

The Samburu Conservation Research Initiative
Proceedings from Preliminary Strategy Planning Meetings
April 14, 2003 and April 16, 2003

Proceedings Summary

These proceedings outline the results of two workshops held in Kenya to identify how Earthwatch Institute can best contribute to the local management efforts toward a sustainable environment and sustainable livelihood in the Samburu-Laikipia region. The proceedings present the vision of diverse stakeholders and a broad perspective of issues and threats to a sustainable environment, some of the causes of these threats, and possible research priorities. The next step is for Earthwatch to study these findings and determine how to select those aspects where we can make a significant contribution. While Earthwatch will only be able to help with a subset of the issues presented here, we hope the proceedings may help others understand the broad range of issues in the region.

In March 2003, 69 individuals representing 34 organizations were invited to participate in two strategy-planning workshops for Earthwatch Institute's Samburu Conservation Research Initiative (CRI), Kenya. The first workshop held in Nanyuki (April 14, 2003 at the Sportsman's Arms Hotel) targeted local researchers, managers, landowners, and community representatives. The second (April 16, 2003 at the Panafric Hotel, Nairobi) targeted research and conservation stakeholders. Not all invitees were able to attend and the 48 attendees were affiliated to various communities, county councils, Kenya Wildlife Service, research organizations, universities, and non-government conservation organizations (see Appendix 1).

Workshops Aims

The aims of the workshops were to work with local community leaders, researchers, conservation workers, and government management representatives to determine how Earthwatch Institute (EWI) can best:

- Use its model of support for scientific field research and engagement by members of the local and global community, and
- To realize the Samburu CRI's aim to contribute towards the sustainability of the unique but fragile Samburu-Laikipia eco-region and sustainable livelihood of the local people.

Agenda

Stakeholders' workshop April 14, 2003, Nanyuki: The first workshop had 25 attendees of local researchers, managers, landowners, and community representatives. It focused on identifying threats to sustainable environment and sustainable livelihoods, causes of such threats, and measures of success.

The workshop began by a word of prayer from Mr. Daniel Letoyie of the Ngutuk Ongiron Community. This was followed by two presentations by Earthwatch representatives: Dr. Nick Oguge introduced the purpose of the workshop, then Dr. Mark Chandler provided participants with an understanding of the goals, philosophy, and model of Earthwatch-supported research and education programs. The Earthwatch Institute presentations were followed by talks from Mr. James Munyugi, Community Development Officer, the Lewa Wildlife Conservancy, and Ms. Fiesta Warinwa of the African Wildlife Foundation (AWF). Mr. Munyugi's inspiring

presentation was on community-based biodiversity management, and Ms. Warinwa talked about AWF's conservation program in the Samburu Heartland. We have appended a summary of these presentations in Appendix 2.

Following the formal presentation phase, a group session was held where threats to sustainable environment and sustainable livelihoods were identified. Participants were divided among three groups and asked to provide their lists of top threats; groups were moderated to increase open participation by all participants. All three groups reported their findings, and after a lively group discussion, a comprehensive list of threats was drawn. The long list of threats was subsequently grouped into three broad categories by the participants: "Habitat", "Livelihood" and "Wildlife".

Following lunch, the three breakout groups took up the threats identified and listed causes and possible mitigation measures for these threats. The list of threats, causes of the threats, and possible mitigation measures were then discussed among the large group, and subsequently entered into a spreadsheet to provide the background against which the second workshop would seek to identify research priorities. Before concluding the workshop, we asked participants what expectations they would have of Earthwatch's involvement in the Samburu-Laikipia districts, and how they desired to remain engaged with the EWI CRI.

Scientific and conservation stakeholder workshop April 16, 2003: This workshop had 26 attendees from universities, governmental agencies (e.g. National Museums of Kenya, Kenya Wildlife Service), research institutions, and non-governmental conservation agencies. The workshop followed a similar format to the first, and began with two brief presentations by Earthwatch representatives, Drs. Nick Oguge and Mark Chandler. The talks reviewed results from the first stakeholder meeting before providing participants with an understanding of the goals, philosophy and model of Earthwatch-supported research and community education. Mr. James Munyugi then gave an excellent talk on 'community biodiversity development approaches' tailored towards the scientific community. The open forum was split into three clusters to explore further possible causes of stakeholder-identified threats with a view to arriving at root-causes. The discussion session identified sub-causes and in some instances developed 'cause-webs'. After a hearty discussion of the findings, groups went back to consider threats and their causes in terms of: broad research needs, and specific projects appropriate to the Samburu CRI. Similar to the first workshop, at the end we asked workshop participants about their expectations of Earthwatch's involvement at the CRI, and how they desired to remain engaged with EWI.

Outcomes

Threats, causes, and possible research priorities as identified by the two workshop participants are presented in Appendices 3 and 4. Issues affecting sustainable environment and sustainable livelihood were discussed under three broad groupings - habitat, wildlife and livelihood. Since certain threats to habitat equally affected wildlife or livelihood, the issues were notably interdependent. To aid in research planning, we have reorganised grouping of the issues and provide two threats categories: 'human-wildlife coexistence' (Appendix 3) and 'others' (Appendix 4). The first workshop identified at least 24 threat types and rated 14 as 'high priority'.

We grouped research priorities for threats identified under the Human-Wildlife Coexistence into two areas: (i) social or cultural questions, and (ii) ecological ones (Appendix 5). Briefly, research questions were suggested to address policy issues affecting wildlife and livelihoods; attitudinal and cultural issues affecting wildlife and

habitats; socio-economic issues affecting wildlife and livelihoods; general ecological questions affecting wildlife, habitats and livelihoods; migration questions affecting wildlife and livelihoods; and land use practice questions affecting wildlife and habitats.

Over the next two months, EWI will examine how it can best use its support to address these key issues.

The way forward

The participants developed a list of possible outcomes they would like to see achieved over next 5 years. While EWI will only be able to address a limited number of these expectations based on its support of targeted research, we felt it important to list what the participants came up with to understand some of their expectations:

A: Research outcomes

- Generate baseline information on identified issues – be able to assess where we are at now, and allow assessment of where trends are going
- Do research to assess where and how wildlife cropping can be successfully implemented – recommend improvements (in 2-3 years)
- Develop appropriate monitoring tools for wildlife populations (in 1 yr)
- Develop appropriate tools for policy implementation
- Identify different impacts people have on water resources, e.g. Ewaso Nyiro

B: Management outcomes

- Decrease in human-wildlife conflicts
- Make strong case for or against cropping
- Increase number of Grevy's zebra populations
- British Army to work with local partners and KWS to remove wildlife from war game areas
- Streamline the compensation policies
- At least six request annually from management agencies to seek information on wildlife management issues from EWI (in 2 years)
- EWI presence in Isiolo within six months
- Develop a working management plan for forested areas for stakeholders (in 3 years)
- Develop a eco-region wide (wildlife) ecosystem management plan (in 3 years)
- Develop a new system to remove livestock from land while still benefiting the people – for example through ecotourism

C: Socio-economic outcomes

- Show increased levels of income generation from wildlife
- Design safer wildlife corridors

D: Capacity building

- Help build capacity among local people to become expert managers (in 3 years)
- Increase community participation in wildlife conservation to see increased benefits

E: Networking

- Develop a platform for networking for researchers to inform one another of activities in the region (in 1 year)

F: Community Relations

- EWI should know the entry point for starting the project in terms of connecting with community (in 1 month)
- EWI to communicate outcome from workshop and how it will benefit the community (in 1 month)

How do participants want to remain engaged with process

1. Develop network of interested parties to remain engaged
2. Members of forum to provide entry point to communities – EWI needs to know whom the contact persons within community are, and work through them. How does EWI proceed when there are multiple entry points
3. Develop a mechanism (magazine, questionnaire) to distribute information and request feedback from participants)
4. Sharing information, and in particular secondary data for researchers – e.g. results published from outside
5. Develop newsletter which tracks relevant studies of potential interest to local researchers – to include location of reference

Next steps

The above workshops provide a foundation on which a penultimate strategy-planning workshop is planned to prioritise Earthwatch Institute's research at the Samburu CRI. The workshop, planned for August 1, 2003, will bring together local researchers, managers, landowners, community representatives, universities, governmental agencies, research institutions, non-governmental conservation agencies, and international experts in conservation research. The information obtained from the forthcoming workshop will guide Earthwatch Institute's focus as it develops the Samburu CRI. Specifically, it will: address overall issues that we can help address through support of research and educational activities; identify scientists and research projects seeking Earthwatch Institute support; and, identify community groups/members for placement on research projects in the region through fellowships.

Earthwatch Institute thanks all those present at the workshop for their valued input and contribution.

Appendix 1 List of participants in the preliminary strategy planning meetings in April 14 and 16, 2003

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Appendix 2: Summary of talks presented at Nanyuki workshop, April 14 2003.

09.35 Nick Oguge – Workshop introduction

Welcome to this workshop to kick-off the development of the Earthwatch Samburu Conservation Research Initiative. This is not the first venture by Earthwatch in the Samburu-Laikipia districts. Earthwatch Institute has a presence here in the Samburu-Laikipia region with the projects at Sweetwaters (Kenya's Black Rhino – Dr Alan Birkett) and Lewa Wildlife Conservancy (Zebras of Kenya – Geoffrey Chege and Dr Dan Rubenstein). The goal is now to set up a Conservation Research Initiative, to be explained more fully later on, which will include more input from stakeholders.

What we're interested in here today is for you, the stakeholders, to help us identify a number of things in the region:

- Threats to a sustainable environment in the area you are familiar with
- Involvement in identifying the causes of these threats
- How we can reduce or remove these threats
- Develop criteria for evaluating success of a project

EWI is not under any illusion that we are going to *solve* any of the problems in the region by itself, and therefore we want to form partnerships and collaborations in consultation with many organizations and individuals to carry out joint educational and research programs on a variety of issues. The information generated by these approaches can then go back to help local management decisions and implementation.

09.45 Mark Chandler – Director of Conservation, Earthwatch Institute

Talk Title: Earthwatch Institute and Conservation Research Initiatives – an introduction

The Earthwatch Institute (EWI) mission is to engage people worldwide in scientific field research and education to promote the understanding and action necessary for a sustainable environment.

EWI strives to achieve a sustainable environment by providing needed information through the support of field research projects, by engaging critical stakeholders in the process of conservation, and by educating the general public. EWI is not involved in political advocacy or in strict economic or development efforts.

One new EWI programmatic initiative is Conservation Research Initiatives (CRI) – a global conservation to address local environmental needs. Of the 5 currently being developed, one is being created here in the Samburu-Laikipia districts of Kenya.

The mission of the Samburu CRI is:

To make a contribution towards the sustainability of the Samburu-Laikipia bioregion through research, education and public engagement.

The objectives of the Samburu-Laikipia CRI are to:

- Support up to 8 research and monitoring projects each year, after an initial start up phase of three years

- Actively engage local stakeholders in the whole process of problem identification, research, and dissemination of results
- Seek the participation of over 200 people per year on Earthwatch research projects
- Integrate the research results from the projects
- Have a presence in the region for a minimum of 5 years

Expected outcomes of these goals are:

- Increase capacity for doing research and collecting data
- Increase understanding, capacity and motivation by local (and global) community
- Help develop better management plans
- Transfer of knowledge within the districts and to other regions

To achieve this, EWI seeks to partner with organisations to gain local expertise and support to develop conservation research priorities to find solutions for a sustainable future.

Earthwatch sees the core challenge to conservation is to be able to assist in the development of strategies for self-determination in livelihoods and lifeways, and, the conservation of ecosystems, wildlife, etc.

Introduction to Earthwatch

- Supporting field research for over 30 years
- Leaders in volunteer-based participatory research
- Long term research support: over 25 % of the projects supported have run for more than 5 years

Earthwatch has three core programmatic areas:

1. *Research* – data gathering, information sharing, and supporting scientists
2. *Education* – experiential learning and informing the public
3. *Conservation* – partnerships and local engagement

Supporting Field Research

Yearly, EWI supports:

- 130-150 research projects
- in 46 countries
- working with over 260 researchers
- with over 4,200 volunteer participants

Supporting Fellowship Activities

- Educators
- Undergraduates
- Underrepresented future leaders
- Conservation professionals
- Corporate employees
- Local community members

CRIs

- Active community participation
- Conservation management plan developed with the stakeholders
- Engagement through participation
- Presence on ground (CRI coordinator)

- Dissemination of results to stakeholders
- Support of 7-8 different but integrated research projects
- Multi-disciplinary approach (social and scientific)

Key messages

- Conservation must involve people
- Address sustainable livelihoods

EWI Conservation Research Initiatives in Samburu

To engage local communities and stakeholders in:

- identifying threats, causes and research needs
- active participation in research
- promoting an understanding of the issues and taking action

What do we want from you at the workshop?

1. Help in identifying critical threats to the region
2. Help in identifying causes and mitigation
3. Help in identifying research priorities
4. Help in identifying who will benefit and use the data/information
5. Help in identifying how we assess success

10.15 James Munyugi – Community Development Officer, Lewa Wildlife Conservancy

Talk title: Community based biodiversity management

The process of creating awareness of wildlife conservation was initially brought through KWS through the assistance given by USAID under the COBRA project. KWS established a Community Wildlife Service department charged with the responsibility of devising ways of involving communities in wildlife conservation. KWS identified 4 focal areas under the COBRA project that included; Laikipia, Samburu, Kajiado and Mombasa as special target regions. The impact was felt at the grass roots level and most regions had a community wildlife officer present to sensitise the communities. Today, Kenya is faced with some very serious challenges; after the COBRA project ended; there was inconsistency in the continuity of the approach due to shortage of resources within KWS, leaving vacuums in some of the communities' areas where expectations had been raised by this project.

In developing societies' many communities, people have a very long past, a very short present with no concept of the future. Conservation plans involving communities must be well designed to incorporate people felt needs and fears. Designing a strategy is important for getting to the desired future.

There are four key wildlife stakeholders all over the world that include:

1. The victims of conservation (the presence of wildlife anywhere you find it mean some people go without food, children cannot go to school in time because there is an elephant on the way and people rendered poor when livestock is eaten up by the lion)
2. The conservation watchdogs (armed institutions such as KWS and CITES are always vigilant to save wildlife from extinction; these are perceived to place more value to wildlife than humans)

3. The conservation beneficiaries (hoteliers and tour operators. They often ask, what a world would it be without wildlife. They get increased benefits from abundant wildlife)
4. The wildlife lovers (people or organisations who value wildlife, recognise that it is difficult for humans and wildlife to coexist, and who look for solutions or means to indirect compensate)

These four groups must be acknowledged and brought together for common solutions to the future conservation of wildlife in Kenya.

There are four key community development workers:

1. Community Initiators (individuals or institutions who have innovations, through initiative thinking they can identify problems, issues and develop strategies on how communities can cope with their livelihoods in a sustainable manner to improve their standard of living - many communities have a poverty of ideas not money)
2. Community mobilisers (individuals or institutions who can move crowds with eloquent communications but more often don't initiate, or necessarily follow up)
3. Capacity builders (those who can instil skills in a community for development)
4. General trainers (those who can provide specific courses for communities, e.g. book keeping, game scouts)

The essence of networking is the need to bring organizations and persons of diverse skills together because each only involves a limited number of skilled stakeholders. It is rare to find one organisation that has more than one category of community development worker. If you are building the same house then working together can create strong foundations. It is therefore important to work together in the same way on community-based conservation projects.

It is important to remember that developments are people, not projects.

There are seven core themes that community development must address:

1. Awareness creation and dissemination of information/education. E.g. for historic reasons, people do not like national parks, need to change this attitude
2. Threats to biodiversity. Need to start addressing these threats, balancing these threats with management threats.
3. Economic gains. Need to ensure equitable distribution of gains. Also important to emphasize non-economic gains.
4. Managing community expectations sensitively. This is the biggest challenge, people always want more; need to appreciate group dynamics. Need to narrow these down through strategic planning.
5. Community dynamics. Need to understand leadership within communities, and ensure that key players are always on side
6. Organisational structure. Need to acknowledge local indigenous structures, as well as the fact that many community groups are formed through strong institutional bodies e.g. schools, churches. Should avoid working with loose groups that are not based on legal institution.
7. Changing community profiles. Emphasis should shift to non-economic gains. Communities are clustered by their livelihood e.g. pastorals want to keep their cattle. Need to consider how to shift from development as a mind set to business - or gainful livelihoods.

Many community-based conservation projects move too fast and this is where the sustainability gets lost. This is why strategic planning is so important. I want to encourage Earthwatch Institute to encourage strategic planning with the grass-roots level communities.

One example of an area needing more attention follows: There is a lot of focus on protected areas and less on migratory corridors, unique habitats such Grevy zebra habitats, breeding areas outside conservation areas. This is one area where I hope Earthwatch can help make a difference.

10.55 Fiesta Warinwa – African Wildlife Foundation AWF’s conservation program in Samburu Heartland

AWF is over 40 years old. When it was founded, it was the only international organization focused entirely on African Conservation and training Africans to manage their wildlife resources. This further changed as AWF encouraged African students to pursue advanced degrees in conservation- related subjects because of its new approach to conservation, which is the “landscape conservation”.

In order to accomplish its mission “*The African Wildlife Foundation recognizes that the wildlife and wild lands of Africa have no equal. We work with people- our supporters worldwide and our partners in Africa- to craft and deliver creative solutions for the long-term being of Africa’s remarkable species, their habitat and the people who depend upon them*”. AWF work in seven landscapes in Africa called the African Heartlands, one being Samburu Heartland.

The goal of the heartland is: expand areas available to wildlife, connect fragmented wild lands and help local communities make income from wildlife resources

How does AWF pursue this goal?

We pursue this goal by working with those who own and use the land to determine which species and ecosystems are conservation priorities, which areas are vital to wildlife and should be reserved to them, which land can be used for other non-wildlife related activities and which wildlife-based business mostly likely to bring jobs to local communities.

AWF’s activities are not only geared towards communities alone, the heartland team works with its key partners and stakeholders are currently some of the major activities being carried out include:

- Development of a Management plan for Samburu National Reserve
- Working with researchers and the local communities on Species projects such as Wild dog and Grevy’s zebra projects
- Helping communities in Laikipia to build viable and conservation-friendly business ventures
- Working with government authorities, institutions and local communities such as the Forestry Department to conserve and protect the remaining forest blocks in the heartland through the formation of Forest protection committees
- Identifying, mapping and securing wildlife migratory routes and dispersal areas
- Training rangers and community scouts to monitor wildlife and habitat

Partnerships

- **Local government authorities such as Samburu, Isiolo and Laikipia County Councils**
- KWS
- Forest Department
- MRC
- Private investors
- Community-based organisations
- LWF

**Appendix 3: Threats and causes identified by stakeholders' meeting at Nanyuki, April 14
2003**

Human-Wildlife Conflict

Issue	Threat	Causes
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Wildlife

Human-Wildlife Conflict

Competition for resources (water, forage, space, etc.)

Encroachment -both human-human and human-wildlife

Diminished Resources

Increase in human population

Development in other areas forcing migration of people

Displacement

Increase in human population

Insecurities leading to displacement

Increase in human population

Lack of clearly defined boundaries

of protected areas and of private lands

Fencing causing changes in migration routes

Lack of protection of settlements

Injury and damage to human and crops

Absence or inadequate compensation policy and implementation leads to redistribution

Land resource degradation

natural (e.g. global climate change)

anthropogenic: change/increase in human population density

anthropogenic: change/increase in human activity pattern

Human creation of new high quality habitats attract wildlife into conflict areas

Increase in human and livestock population density

(increase in wildlife populations - rare or isolated)

Issue	Threat	Causes
		<p>Lack of awareness about distribution (and behaviours?) of wildlife about extent of injuries Lack of awareness of alternative livelihood systems</p> <p>Lack of a general or clear policy about issue Poor land use planning</p> <p>Change in global demand for resources puts new pressures on system</p> <p>Uneven distribution of wildlife - not seen as a cause but a natural phenomenon</p>
	<u>Habitat</u>	
	Overgrazing	<p>Overstocking Cultural attachments to livestock Lack of acculturation to modern economy Population increase Lack of social education Migration during drought</p> <p>Lack of livestock marketing policy</p> <p>Poor pastures Adverse climatic change</p>
	Encroachment	
	Drought	
	Human population increase	
	Insecurity (ethnic clashes)	
		Overstocking Livestock migration
	<u>Livelihoods</u>	
	Overgrazing	
	Overstocking	
	Migration during drought	
	Human wildlife conflicts	
	Human settlement and farming in wildlife dispersal areas/ corridors (Laikipia)	Livestock depredation and crop destruction Competition between wildlife and livestock for resources
	Human wildlife conflict (Samburu)	

Issue	Threat	Causes
		Lack of marketing (Samburu)
	Diseases	Migration of livestock to wildlife areas and vice versa
	Erosion	Overgrazing Deforestation Cultivation along river banks Trampling by wildlife and livestock

Appendix 4: Threats and causes identified by stakeholders' meeting at Nanyuki, April 14 2003

Other non-Human-wildlife coexistence threats

Issue	Priority	Threats	Causes
<u>Habitat</u>			
	High	Poaching	Security breakdown Proliferation of arms Gun running Breakdown in law and order in neighbouring countries Poverty (subsistence) Wildlife utilization experiments (cropping)
	High	Charcoal burning	Poverty (peasant occupation) Lack of alternative source of income High demand for charcoal Personal preference Lack of alternative and cheaper source of fuel

Issue	Priority	Threats	Causes
Habitat	High	Poverty	<ul style="list-style-type: none"> Large families/polygamy Poor infrastructure Lack of employment Drought Banditry Livestock depredation by predators Crop raiding by elephants/buffaloes Lack of livestock markets HIV Aids
	High	Water extraction	<ul style="list-style-type: none"> Expansion of horticultural farms Lack of water regulation by the Government (lack of enforcement) <ul style="list-style-type: none"> High demand for cut flower Changing lifestyles
	High	Water pollution	<ul style="list-style-type: none"> Sewerage from municipality <ul style="list-style-type: none"> Lack of treatment plant Lack of law enforcement Pesticides and fertilizers from flower farms <ul style="list-style-type: none"> Need for increased productivity

Issue	Priority	Threats	Causes
Habitat	High	Natural disasters	Drought Epidemics
	High	Policy issues	Land tenure, planning, use Human wildlife interaction National food policy District development plans Lack of harmonization of forestry, wildlife, fisheries policy
	Moderate	Tourism	Lack of proper planning - lack of (GMP) for protected areas Lack of code of conduct for tourists in wildlife areas Lack of enforcement of laws in protected areas
	Moderate	Fire	Honey gatherers Arsonists Poachers Farmers/pastorals Campers
	Low	Sand harvesting	High demand in towns Corruption in country councils

Issue	Priority	Threats	Causes
<u>Habitat</u>			Poor planning Lack of regulation
	Low	Dung exports	Unfamiliar problem
	Low	Human population increase	Check national disasters
	Low	Roads	Check infrastructures
<u>Livelihood</u>			
	High	Insecurity	Competition for resources Proliferation of firearms from neighbouring countries Cattle rustling
	High	Charcoal burning	Poverty Clearing farmlands/settlements Fuel wood
	High	Gender issues	

Issue	Priority	Threats	Causes
			Community biases and stereotyped roles
	High	Natural calamities	Climate change (pollution)
	Low	Fire	
	Low	Tourism	
	Low	Lack of marketing for Laikipia	
	Low	Diseases (Samburu)	
<u>Wildlife</u>			
	High	Poaching	Poverty Commercial needs/market Change in culture due to external influences (e.g. diet) Diminished food resources High cultural demand of livestock
	High	Poverty	Limited sources of livelihood (non - diversified) Poor technology for livelihood Land degradation Culture Increase in livestock #s Corruption Poor infrastructure

Issue	Priority	Threats	Causes
<u>Wildlife</u>			Insecurity Lack of markets and poor market prices
	High	Land subdivision	Poor policies on ownership i.e. tenure Externally imposed from outside region Lack of awareness (Corruption?) Poverty (see below) root cause of everything! Increase population Lack of awareness High expectations of high economic return Poor land use planning Change in land use from traditional to new land use systems Change to an entrepreneurial system
	High	Water extraction	New technologies allow new land use that promote subdivision Poor water allocation methods Unregulated water abstraction Increased horticultural farming

Issue	Priority	Threats	Causes
<u>Wildlife</u>			Destruction of water catchments
	Moderate	Community attitudes Community awareness Human population increase Natural disasters Lack of harmonization of policies Over extraction	
	Low	Small population sizes Water pollution Tourism Diseases Fire Poor land tenure system/policies	

Appendix 5: Research priorities identified by the Scientific and Conservation stakeholder workshop in Nairobi (April 16, 2003) to address threats to sustainable environment and sustainable livelihoods in the Samburu-Laikipia ecoregion

Research Questions relating to Human-Wildlife Coexistence

Issue	Research questions
Social or Cultural Questions	
<i>Policy-oriented questions</i>	
Wildlife	What are the existing policies guiding human-wildlife conflict? Identify gaps and effectiveness of existing policies
Livelihoods	What laws and policies govern settlement in wildlife migration and dispersal areas?
Livelihoods	What factors impede implementation of the above policies?
<i>Attitudinal-Cultural</i>	
Wildlife	What is the local level of awareness of wildlife (economic value, ecological value, distribution, habitat requirements, cultural, international value, intrinsic value)?
Wildlife	Are there changes in cultural values and practices that affect human-wildlife conflict (inc. changes to livestock valuation)?
Wildlife	How do local people value their resources - - Come up with concept of valuing resources
Wildlife	How do local/indigenous peoples assess impact? Use indigenous knowledge to assess impacts

Issue	Research questions
Habitat	How do the cultural practices of Laikipia and Samburu communities' impact on wildlife conservation status?
Habitat	What is the impact of cultural change on community practices, perception and attitudes on, gender? Religion, and education?
Habitat	What are the effects of health seeking behaviour on medicinal plant species?
Habitat	What are the uses of indigenous plants in the area?
<i>Socio-economic</i>	
Wildlife	What are the economic consequences of human-wildlife conflicts, to include humans, crops, wildlife, tourism, livestock?
Livelihoods	What is the socio-economic impact of livestock/crop predation/destruction on communities
Livelihoods	What are the benefits from wildlife to the communities?
Livelihoods	How can the local communities benefit more from wildlife?
Livelihoods	What factors affect the success of community based wildlife enterprises?
Livelihoods	What are the impacts of community based wildlife enterprises on conservation?
Livelihoods	What is the impact of wildlife cropping on community livelihood?
Wildlife	What are the indigenous and current ways of dealing with human-wildlife conflict, and their effectiveness?
Livelihoods	What are the socio-economic impacts of human-wildlife conflict inside and outside parks?
Wildlife	What is the land use changes over last 50 years (settlement patterns; what caused the changes, stocking rate)?
Wildlife	What are the dynamics of land tenure? Decline in communal grazing land, access to resources, political dimension/development/allocation of trust land)

Issue	Research questions
Ecological Questions	
<i>General issue-based questions</i>	
Wildlife	What are the major species involved in human- wildlife conflict and their distribution?
Wildlife	What is the natural history/ecology of the species involved in human-wildlife conflict?
Habitat	What is the current conservation status of various plant (and animal) species?
Wildlife	Assess viability of carnivore populations
Wildlife	What are the critical ecological (and economic?) resources that lead to the human-wildlife conflict?
Wildlife	What is nature and extent of human-wildlife conflict?
Wildlife	What role do natural phenomena play in the manifestation of human-wildlife conflict (e.g. fire, drought, disease/epidemics, floods)?
Livelihoods	What are the unique habitats in these ecosystems?
Habitat	What is the effect of abstraction of specific plant species?
Habitat	What is the impact of human encroachment on vegetation?
<i>Migration/Movement based questions</i>	
Livelihoods	What are the animal dispersal and migration corridors?
Wildlife	What are the effects of fencing on wildlife, livestock and humans - and access to resources?
Livelihoods	Are animal migration corridors changing, and why?
Wildlife	What are the encroachment patterns and directions?

Issue	Research questions
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Land Use practices questions

Habitat	What is the impact of agriculture on water quality and quantity?
Habitat	What is the impact of agriculture on pasture for livestock and wildlife?
Wildlife	How does human-wildlife conflict vary with land tenure systems (trust land, private lands, communal lands)?
Habitat	What is the spatial and temporal distribution of water resources?
Habitat	5. What are the areas with potentials of rainwater harvesting?
