter two land uses can be demonstrated to provide an equivalent benefit, agriculture will likely continue to expand in the region. Already, there has been a noted decrease in the size of the Kimana wetland, which is estimated to have reduced in size by 30-50% in the past 15 years (Campbell pers. comm.). A project now underway to fence in agricultural areas around the wetland has the dual mandate of protecting crops from people and also controlling the spread of irrigation around the wetland. The declaration of the Kimana Community Wildlife Sanctuary also contributes in protecting the southern portion of the wetland. Although efforts such as this are being made, a very real risk exists which could see pastoral and wildlife land uses compromised by the expansion of agriculture.

The increasing acreage under cultivation in the Tsavo-Amboseli region should serve as a warning to conservationists of the changing values of the Maasai in the region. Whereas previously, there was a strong tolerance of wildlife as well as a strong resistance to alternative land use for fear of losing valuable grazing land, the past two decades have produced considerable change. With the restriction of traditional grazing practices through National Park creation, animosity towards wildlife developed where this did not previously exist. The plight of wildlife has been further compromised by the entry of a monetary society in the region, and the need to generate income to pay taxes, school fees, medical bills and to purchase food and clothing deemed suitable for life in a westernising society. Of course, being untrained and largely an illiterate people, the most readily available source of income to meet the costs of 'membership' in a modernising world is the land resource on which the Maasai live. Land is certainly looked at in terms of cash value nowadays, and alternative land uses that promise greater returns than grazing or conservation are becoming increasingly attractive[9]. The challenge to conservation, then, is to prove through tangible means the ability of traditional land use to garner equal or greater earnings than the alternatives[10].

The Kuku Field Studies Centre is one approach of many that have been taken to encourage the continued co-existence of Maasai and wildlife. Other examples include the establishment of the Kimana Community Wildlife Sanctuary as the first community operated wildlife reserve in Kenya. This reserve, located immediately adjacent to the KFSC has been in existence since 1996. Its success is clouded by the heavy El Nino rains of 1998 that destroyed the road network of the sanctuary and by reports of misappropriated funds which have drained the savings of the sanctuary. While there is hope that this project will eventually come together, little benefit has accrued to the surrounding community, although local leaders and politicians have benefited in terms of

[9] The economic basis for land use choice by pastoralists in Kenya has been well defined by Norton Griffiths (1995b).

[10] The need to provide economic justification for conservation seems to have become the case with National Parks in Kenya as well. Speculation is rife that various offers have been made recently concerning the purchase of National Parks lands for private use, for wildlife harvesting within parks, and for the acquisition of mining rights in various parks.

exposure from a number of awards which the Sanctuary received in Kenya and internationally as a result of a high level of publicity from the Kenya Wildlife Service.

Other projects in the Tsavo-Amboseli region included the COBRA (Conservation of Biodiverse Resource Areas) project, funded by the United Stated Agency for International Development and operated by the Kenya Wildlife Service. The major tenet of this was that if rural people were to protect wildlife, some benefit would have to accrue from this. Through a revenue sharing programme, a portion of gate receipts from Tsavo and Amboseli parks was targeted for local community use in the form of school and health care facility construction and school scholarships. The revenue sharing programme did indeed lead to a transfer of funds into communities, however the success is in question due to the opinion of many local people that the revenue share is a bribe, of sorts; that the Kenya Wildlife Service is paying people and will continue to pay people to protect the Kenya Wildlife Service's wildlife when it comes out of the parks. An increasing level of poaching noted by residents on Kuku and the other Tsavo-Amboseli group ranches is some evidence that the COBRA project has not enjoyed complete success. While much of the poaching is attributed to non-Maasai people in the region and even to Tanzanians crossing the border to poach, there is a lack of resolve in the Maasai communities to control or halt these activities. Wildlife simply is not important enough to justify concern.

Intent on securing community support for wildlife between Tsavo and Amboseli National Parks, the Kenya Wildlife Service supported negotiations with the Kuku Group Ranch for the establishment of the Kuku Field Studies Centre. A healthy relationship had been built between the KWS and local leaders through the COBRA programme, hence the presence of KWS officials in early negotiations was considered a positive reference by the Kuku elders.

Evidence from the community evaluation process indicates that the KFSC has fallen short in the area of conservation education. This is perhaps largely attributable to the initial focus of the Centre on establishment, staff training and establishing an identity in the community. Having achieved these, the KFSC is now in a much better position to use its position in the community to define and address concerns to conservation of wildlife and other resources on the Kuku Group Ranch. A proposal that was made KWS officials to the AEEF in June 1998 was for the KFSC to sponsor a community game rangers programme. Under this initiative, a number of local people would be trained by the KWS in various skills related primarily to performing a watchdog function in the community. Through an incentive programme (including per diems for overnight patrols across the group ranch, bonuses for brining in snares, information leading to arrests of poachers, catching poachers, etc.) a very real attempt would be undertaken by the Centre and the community to protect wildlife resources. In addition to the training provided by the KWS, the KFSC would also provide training in conservation education and communication in order that the rangers would contribute to the development of a strong conservation ethic in the community through teaching and sharing ideas.

While initially the proposal to become involved with training and supporting an anti-poaching unit seemed contrary to the development of a positive attitude towards conservation, the concept has preliminary support of the community. To a large extent, poaching is being done by non-Maasai (hence non-Group Ranch members), hence the treatment of this as a form of theft of local resources would very likely generate sympathetic attitudes in the community. Additionally, the initiative would provide more training and more employment to the Group Ranch, again addressing a major priority of the project locally. Though this project remains in its infancy, it may well prove to be the vehicle for conservation education and the sensitisation of the community to the potential value of wildlife resources to the Group Ranch and the power that they possess to determine the future of resources.

The key threat to conservation in the Kuku Group Ranch and the Tsavo-Amboseli ecosystem at present is the rapid entrenchment of a cash-based society in the area. While even a decade ago, natural resources were accepted as part and parcel of the natural environment, these are increasingly being singled out and attached a price tag by Maasai and non-Maasai from within and outside of the region. Growing speculative activity in terms of water and land pose a looming threat not only to the survival of wildlife in the region but also to the ability of pastoralists to retain sufficient, diverse grazing lands to be sustainable on a perennial basis. Should the pastoral economy erode or disappear, the Maasai culture will, almost unquestionably, follow the same route.

Some indication that the KFSC has contributed to the realisation that local resources are finite and that local lifestyles as well as the natural environment are at risk has been registered from the leadership of the Kuku Group Ranch itself. In June and July 1998, the KFSC manager was consulted on various occasions for advice on how the community might go about preparing a land use plan and undertaking a proper zoning exercise for the Group Ranch. In July 1998, the KFSC was visited by the leadership committee of the Mbiriakani Group Ranch (on the northern boundary of the KFSC) with the same question. This is an indication that the KFSC has been recognised not only as a contributor to the community, but as a potential player on a regional scale to assist with the co-ordination of resource use and appropriation in the area. These are indeed positive indicators of the progress the project has made in terms of becoming a respected institution in the area. What remains to be seen is the ability of the KFSC to fulfil its mandate in providing guidance and direction to the region concerning sustainable resource use and development options. Provision of benefits to the community as well as education to establish and reinforce the linkage between development and conservation will be critical contributors to any successes of conservation stemming from the project.

Conclusion

The Kuku Field Studies Centre model has much to offer in terms of applications to the field of community development and also to the sectors of tourism, education, cultural determination and conservation. Through this discussion it is evident that the nature of community-based conservation projects such as this are interdisciplinary; to treat such

projects as anything but this denies the applications of them to other disciplines. By viewing community-based projects in an open-minded and broad perspective, the academic, development and conservation communities give these projects, and the communities that host them, their just dues.

Literature Cited

Berger, D.J., Price, M.F. and V.L. Smith. 1996. The challenge of integrating Maasai tradition with tourism. In M.F. Price (ed.). People-and-tourism-in-fragile-environments. John Wiley & Sons: Chichester, UK. 175-198.

Bonner, R. 1993. At the hand of man: Peril and hope for Africa's wildlife. Simon and Schuster International Group: London, UK.

Din, K.H., Cooper, C. and S. Wanhill. 1997. Tourism development: Still in search of a more equitable mode of local involvement. In C. Cooper (ed.). Tourism development: Environmental and community issues. John Wiley & Sons: Chichester, UK. 153-162.

Krugmann, H. 1995. Indicators of desertification on Rombo Group Ranch, Kenya. IDRC: Nairobi, Kenya.

Mason, J. 1981. Residential outdoor education in the 1980s: Future perspectives and priorities. J. Outdoor Education 15(2): 16-25.

Nepal, S.K. 1997. Sustainable tourism, protected areas and livelihood needs of local communities in developing countries. International Journal of Sustainable Development and World Ecology 4(2): 123-135.

Norton-Griffiths, M. 1995a. Property rights and the marginal wildebeest: An economic analysis of wildlife conservation options in Kenya. Unpublished manuscript. Nairobi.

Norton-Griffiths, M. 1995b. Economic incentives to develop the rangelands of the Serengeti: Implications for wildlife conservation. In A.R.E. Sinclair and P. Arcese (eds.) Serengeti II: Dynamics, Management and Conservation of an Ecosystem. University of Chicago Press: Chicago. 588-604.

Norton-Griffiths, M. 1996. Why Kenya's conservation is failing. Swara 19(6).

Opala, K. 1996. The Maasai Mara: Whose heritage is it? Swara 19(4): 14-16.

Roth, R.M. 1995. An Environmental Education Centre for Kenya. Master of Environmental Design thesis. The University of Calgary: Canada.

Personal communication

Campbell, D. Professor, Land and resource management, University of Michigan. 1996-97.

Waithaka, J. Director, Biodiversity, Kenya Wildlife Service, Nairobi. 1998.

Western, D. Director, Kenya Wildlife Service, Nairobi. June 1998.

Appendix C - Sample itinerary for the Kuku Field Studies Centre

Sample itinerary for the Kuku Field Studies Centre, showing emphasis on indigenous culture and environment in the initial days with increased exposure to external change agents as the programme progresses. Time for individual reflection and processing of the experience individually, with instructors and in groups increases towards the end of the programme. A similar programme can be adapted to longer or shorter stays.

KUKU FIELD STUDIES CENTRE
8-DAY PROGRAMME

This itinerary highlights some of the major activities at the Centre. Depending on desired course-related content, length of stay or level of education, this programme can be restructured, lengthened, shortened or otherwise changed. We aim to accommodate the specific needs of your group by being flexible.

Day 1 - Orientation, settling-in
Arrive at Nairobi airport. Proceed to Kuku Field Studies Centre
Orientation to camp
Short walk of orientation to the area
Time to unpack
Evening introductions

Day 2 - Focus on the indigenous culture
Introduction to Africa and to the Maasai culture
An afternoon in Maasai manyattas (villages)
Evening discussion about the Maasai

Day 3 - Focus on the natural environment
Walk through Kimana Wildlife Sanctuary and simultaneous foot census activity
Picnic in the sanctuary
Time at a hippo pool
Tabulation and presentation of census results

Day 4 - Focus on an urban environment
Family shopping simulation at Loitokitok market
Lunch at a local restaurant
Visit to a disabled children's rehabilitation centre

Day 5 - Focus on agriculture and water
Visit to a gorge at the base of Mount Kilimanjaro
Tour of a small-scale irrigation area, hosted by local farmers
Visit to a local bee-keeper
Discussion on external influences on indigenous culture and natural environmental conditions

Day 6 - Wildlife and tourism focus
Day trip to Amboseli National Park
Tour of a luxury tourist lodge to find out about 'normal' Kenyan safaris

Day 7 - A day for reflection and personal thought
Walk to Losoito Hill (and up it - a good challenge for most)
Individual time with instructors to reflect on the week and major learning experiences for individuals
Optional activities include Maasai house building, shoe making, short hikes
Evaluation of the week
Traditional goat roast

Day 8 - Back to Nairobi
Morning walk. Pack up and travel to Nairobi. Dinner and transfer to the airport

Appendix D – Responses from student evaluations

Kenyan visitors

As education is a key feature of the KFSC concept, the responses of students to the project are crucial in guiding positive change and development of the Centre. Throughout its existence, local students have been welcomed at the KFSC. While for the first eighteen months of the Kuku project's operation visits occurred only when formal excursions to the Centre were organised with local teachers and extra-curricular clubs. The opening of a library at the KFSC in late 1997 changed all this. From that time, students began visiting the KFSC on weekends to renew books, play games, receive extra help with homework or to undertake activities with an environmental theme. During holiday times the KFSC is also busy with visiting students.

Students have responded very favourably to the presence of international peers in the area from time to time. Besides the excitement of a friendly soccer match or the buzz which permeates a school when new faces show up to share about countries and lifestyles far away, these visits offer an opportunity for local students to socialise with people from another culture. While this may not seem out of the ordinary to a Canadian, it is a rare occurrence in this rural part of Kenya, where the majority of interactions with non-Kenyans is to see foreign tourists pass by in their vans. The value of meaningful interactions with international peers is evidenced by the following comments:

"My best memory will be sitting together because I will never be sitting with Japanese or Americans. I could not mostly forget the day I am sitting with Japanese."

-Student, 14, Enkii Primary School, Kenya

"My best memories will be how good the students from the other countries were in making friends and socialising with others, how enjoyable this place was, and my first day to be with students from other countries. It is good that we had learned about everyone's background and now we can be an example to the local people to show them how good we are in socialising with people who are different from us and also encourage the others in the same ways." - Student, 16, Kenya

Non-Maasai Kenyans have also attended the KFSC on trips organised by private schools in Nairobi. For these students, the experience also provides food for thought, an example being as follows:

"I enjoyed meeting the Maasai people and seeing how strong their cultural beliefs are despite living in a quickly modernising country. As a Kikuyu, I don't know very much of my culture which is sad. But the Maasai haven't lost touch with that aspect of their heritage." - Student, 17, Rosslyn Academy, Nairobi

"As someone living in Kenya it was very relevant because I got a chance to experience another part of Kenya. I usually only get the Nairobi culture. It was

good for me to see really what the relationship between the people and the wildlife was."

- Student, 18, Rosslyn Academy, Nairobi

"Just being able to interact and ask questions and learn about the environment and the culture will help me to be more sensitive to those facts elsewhere and more appreciative of the way they treat the environment."

- Student, 18, Rosslyn Academy, Nairobi

Comments are taken from evaluations written by approximately 65 Kenyan students and teachers attending the Centre between April 1996 and April 1998.

International visitors

Comments were taken from written evaluations from approximately 260 foreign students and teachers who have visited the KFSC between April 1996 and April 1998.

International students are crucial to the programmes at the KFSC due to primarily to their function as revenue generators for the project but also due to the contribution they make towards increasing the level of knowledge of local people.

Programming at the KFSC endeavours to open the eyes of visitors to the realities of lifestyles and environmental issues in the Tsavo-Amboseli ecosystem. By taking visitors out of vehicles to observe wildlife on foot with well-informed instructors, a rare (and usually very expensive) wildlife experience is offered. One student made the following comparison of the KFSC approach to wildlife tourism and that offered at the major wildlife viewing destination in Kenya:

"Compared with the wild environment around Kuku, the Maasai Mara is like a big zoo." - Student, 15, USA

Another student comments on the impression that the wildlife made on him:

"If I were to read thousands of books about lions, none of them would have the same impact on my life as when I saw the lioness today."

- Student, 18, Saudi Arabia

Although visitors usually come to the KFSC with the primary expectation and intention of seeing wildlife, the abundance of wildlife soon permits interests to expand to learn about other elements of the area. By the end of a programme, visitors most often comment on the impact that the local people and culture have made on them, as the following excerpts from evaluations indicate:

"Not only did I learn a whole lot about how the environment and animals coexist, but I learned a whole lot about the culture of the Maasai. I was glad to have the opportunity to interact with the people and now I find myself communicating with people more, and respecting their cultural differences."

- Student, 18, Rosslyn Academy, Nairobi

"My best memory will be the Boma, because I got to dance with the girls and later one of them put her arm on my shoulder. It was a really great way for two people from two totally different cultures, who don't know each other to get together. I'll *never* forget that. - Student, 17, USA

While there were initial anxieties amongst KFSC staff that visitors would frown upon the vastly different cultural practices of the Maasai, response has been anything but disdainful. Rather, visitors have stood in awe of the ability of the Maasai to live so closely within the limitations of their environment. Visitors continually remark on the ability of the Maasai to be so seemingly content in the absence of great numbers of material goods. The spirit of community and co-operation also permeates, making an impression on people who do not even know their nearest neighbours in their home city in Europe or North America.

"Before I came here (Kenya) I thought African people were very poor, and I saw many pictures about famine and starvation...but my thinking was wrong."

- Student, 17, Japan

"Some of the things I learned while I was here was that even if you don't have a lot of money that doesn't make you poor. The people here who have very little money like their life fine." -Student, 15 USA

"I would most like to forget seeing the Maasai baby with the flies all over its face. It just made me think how they have nothing (in our terms) but they are happy, and how at home people have more than they need but they are always wanting more."

- Student, 16 South Africa

"I learned that human beings and nature and living together makes real happiness and that it is the basis of real human life." - Student, 18, Japan

In terms of the overall value of the programming at the KFSC, the following comments from students and teachers provide a clear indication that experiences and knowledge are being taken away which will make a lasting impression on participants' lives:

" The trip to Kenya has been the most educational holiday I have ever gone on. The days were filled with walks and activities from which we all learned important things about Kenya and even the world." -Student, 15 USA

"I will have a feeling that comes to mind when a person says 'Africa' that I won't have had before. I think I will grin with remembrance every time we pass a dirt road." - Student, 15, USA

"It was important to see families in other parts of the world and the struggles they have as compared to my own." - Teacher, USA

"I could not serve 12 people hot tea in my modern flat with a) such ceremony and b) so little fuss as did the woman in the Maasai hut."
- Teacher, International School of Vienna, Austria

"I have become aware of this country's people's problems and of how difficult it is to solve them. And, I have become aware that these problems affect the whole world and all its people."
- Student, 18, Austria

A number of Kuku visitors have made repeat visits, in spite of the short time of the Centre's operation. Three individuals who came on a school trip have returned for extended periods to volunteer in the community or at the Centre. One teacher took a leave of absence from her school to give her time to the project. The rate of referrals by past participants in Kuku programmes is also a good indication of the value of the experience to visitors. Evaluation comments from visitors also attest to the value of the experience on a personal level - a level which mass tourism is not concerned with, nor has much hope of achieving:

"Next time I'm angry about not having enough money to buy a C.D., I will look back on this experience and remember how people work hard to survive on about as much as a C.D. costs. This is what really changed for me, and now it's my time to try to change it." -Student, 18, Saudi Arabia

"I don't know which is better, Maasai people live with nature, we live surrounded by many fancy machines. Maasai people can't buy expensive things. We can't touch nature deeply" - Student, 18, Japan

"My friends will expect me to be who I was, and not who I am. I have changed a lot here, mentally, and physically." - Student, 14, USA

"The course made me think a lot about what my life's point is. I haven't got the answer yet, but I'm sure this camp has pointed me in the right direction."
- Student, 16 South Africa

"My world is great except I have been lazy and I've just sat back and watched it being destroyed. Well now it's time to do something to make it a better place. I may sound ambitious but I am determined to make a difference." - Student, 17 Swaziland

"It is amazing what one can learn from first hand experience and an open mind and attitude."

- Teacher, USA

"In a sense, I have matured a bit, my views toward many things have greatly changed and I also have become aware of many problems our world has."

- Student, 14, USA

"I really do feel different going back home than when I first came. I can't wait to be able to show what I've learned here." - Student, 17, USA

"You made it fun for us by just doing things the way you did. No doubt about it, the two weeks were fun, entertaining, and we learned a lot!"

-Student, 15 USA

"It's been a great, rewarding learning experience and I am definitely coming back to learn more about me, nature and people." - Student, 17 Swaziland