

The Impact of Wildlife-Based Enterprises on Local Livelihoods and Conservation in Kenya

Wildlife Enterprise for Local Development (WELD) Project carried out by the African Wildlife Foundation with the assistance of the European Union



EUROPEAN UNION



AFRICAN WILDLIFE FOUNDATION

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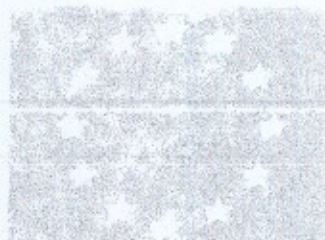
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THE AFRICAN WILDLIFE FOUNDATION is an independent international conservation organization. We work with people, our supporters worldwide and our partners in Africa to craft and deliver creative solutions for the long-term well being of Africa's remarkable species, their habitats and the people who depend on them. In 1998, AWF launched our AWF Heartlands program, an ambitious, large-scale approach to wildlife conservation. African Heartlands are large landscapes of exceptional natural value-landscapes that include national parks plus adjacent private and community lands. In each Heartland, AWF works with all interested local landowners and organizations to provide generous habitat for healthy wildlife populations.

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THE WELD PAPERS highlight the need for policy to recognize and build on the role of the private sector in mobilizing the necessary investment, marketing, management and technical resources to establish wildlife-based enterprises. The papers also identify key factors and support services needed for successful wildlife enterprises. The research included in-depth consultations in four countries and quantitative and qualitative analysis of the commercial and economic performance of selected case studies. Staff of African Wildlife Foundation together with Caroline Ashley of the Overseas Development Institute (ODI) have written the papers.

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Executive Summary

A. Background to the WELD series

In East Africa today, wildlife enterprise is widely considered a promising development strategy for income-poor communities in wildlife-rich areas. Wildlife-based business ventures can provide financial and other benefits as well as an incentive to conserve local wildlife.

Governments, non-governmental organizations (NGOs), and donors now support wildlife enterprises. Yet few have systematically assessed their impacts on development or conservation, or collected lessons learned to be applied in the future.

African Wildlife Foundation (AWF) produced this paper as one of three research contributions to the emerging field of wildlife enterprise. Through its Wildlife Enterprise for Local Development Project (WELD), AWF analyzed the national policy environment in Kenya, Tanzania, and Uganda, as well as seven illustrative cases from those three countries. The cases span a range of wildlife enterprise experience, from butterfly farming to photographic and hunting safaris.

The WELD methodology that AWF developed and applied examines four key aspects of wildlife enterprise:

- Commercial viability
- Local economic impact
- Local livelihood impact
- Contribution to conservation.

This research led to conclusions about what works now, and how to foster wildlife enterprises that can in future make larger positive impacts on development and conservation.

B. Wildlife Tourism in Kenya

Kenya has long been one of the world's premier safari destinations, and tourism has made a considerable contribution to the country's economy. In 1996, the tourism industry contributed 9.2% of Kenya's GDP. The last two years, however, have witnessed a sizeable decline, with visitor arrivals plummeting by 32% from the 1994 peak.

A variety of factors have been blamed, notably the industry's failure to adapt to changing consumer trends in source markets, the increasing availability of competitive alternatives such as South Africa and Tanzania, and the Kenyan government's failure to address the well-known problems of insecurity, faulty infrastructure, and negative publicity.

One tourism sector, however, has continued to grow: wildlife tourism on private and group ranches. Growth here is due in part to the advantage that private destinations enjoy over national parks. The Kenya Wildlife Service (KWS) collects a daily entrance fee of US\$ 27 for non-resident visitors to national parks, a sum that can increase the local costs of a holiday by 30%. Private sanctuaries and reserves can therefore offer tourists lower prices.

C. General Policy Climate for Wildlife Enterprise

Nevertheless, community-based initiatives have experienced limited success despite attempts from KWS and the donor community to institutionalize and promote this form of development.

The development of wildlife enterprises outside national protected areas is constrained by a number of factors—chief among them the complexity and uncertainty of land-use planning and legislation in Kenya. In addition, Kenya prohibits potentially lucrative trophy hunting and other consumptive wildlife uses. So wildlife enterprise here means primarily photographic tourism and related ventures.

Even where land tenure is not at issue, all wildlife is considered a national government asset. Land-owners have no user rights to wildlife on their own land. The absence of user rights reduces the commercial value of wildlife and the incentive to favor it over other land uses. In instances where consumptive utilization is licensed, such as ostrich farming, there are still numerous regulatory hurdles and disincentives constraining the activity.

In the absence of legitimate rights to wildlife use, and in a policy environment suffering a general lack of accountability and transparency, illegal exploitation of wildlife, i.e. the bushmeat trade, is flourishing, contributing significantly to an overall decline in wildlife numbers.

D. The Kenyan Case Studies

AWF selected two case studies to illustrate the status of legitimate wildlife enterprise in Kenya: Il Ngwesi Lodge in Laikipia, and the Arabuko Sokoke Butterfly Farming in Malindi. Both are community-based initiatives.

Findings of the WELD analysis of local impacts

1) Commercial Viability

Commercial viability is the ability of the enterprise to make sustained profits—and the key indicator of its sustainability. The study concludes that, in these two cases at least, commercial viability is being achieved at the same time as conservation and development objectives. The cases we reviewed are commercially viable, although their returns fall considerably, below the industry norms for high risk business like tourism. Clearly, in community-based wildlife enterprise, the level of economic return reflects a balance between the goals of profit maximization, economic and social development, and conservation.

In addition, AWF's review found that profitability is often negatively affected by

- lack of or weak management skills on the part of the community
- financial and operational management of the enterprise is often skewed in favor of the elite within the community, and suffers from a lack of transparency
- the inherent remoteness of rural communities, coupled with poorly developed infrastructure.

2) Local financial/cash impacts

Direct financial flows to individuals in the two Kenya cases are limited to a few dozen active producers in the butterfly enterprise, and about 50 employees at the lodge. For these individuals and their families, however, the enterprise generates significant livelihood impacts. The financial benefits are secure and consistent;

earners spend them on such activities as building, savings, and investment into micro-enterprises. The butterfly enterprises provide a diversification option for households whose other sources of income are generally unreliable. Butterfly farming earnings are also unpredictable but fit well with established livelihood strategies. These advantages are particularly important to women and poor families. The earnings are enabling families to spend more on food, school fees and health than they otherwise normally be able to afford.

In Il Ngwesi, community members have yet to develop significant spin-off enterprises to capture further income, so the local multiplier effect is limited to a few sellers of curios, baskets, and other crafts. However, community members do acknowledge a significant impact from collective income, which the communities spend on basic infrastructure, security, and education. For example, each year approximately KSh 500,000 goes to the community development fund, generated as collective income from Il Ngwesi lodge.

Other benefits mentioned as significant include social cohesion and empowerment. For instance, the Arabuko Sokoke project brings together people from various ethnic backgrounds and asks them to elect group leaders and work together. In Il Ngwesi, other non-monetary benefits include improved rangeland management and security.

3) Livelihood impacts

The study found that non-cash livelihood impacts are important to communities, and that they are spread more widely than direct financial impacts. In fact, AWF found that the livelihood impacts are key to development impacts.

In Il Ngwesi, hundreds of households are benefiting from livelihood impacts in the form of increased security, access to transport, improved grazing management, and access to education. In Arabuko Sokoke, it is the flexibility of the source of income (the activity could be done at home, in own time, with low inputs) that is particularly attractive to participants.

However, in some instances the enterprises have caused some conflict and mistrust between various stakeholders because of reduced access to wilderness for grazing and other communal resources.

4) Conservation Impact

Conservation impacts of wildlife-based enterprises tend to be assumed. In fact, however, a conscious effort must be made to include specific conservation effects among the enterprise's goals. For instance, conservation goals might include: raising awareness among residents and decision-makers of the benefits of conservation. They may reduce the need to earn cash from illegal forest harvesting activities such as poaching and pitsawing. They may encourage setting aside of land for nature sanctuaries.

In the Kenya cases, the Il Ngwesi Lodge has helped promote local control over resources since 1995. One of the donor's conditions for building the lodge was to make sure the Group Ranch Management Committee (GRMC) got a certificate of occupancy over their own land, which is helping the community manage its own resources. The GRMC has generated by-laws governing use of resources, such as when and where to graze, water rights, and sanctions for disobeying.

In Arabuko Sokoke, the butterfly enterprise has significantly changed attitudes toward the value of wild lands. In 1997, when neighboring farmers advocated degazettement of the Arabuko Sokoke forest, butterfly producers, appreciating the value of the intact forest, blocked the move.

E. Discussion and suggestions for improvements

Successful community wildlife initiatives will require substantial capacity building and technical assistance.

1) Role for NGOs to support communities in:

- strengthening organizational structures to manage wildlife and wildlife income,
- developing the entrepreneurial and managerial skills required for identifying viable enterprise options, implementing operations and engaging the private sector (particularly tour operators) in mutually beneficial partnerships.
- promoting participatory processes for decision-making with stakeholders regarding resource use, revenue and conflicts.
- increasing the local community's awareness of their full rights.

2) Role for donors

Wildlife enterprises can achieve complex goals (profit, development and conservation), though there is likely to be a trade-off between them (e.g. a broader spread of benefits usually means lower profits). The development and conservation objectives of these enterprises can increase costs and diminish financial profitability. The case studies show positive results from small, on-going donor subsidies to maintain an enterprise that is deliberately investing in complex goals rather than profit maximization.

3) Role for governments

Much could be done to improve the enabling policy and regulatory environment for wildlife enterprises in Kenya, for instance:

- Foster the participation of local communities and other stakeholders in planning, implementing and monitoring wildlife resources, through improved land tenure, rights over wildlife use and appropriate regulations.
- Create an environment in which private sector/community enterprise partnerships can flourish by reducing bureaucracy, transaction and administrative costs imposed on the private sector investors.

INTRODUCTION

Donors, governments and NGOs support wildlife enterprises for their perceived development and conservation potential. Yet little assessment is available of the conservation and development impacts of wildlife enterprises, and of the implications of experience to date for future wildlife enterprise support.

Through the WELD project AWF tried to assess net benefits flowing at the local level and their impact on conservation incentives. WELD is divided into two components – WELD-Community Conservation (CC) and WELD-Conservation, Economics and Commerce (CEC). WELD's overall objectives are 1) to integrate sustainable conservation and local development objectives at the local level, and 2) to strengthen the technical and organizational base for local wildlife enterprises. The objectives of the WELD-CEC component are to analyze the conditions necessary for effective wildlife enterprises among landholders, generate and disseminate a practical and replicable framework for wildlife enterprise development, and enhance capacity across the region for wildlife enterprise development.

The initial focus of the project was the development of the methodology² to provide a practical cost-effective approach to assessing the impacts of a wildlife enterprise in terms of:

- Commercial viability
- Local level financial, economic and livelihood impacts
- Impacts on other external stakeholders
- Contribution to conservation

With this methodology, AWF has been able to investigate seven cases in eastern Africa – two each in Kenya, and Tanzania and three in Uganda. The enterprises assessed include wildlife tourism, hunting and farming.

This report presents WELD analysis of selected wildlife enterprises in Kenya-Butterfly Farming at Arabuko Sokoke Forest and Ilingwesi Lodge in Kilifi/Malindi and Laikipia Districts, respectively. We start by highlighting the framework for enterprise development in Kenya focusing on the regulatory and policy environment, benefits for communities, performance and prospects for community participation in wildlife enterprises.

Next, we explore how wildlife enterprises can help conserve biological resources by providing real socio-economic incentives to local communities. Finally, we recommend means and ways of creating a policy environment to nurture wildlife enterprises that further both conservation and local community development.

² For details of the methodology see the Handbook for Assessing the Economic and Livelihood Impacts of Wildlife Enterprises by Caroline Ashley with Joanna Elliott, George Sikoyo and Kristin Hanlon

Wildlife Enterprise: The National Framework In Kenya

By Joanna Elliott and Richard Young

1.0 Background

The Small and Micro Enterprise (SME) sector niches make an important contribution to employment and national income in Kenya. However, 75% fail within the first three years of operation and 90% within five years. In the wildlife sector, these businesses face additional constraints: restrictive regulatory environment, the high risk nature of many wildlife and the fact that many wildlife business opportunities are in the poorer, more remote and arid areas of Kenya.

At the same time traditional livelihood strategies, such as semi-nomadic pastoralism, are becoming increasingly difficult to sustain owing to population growth, the need to access financial resources for services, the loss of dry-season grazing and increased economic aspirations. These difficulties highlight the need for diversification of rural livelihoods. But many rural communities by themselves do not have sufficient skills to implement business opportunities such as those offered by wildlife.

The Overall Regulatory and Policy Environment

The Kenyan legal system invests all ownership of wildlife in the state. This gives the Kenya Wildlife Service (KWS) absolute control over the Kenyan wildlife industry. In 1975 the Government of Kenya outlined a concept of conserving and managing wildlife while optimizing returns for the benefit of landowners (Sessional Paper No. 3, 1975). However, the inability of the wildlife authority to control poaching then led to the ban on all mammal hunting in Kenya (Legal Notice No 120, 1977), and a year later, the ban on the sale of trophies and wildlife curios (Act No 5, 1978). The small but fast-growing wildlife consumption industry in Kenya was effectively closed down. Government policy since 1978 has been one of promoting wildlife use through tourism, with an often-heard argument that consumptive utilization is incompatible with successful wildlife tourism. Crocodile, ostrich and guinea fowl farming continue to be permitted under KWS license as well as bird shooting and the export of butterflies, frogs and other reptiles. The live animal trade in wild species is effectively illegal in Kenya, though some transfers of stock are allowed with KWS approval. Kenya's current wildlife policy is embodied in the 1975 Sessional Paper and the 1991-1996 Policy Framework and Development Program (also known as the Zebra Book).

Game cropping in four pilot districts has been the only exception to consumptive utilization following the 1977 hunting ban. The main legislation affecting this program is the Wildlife (Conservation and Management) Act of 1976 and the amended Wildlife Act of 1989. The rationale for this policy has been the widely recognized need to increase wildlife earnings and benefits to communities living with wildlife outside of protected areas.

Despite the ban on hunting, wildlife populations have substantially decreased on rangelands since the hunting ban took effect. However, reports suggest that numbers have increased in areas where wildlife cropping has been permitted.

The complexities of land legislation in Kenya constrain conservation outside protected areas. Land use planning outside protected areas is under the jurisdiction of government agencies and private individuals. The trend continues to be towards subdivision of land (for example, where group ranches are subdivided into individual title) which usually leads to a loss of wildlife habitat as landowners fence off their land for agriculture.



Private landowners have no user rights to wildlife on their land. This reduces the commercial value of wildlife and the incentive to favor it over other land uses. Under this regulatory and policy framework, conservation approaches based on creating economic incentives for this coexistence of people and wildlife are those most likely to work. Even in the case where consumptive utilization is licensed, such as in ostrich farming, there are still numerous regulatory constraints and disincentives. A general lack of accountability, information and transparency provides an enabling environment for the illegal exploitation of natural resources, including wildlife. An example of this is the illegal bush-meat trade that contributes significantly to the overall decline in wildlife numbers.

Benefits for Communities

Landowners are increasingly lobbying for devolution of authority over wildlife and other natural resources on their land. The establishment of local and district level wildlife forums and associations provides a mechanism for devolving, controlling and monitoring wildlife use rights. In addition, rural communities have become increasingly aware of the socio-economic benefits that can come from wildlife-related businesses. Under the KWS partnership program, numerous communities have visited Il Ngwesi and other successful projects, resulting in expectations that wildlife can generate profits both through tourism and through consumptive utilization.

Current trends in the tourist market indicate a gradual shift in consumer preferences to activity-based holidays in preference to merely observing wildlife. This shift offers important opportunities for diversification within the Kenyan tourism industry. The issue of consumptive utilization of wildlife, including whether sports hunting should be legalized in Kenya, is hotly debated. Proponents of hunting point to the highly lucrative hunting industries in Southern Africa and the positive impetus that legalization could have on wildlife conservation, rural livelihoods and the Kenyan economy. Arguments against hunting usually center on the negative impact that hunting could have on the international tourism industry, the potential for abuse if viable monitoring and control mechanisms are not in place, and whether hunting could bring adequate economic benefits to the local/community level.

Performance and prospects for community participation in wildlife enterprises

Current conservation trends acknowledge the importance of local communities in natural resource management. Known variously as community based natural resource management (CBNRM) or Community Based Conservation (CBC), this philosophy emphasises the sustainable use of natural resources by local communities as a means for improving both rural livelihoods and the prospects for biodiversity conservation. CBC projects have been initiated throughout Africa; projects such as CAMPFIRE (Zimbabwe), ADMADE (Zambia), LIFE (Namibia) and Eco-partners (South Africa) have generated a significant amount of interest.

In Kenya, community based initiatives have experienced limited success despite attempts from KWS and the donor community to institutionalize and promote this form of development. It is widely recognized that successful community wildlife initiatives will require substantial capacity building and technical assistance in 1) strengthening organizational structures to manage wildlife and wildlife income, and 2) developing the entrepreneurial and managerial skills required for identifying viable enterprise options, implementing operations and engaging the private sector (particularly tour operators) in mutually beneficial partnerships. Business planning will need to take into account commercial viability (particularly the availability of markets) and the likely socio-economic impacts of these businesses so that wildlife generates sufficient benefits to the household level.

In the following sections, we give an overview of some of the key factors driving wildlife enterprise development in the main wildlife enterprise sectors.

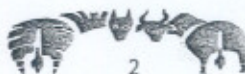
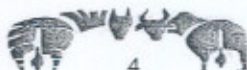


Table 1: Key community wildlife areas in Kenya and associated wildlife enterprises

Land Areas	Key Attributes	Existing/Potential Wildlife Enterprises
A: LAIKIPIA		
Polei Group Ranch	<ul style="list-style-type: none"> • Samburu culture • Scenery wildlife 	Cultural manyatta; Wildlife sanctuary <i>Potential:</i> Game bird shooting, campsite
Kuri Kuri Group Ranch, Mukugodo division	<ul style="list-style-type: none"> • Unspoiled forest habitat • Birdlife • Samburu culture 	Campsite; Cultural center; Bee-keeping projects <i>Potential:</i> Trout fishing, bandas
Ngwesi Group Ranch	<ul style="list-style-type: none"> • Samburu culture • Wildlife dispersal area 	Ilngwesi Tourist Bandas; Cultural center
Nagum Conservancy	<ul style="list-style-type: none"> • Wildlife dispersal zone • Good wildlife visibility • Close to Lake Baringo 	<i>Potential:</i> Bandas, Campsites, Cultural centers, Plant commercialization
Nagum Conservancy	<ul style="list-style-type: none"> • Wildlife dispersal zone • Good wildlife visibility • Close to Lake Baringo 	<i>Potential:</i> Bandas, Campsites, Cultural centers, Plant commercialization
B: SAMBURU		
Wasa Wamba Conservancy Sarara Sabache Group Ranch Giri Giri Group Ranch Ongutuk Ongiron Group Ranch	<ul style="list-style-type: none"> • Abundant wildlife • Samburu culture • Proximity to Samburu, Shaba and Buffalo Springs Reserves • Mt Ololokwe 	Namunyak Wildlife Conservation Trust: <ul style="list-style-type: none"> • Cultural walking safaris & Tented camp Ker & Downey campsite; cultural center <i>Potential:</i> Guinea fowl ranching Community equity in private camp
Nyiro Conservancy	<ul style="list-style-type: none"> • Forest habitat • Wildlife • Remote wilderness 	Mt Nyiro Forest community sanctuary Partnership with private lodge
Loroki Kerisia Conservancy	Wildlife and culture	Oi Moja Cultural Center
C: KAJIADO		
Kimana Group Ranch	Bordering Amboseli National Park	Kimana Sanctuary, three tented camps <i>Potential:</i> New partnerships, concessions
Kimana Group Ranch	Bordering Amboseli National Park	Kimana Sanctuary, three tented camps <i>Potential:</i> New partnerships, concessions
Eselengei Group Ranch	Bordering Amboseli National Park	Eselengei Sanctuary Agreement with Porini Ecotourism Ltd. for 60 bed lodge
Olgulului Group Ranch	Bordering Amboseli National Park	Kitiwa camps concession; cultural center Tortillis camp
Mbirikani and Kuku Group Ranches	Bordering Amboseli National Park	Game bird shooting; Training Center Concession with Richard Bonham
Magadi Conservation Trust (Comprising Shompole, Olkeri Oldononyokie and Olkirimatian Group Ranches)	Lakes, hills, wildlife wilderness	Camping, guided walks, game bird shooting Ostrich farming, guest houses, field study centers <i>Potential:</i> partnership for a lodge
Melepo Hills	Wildlife	Melepo Wildlife Trust
Athi Kapiti Plains	Wildlife	Ostrich farming, cropping, Beads for conservation

Land Areas	Key Attributes	Existing/Potential Wildlife Enterprises
D: NAROK		
Koiyaki/Lemek Wildlife Trust • Koikaye Group Ranch • Lemek Group Ranch	Rich in wildlife; next to Maasai Mara; good infrastructure; wildebeest migration	Campsites (Dream Camp, Buffaloes Camp, Mara Paradise, Rekeru Camp, Ol Otome Camp, Tippets Camp, Twende Camp) Agreement with Campfire Conservation Ltd.
Ol Choro Orowua Group Ranch	Rich in wildlife; good scenery	Mara Safari Club; Mara Safari (proposed extension); Ol Choro Orowua Wildlife Association (umbrella organization that decides on investments)
Siana Group Ranch	Rich in wildlife; next to Maasai Mara; good infrastructure; wildebeest migration	Mara Sopa Lodge (1986); Sekenani Camp Oseur Camp (1991); Bush Tops; Cottar New Camp. Sakura Camp; Hippo Camp
Ol Kinyei	Rich in wildlife; next to Maasai Mara; good infrastructure; wildebeest migration	Ostrich Farming
Maji Moto Group Ranch	Scenery; infrastructure; wildlife	Archers Tours/Olarro Camp
Olderkesi Group Ranch	Scenery, close to reserve	Enkeiyo Wildlife Trust
E: TAITA TAVETA		
Bura, Mbale & Wushumbu Group Ranches	Rich in wildlife; close to Park area	None
Lake Challa	Crater Lake, scenery; closeness to Park Areas	Lake Challa Hotel , game drives, sailing
Lualenyi Ranch	Rich in wildlife; scenery	Lualenyi Tented Camp
Maungu Group Ranch	Rich in wildlife	None
Mramba Group Ranch	Rich in wildlife	Sanctuary, game drives
Ndara Ranch	Close to park, main highway	Ndara Ranch Motel
Rukinga Ranch	Close to park, main highway	Wildlife Works Inc. garment factory; bird shooting
Sagalla Ranch	Close to park, main highway	Westermanns Safari Camp
Taita Hills Forests	High species endemicity, good infrastructure, close to park	Red Elephant Safari Trails, picnics, hiking
Taita Ranch	Good wildlife, close to park	None
Taita Hills Hilton Sanctuary	Good wildlife, infrastructure, scenery, close to park	Taita Hills Hilton Safari Lodge; Salt Lick Safari Lodge; Safari Hilton Camp
Taita Sisal Estate	Good infrastructure	Ostrich farming
Voi Municipality (Excluding N.Park) e.g.Trust lands.	Good infrastructure, close to park, close to highway, good wildlife	Lion Hill Camp; Shasha River Camp; Red Elephant Safari Lodge; Tsavo Park Hotel
F: COAST		
Shimoni, Mkwiro, Kibuyuni	Fishing	Kisite Mpumbuti Marine Park Fishing Project
Tana Delta	Crocodiles	Community crocodile projects with involvement from KWS, GEF, Baobab Farm and Mamba Village
Mwaluganje	Next to Shimba Hills, elephant	Sanctuary and lodge
Arabuko Sokoke Forest	Good wildlife, most northern coastal forest, good infrastructure	Kipepeo Butterfly Project Potential: guinea fowl, honey, nurseries
Ramisi	Ramisi river	Community crocodile sanctuary Potential: Boat rides, treetop restaurant,



Types of Wildlife Enterprise

Table 2: Market Segmentation for Kenyan Wildlife Enterprises

Types of Enterprise	Wildlife Tourism	Wildlife Tourism	Wildlife Ranching/ Farming	Gamebird Hunting
	<ul style="list-style-type: none"> • Critically important industry in Kenya, responsible for up to 10% of formal sector employment • Includes luxury lodges, tented camps, bandas, horseback & walking safaris, environmental education and research centers, balloon safaris etc. — often in tandem with livestock rearing. • Attractive alternative to national parks and county council reserves due to high security, diversified product and lower gate fees. • Remained commercially viable during industry slump because of personalized marketing through top market operators 	<ul style="list-style-type: none"> • Restrictive regulatory framework limits markets and products e.g. ban on local sale or processing of skin with hair means most of value added goes overseas • Commercially viable only on large ranches or multiple land units • Returns disappointingly low compared with other potential land uses. 	<ul style="list-style-type: none"> • Significant segment • Live animals, bones, meat, skins etc • Crocodile & ostrich most prominent • Recent expansions into tortoises, butterflies, frogs and chameleons • Lots of scope for expansion 	<ul style="list-style-type: none"> • Not a significant contributor to earnings.
	<ul style="list-style-type: none"> • Significant segment, but restricted mainly to lower value products (campsites, curios, cultural centers). • Partnerships (mainly concessions) with tour operators, particularly around Masai Mara and Amboseli national parks. • Wildlife sanctuaries established on communal land with tourism income as key revenue source • Only one 100% community-owned and operated lodge (Il Ngwesi) 	<ul style="list-style-type: none"> • Restrictive technical and capital entry requirements • Restrictive regulatory framework limits markets and products • Communities benefiting from fees paid by private croppers 	<ul style="list-style-type: none"> • Small segment but growing • Butterfly farming benefits forest adjacent households • Increasing community participation in crocodile ranching through licensed egg collection. • Diversified markets offer opportunities for expansion. 	<ul style="list-style-type: none"> • Mbirikani and Kuku Group ranches now responsible for monitoring game-bird populations and managing shooting. • Increased revenues to communities: (Mbirikani earned Ksh 265,000 in 1997.) • Expanding now to Laikipia and Samburu.
	<p>Net income estimated at \$52 million in 1996.</p>	<ul style="list-style-type: none"> • Net income valued at \$340,000 in 1995 	<ul style="list-style-type: none"> • Estimated combined value for crocodile, ostrich & butterfly farming/ ranching in 1996 was US \$300,000 	<ul style="list-style-type: none"> • Estimated at US\$350 000 (1997) but most of this accrues to tour operators.



Wildlife tourism

Kenya has long been viewed as one of the world's premier wildlife safari destinations. The tourism industry contributed 9.2% of Kenya's GDP in 1996. The last two years, however, have witnessed a collapse in the industry, with tourist arrivals plummeting to below 600 000, a 32% decrease from the 1994 peak of 863,400 visitors.

A variety of factors have been blamed, notably the industry's failure to adapt to changing consumer trends in source markets, increasing availability of competitive alternatives, such as South Africa and Tanzania, and the Kenyan government's failure to address the well-known problems of infrastructure, security and publicity.

Conclusions

Despite these trends, wildlife tourism on private and group ranches has continued to be a growth area. Private sanctuaries and reserves also benefit from the KWS policy of increasing national park entry fees for non-residents to US\$27 per day, which can add 30% to the local costs of a holiday (Shaw, 1998).

A 1993 GEMINI survey estimates that there are approximately 910,000 micro and small enterprises (less than 50 employees) in Kenya, employing more than two million individuals, or about 16% of the labor force. These enterprises would account for 12 - 14% of Kenya's GDP.

In late 1995 it was estimated that private reserves, including group ranches, accounted for more than a third of available lodge beds in Kenya. From this, it has been estimated that ranch-based wildlife tourism created net earnings of US\$52 million in 1994 (KWS Utilization Study, Report I, 1995). There is evidence to suggest that this figure has increased in the subsequent five years, and has helped lead to the formation of regional landowner forums to address the sustainable use of wildlife on private land⁵.

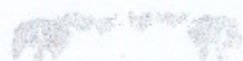
In other countries, such as South Africa, landowners who show management capability over wildlife are given complete user rights over that wildlife. This economic incentive has resulted in over 6000 private game ranches practising different forms of wildlife utilisation.

⁵The Laikipia district has seen a large increase in the number of ranches offering wildlife-related tourism, and in the last year alone, at least five ranches have expanded or initiated new projects. (Mugie, Loldaiga, Il polci, Colcheccio and Ol pejeta).



Case Study One: Financial and Livelihood Impacts of Butterfly Farming at Arabuko Sokoke Forest

By Caroline Ashley



1.0 Introduction

In 1993, the Arabuko Sokoke Kipepeo Project (ASKP) was initiated on the eastern edge of the Arabuko Sokoke forest, in Malindi District, Kenya. In October 1998, an impact assessment of the enterprise was carried out by a team from African Wildlife Foundation (AWF), in collaboration with Kipepeo Project staff.

The purpose of this assessment is to identify the financial and livelihood impacts of the butterfly-farming enterprise, and to test and further develop a methodology for assessing financial and livelihood impacts of wildlife enterprises. This case study is intended to form part of a wider assessment of the strengths, weaknesses and impacts of wildlife enterprises in East Africa in the long-term. This assessment addresses four core thematic areas:

- It focuses on the butterfly farming enterprise rather than the Kipepeo Project, and on the long-term impacts on people and their environment rather than the short-term outputs.
- Financial viability of the enterprise (both at the farm household level and the project level) is considered critical, because profitability affects long-term sustainability.
- Assessment of local impacts focus on "livelihood" issues. Livelihood security and sustainability are prime concerns of poor people, and cash income is just one part of this.
- Impacts on all stakeholders are reviewed so as to understand forces shaping its long-term future.

2.0 Project background

Arabuko Sokoke is the name of the forest and game reserve in Kilifi District, Kenya; "Kipepeo" means butterfly in Kiswahili. Arabuko Sokoke forest covers 417km². It is internationally recognized for its endemic and endangered species of birds and mammals (Kipepeo Project, 1998). But in recent years considerable pressure has been exerted on the forest from illegal harvesting of resources, calling for degazettement of the forest due to repeated land invasions by squatters.

Arabuko Sokoke Kipepeo Project (ASKP) was initiated as a community project combining income generation and forest conservation (see figure 1 for location of the forest and adjacent communities). The main activity is rearing butterfly pupae for export. The project is administered by the East African Natural History Society, in partnership with the National Museums of Kenya, and in collaboration with the Arabuko Sokoke Forest Management Team, comprise officers from the Forest Department, Kenya Wildlife Society (KWS), and Kenya Forestry Institute (Mbambakofi, 1998).

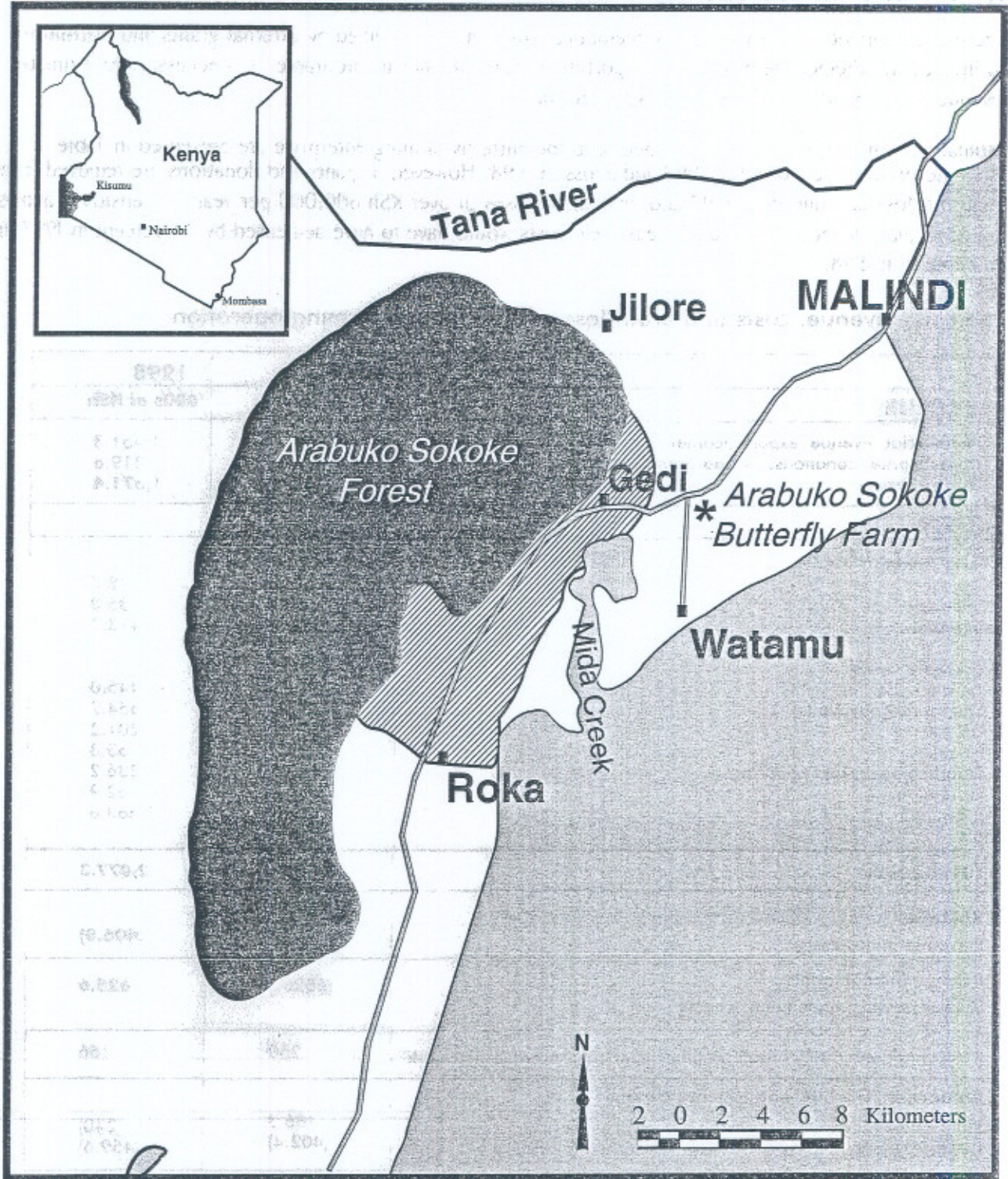
The project initially received funding from the Global Environmental Facility (GEF) via the National Museum of Kenya, and subsequent support has come from the World Conservation Union (IUCN) and from Birdlife International.








The project office is based at Gede in Malindi District (70km north of Mombasa). Butterfly farming households live adjacent on the eastern edge of the forest. Most engage in agriculture, supplemented by casual work, trading, employment or remittances from family members.

Approximately, 150 households adjacent to the forest are registered as members of ASKP. They are organized into eight groups; each of which has two group representatives (GRs). The GRs collect butterflies or eggs in Arabuko Sokoke forest. When the caterpillars hatch, they are distributed to farmers to feed and clean until they pupate. Pupae are collected by GRs, then collected by project staff using the project vehicle. ASKP staff sort pupae, pay farmers for those that are exported to butterfly exhibitors in the UK, USA and Germany, and contribute to marketing efforts. The project pays the farmer via the GRs for each pupa sold (Ksh 10-60, depending on the species), and also pays Ksh 5 commission to the GR, Ksh 5 to the group account, and sets Ksh 5 aside for community development.



Fig 1: Location of Arabuko Sokoke Butterfly Farming Project



- | | | | | | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|-------------------------------|
|  | Conservation area |  | Towns |  | Major roads |
|  | Benefiting communities from Butterfly farming project |  | Enterprise |  | Rivers |
| | | | |  | International boundary |

3.0 Financial viability of the project

3.1 Break-even analysis

The project cannot currently cover its operational costs. It is subsidized by external grants and institutions. To investigate whether the business of exporting pupae is financially profitable, it is necessary to estimate revenue and expenditure of the pupa export business.

Estimates of the revenues and costs specific to the butterfly farming enterprise are presented in Table 1. The enterprise made a profit in 1997 and a loss in 1998. However, if grants and donations are removed from the profit/loss account, both 1997 and 1998 show losses of over KSh 600,000 per year. A sensitivity analysis indicates that for the enterprise to break even, costs would have to have decreased by 24 percent in 1997 and 30 percent in 1998.

Table 1 Revenue, costs and profit/loss of the Kipepeo farming operation

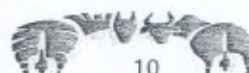
	1997	1998
REVENUE	'000s of KSh	'000s of KSh
Commercial revenue (export income)	2,059.7	1,451.8
Grant income (donations, in-kind grants)	888.7	219.6
Total revenue	2,948.4	1,671.4
COSTS		
Fixed costs		
Capital	52.9	78.7
Salaries	500	335.0
Sub-total	552.9	413.7
Variable costs		
Vehicle operation	536.5	445.0
Community payments	780.5	654.7
O&M	163.2	201.2
Wages	81.7	63.8
Export shipping and packing	469.6	236.2
Incidentals	127.7	62.9
Sub-total	2,159.2	1,663.6
Total costs	2,712.1	2,077.3
Balance (Revenue minus costs)	236.3	(406.0)
Balance without grants (Commercial revenue minus costs)	(652.4)	625.6
Cost of approx. 50% of salaried time spent on non-enterprise work	250	166
Balance if only 50% salaries attributed		
With grants	486.3	(240)
Without grants	(402.4)	(459.6)

Note: brackets denote a negative number (loss).

3.2 Factors affecting revenue, costs and profit

Revenue is limited by two factors:

- The international market is limited and seasonal. Customers have specific requirements in terms of species mix. In addition, there is strong competition from other producers in Madagascar, Malaysia and Costa Rica. The ASKP market may now expand further with the development of a butterfly exhibit at Mombasa.
- Losses in transit are estimated at approximately 25 percent of the total pupae number exported.



Costs include

- payments to producers and other community expenditures (29%),
- vehicle operations (20%),
- salaries (18%),
- export costs including shipping and packing (17%).

Compared to a small, private pupae-exporting enterprise, vehicle, salary and export costs appear to be high. Payments to producers are also higher than commercial rates. Some of the high costs are clearly due to the development and conservation objectives which require working with dispersed farmers.

A third explanatory factor of the high ratio of costs to revenue is that the enterprise is still relatively new and growing. However, the losses exhibited are too large to suggest that it could soon be commercially viable, without major restructuring.

3.3 Strategies for financial sustainability

The optimum strategy for the project to maximize efficiency is to trim costs where possible. Instead of cutting costs to the point where they compromise development and conservation objectives, however, donor funding to cover these "extra" costs should be sought. Revenue expansion should be a priority, through expanding into new markets, by working more closely with producers to improve the species mix, and responding quickly to market needs.

4.0 Stakeholders: Who benefits?

4.1 Stakeholder groups

Local butterfly farmers are the intended beneficiaries of the project. Additional stakeholders can be classified as local residents or external institutions; and either active project participants or non-participants (Table 2).

Table 2: Stakeholder groups

	Active participants	Non-participants
Residents	Members of Kipepeo groups, and their families, who farm butterflies	Residents of the area who do not belong to Kipepeo groups or have left
External institutions	Kipepeo Project team Museum of Kenya KWS (Kenya Wildlife Services) Forest Service KEFRI (Kenya Forest Research Institute) Birdlife International	Other institutions involved in conservation/forest management Private butterfly enterprise

4.2 Sub-groups among butterfly farmers

The households registered as Kipepeo members comprise approximately 1,900 family members in total, with 500-600 people recorded as involved in butterfly production (Maundu, 1997).

The most important subgroups of butterfly farmers can be divided into:

- Group representatives;
- Very active farmers (earning thousands of shillings per year or per month);
- Active but mainly seasonal farmers (earning up to KSh 1,000/year);
- Inactive or rarely active group members (sell once or twice a year, or not at all).

Butterfly farmers can be sub-classified by gender and age. Approximately 35% of butterfly farmers are women and 40 % children.

4.3 Socio-economic status of participants

There are still clear signs of poverty in the area, although the coastal region has seen considerable economic development in recent decades. Sixty-nine percent of surveyed participants are illiterate. Few agricultural opportunities exist for households near the forest due to the lack of fertile land and wildlife damage to crops.

The majority of butterfly farmers are representative of the wider community, coming from the middle category of wealth and security. A relatively small proportion come from the poorest segment of the community, including several landless families. A minority appear relatively secure, with business income, or employment in the family and several children at school. Comparisons of income information surveys in 1993 and 1997 do not indicate significant income differences between the various groups.

5.0 Financial Impact On Project Participants

The revenue generated by the project is distributed in the following manner:

- Farmers earn KSh 10-60 per pupa sold;
- Commission of GRs (Ksh 5 per pupa);
- Income for the group account (Ksh 5 per pupa);
- Funds set aside for community development (Ksh 5 per pupa) by the project.

5.1 Estimated earnings of farmers and group representatives

The total local earnings of butterfly farmers were approximately KSh 780,000 in 1997. In the first eight months of 1998, an estimated KSh 500,000 was generated, averaging approximately KSh 6,600 per member by August 1998. In reality, the scale of production and income varies enormously (See Table3 showing earnings by different categories of butterfly farmers).

However, further analysis shows that:

- at least one third of the 150 Kipepeo group members are now inactive;
- within the remaining 100 or so households, there are about 150 individuals who earn income from butterfly farming.

5.2 Payments to group accounts and community funds

The commissions on pupae sold were paid into the group account and set aside for community development. This amounted to KSh 83,880 in 1997. Several of the groups began to use their group funds for loans to members, while the community development funds have been used for projects such as water pumps.



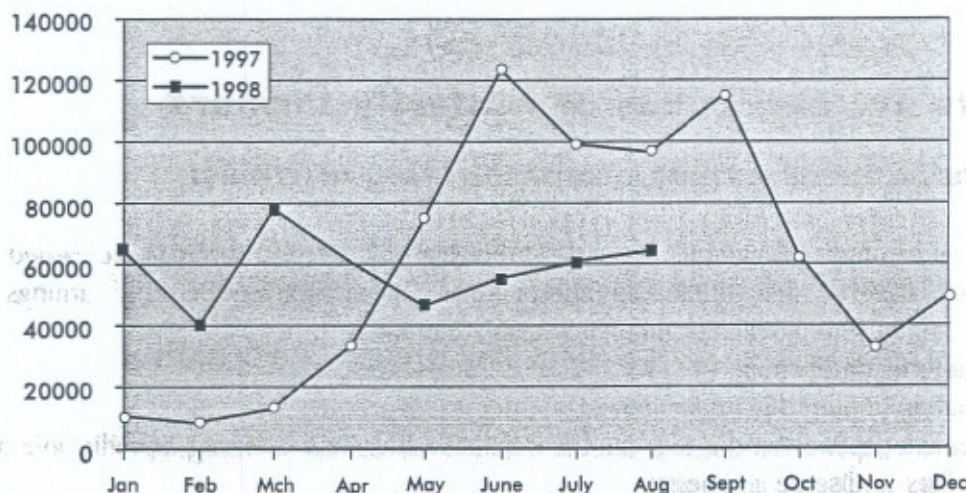
Table 3: Earnings by different categories of butterfly farmers

Scale of production	Approximate annual income from butterflies (KSh)*	Approximate number of earners	Examples	1997 KSh	1998 KSh (Jan-Oct)
(Virtually) inactive	0	50+			
Small-scale	100-1500	70-100	Charo Menza	860	900
Medium scale	2,000-5,000	20-30	Serenge Nzari	2,255	4,450
Large scale	5,000-40,000	10-25	Mwarimba Tsaka** Baya Nyundo plus GR commission Total:	24,090 21,535 10,500 32,035	32,960 36,949

5.3 Timing of earnings

The seasonal effect of butterfly earnings affects their value to households. Butterfly income is a useful complement to other sources, particularly for poor families dependent on cassava and casual work. Total pupae sales and income to farmers have been growing consistently each year, except in 1998 when uncharacteristic rains associated with the El Nino phenomenon affected production (Figure 2).

Figure 2: Seasonality of income (total farmer earnings (KSh) per month in 1997 and 1998



5.4 Determinants of earnings

Individual farmer earnings depend on a number of factors including: seasonal and climatic conditions, the number of caterpillars allocated by GRs or collected wild, survival rates and losses, species mix of caterpillars, the number of rejections, and whether GRs accurately distribute accrued earnings.

5.5 Comparison with income from other sources

Results indicate that farmers estimate their income from butterfly farming to be equivalent to 87 percent of agricultural income. However, there may have been a tendency to over-estimate butterfly earnings. Participatory Analysis of Livelihood Issues and Impacts (PALI) meetings indicate that butterfly earnings rank as a significant income source. As Table 4 shows, butterfly earnings emerged as the third largest source of

Table 4 Ranking of income sources at Soyoso

Women's group				Men's group			
Rank	Activity	No. leaves	% total	Rank	Activity	No. leaves	% total
1	Digging for others	43	31	1	Butterflies	47	26
2	Cassava	25	18	2	Coconut	31	17
3	Butterflies	22	16	3	Cassava	24	13
4	Coconut	14	10	4	Cashews	18	10
5	Cowpeas	11	8	5	Casual Labour	16	9
6	Tobacco	8	6	6	Mangoes	14	8
7	Remittances	5	4	7	Mokuti thatch	14	8
8	Mokuti thatch	5	4	8	Livestock	8	4
9	Cashew/mango	4	3	9	Palm wine	6	3
10	Selling food	3	2	10	Cow peas	5	3
	TOTAL	140	100		TOTAL	183	100

No. of participants: 14 women, 19 men. Each had 10 leaves.

income in 1997 for women and the largest source of income for men, accounting for 26 per cent of the total.

It can be inferred that butterflies contribute a substantial share of total household income of possibly between 10 to 25 per cent on average. As most households derive income from diverse sources, butterfly earnings can rank in the top three income sources for a significant number of households.

6.0 Impacts on livelihoods of butterfly farmers

6.1 Local criteria for assessing income-earning activities:

Risk and reliability of earning: Many farmers expressed the view that butterfly earnings are earned with relatively little effort. However, this attitude also reflects a major disadvantage of butterfly earnings, which is their unreliability. Earnings are unreliable and unpredictable due to:

- seasonality of butterfly production;
- inter-annual variation in butterfly production;
- supply of caterpillars depends on the GRs and the weather, rather than following a predictable pattern;
- losses of caterpillars to disease and pests;
- some pupae delivered are rejected by project staff and not paid for;
- for pupae that are sold, payments may be delayed or kept by the GR.

Agricultural income is also unpredictable, as rainfall, productivity and crop prices vary markedly. Pupa losses may be due to a lack of capacity which can be mitigated with training in the production process, for example, disease control.

Losses and rejects mean that investing effort in butterflies is a risk: Analysis of project records in 1998 indicate that on average, 20 per cent of pupae supplied by farmers were rejected, with a peak of 25 per cent in the busy months. Pupa are rejected either because of damage, or because a species is over-supplied in the day's shipment. The risk of investing time for nominal returns may be more of a problem for women than men, given their busier schedules (Maundu, 1997).

Immediacy of earnings: The advantage of butterfly farming is that the harvest period is relatively short

compared to crops (4-6 weeks, compared to months for most crops, a year for cassava, and many years for tree crops).

Unpredictable markets: Farmers perceive the butterfly market as unpredictable because prices have fallen and they cannot predict whether pupae will be rejected due to over-supply. In practice, prices are probably more stable than for most agricultural crops, because prices have only changed once, and total sales volume is relatively steady. In addition, when farmers sell agricultural produce locally they can at least contact different customers, negotiate on price, and are familiar with the reasons why prices vary at different times of year. In the butterfly business, they have little understanding of the market and no choice of customers.

Low barriers to entry: In principle, barriers to entry are relatively low. The main barrier to entry into pupae production is access to eggs/caterpillars and access to the international market. Both are provided by participation in the project. For those outside the project, these barriers are virtually insurmountable, so participation in the project becomes the key entry strategy. This is particularly important because once caterpillars pupate, they must be marketed immediately or risk being a loss. This contrasts with dried fish which can be sold when convenient.

Pros and cons of project participation: Other advantages and disadvantages arise from butterfly farming activities:

- Increased access to loans for members.
- Improved communication with KWS and donor linkages with other Institutions.
- Status and recognition for the participants.
- Exacerbated conflict between butterfly farmers and non-participants.

6.2 Contribution to livelihoods

Impact on assets: Butterfly income is clearly used to build non-financial assets, particularly for expenditure for education and physical stocks such as food. Given people's lack of savings, and unreliable income sources, access to loans from the group account is becoming an important potential benefit. The limited amount of time butterfly farming activities take is significant because most diversification strategies do incur opportunity costs on other activities.

Impact on well-being: The main impact on well-being is through the earnings of butterfly farmers, which boost cash, health and food security, and reduces household vulnerability. Impacts on empowerment seem to be very limited. The project has contributed more to the tangible side of livelihood security than to the social and empowerment side.

Capacity to influence the external environment: While this enterprise has not involved an "empowerment" process of institution building and mobilization, it has enhanced the possibility for producers to influence local policy and institutions, by creating channels of communication to KWS and Forest Department.

6.3 Differences between sub-groups of butterfly farmers

In some cases a woman is an active butterfly farmer, however, it is the male household member that is registered as the group member. But then she may have less right to the earnings and access to group benefits such as loans. If the experience of other projects is repeated here, benefits to the household are likely to be greater when income is administered by women as they are more likely to spend it on food and household essentials. The benefits of butterfly farming may be more significant to women than men because it is an additional source of income involving little investment and is based at home.

7.0 Impact On External Stakeholders

7.1 Conservation organizations

The National Museums of Kenya contributes the office and four full-time professional staff at a cost of approximately KShs 500,000 per year. Birdlife International contributes approximately KShs 12,000 per month, and all partner institutions devote some staff time to shared management of the project. The main benefit to them is that the project contributes directly towards their goal of conserving Arabuko Sokoke forest.

Indirectly, staff at the Kipepeo Project spend time contributing towards the work of these institutions and the wider Arabuko Sokoke Forest Conservation Project. ASKP also complements and facilitates their other work to promote forest conservation, by providing a tangible example of local benefit and lessons for further similar work within their organization. The credit and recognition of institutions, given their stake in an acclaimed project, is also an indirect benefit of participation.

7.2 Private sector

An enterprise directly affected by the project is a private butterfly farming enterprise that pre-dates the Kipepeo project. Although this exposes the project to competition, both suppliers appear to have sufficient demand. The project is not in a position to undercut the private enterprise as it operates above commercial costs.

8.0 Conservation Impacts

8.1 Threats to the forest

There are two primary threats to the Arabuko Sokoke forest:

- Degradation of the forest due to excess harvesting of natural resources. The forest is used by local people for fuelwood, game meat, fruits, medicinal sources, mushrooms and other non-wood forest products.
- Groups lobbying for degazettement of the forest.

8.2 Changing attitudes to conservation

Given the relatively small scale of direct impacts, the project seems to have had remarkable success at raising awareness and changing attitudes. This has occurred at two levels, firstly among butterfly farmers themselves and secondly, among decision-makers. Among butterfly farmers, the percentage that reported that the forest was "useful to them" rose from 48 percent to 83 percent, and those believing it should be used for cultivation dropped from 83 percent to 16 percent. It should be noted that butterfly farmers are only a small proportion of the local population living near the forest. Yet among a much wider circle of decision-makers, the project has had considerable publicity and served to raise awareness that economic benefits can be generated from conservation.

9.0 Observations

9.1 How can livelihood impacts be enhanced?

Decrease risk and unreliability of earnings:

- Promote technical training to increase capacity of butterfly farmers to reduce losses from disease and pests.
- Decrease rejection rates by discouraging excess supply of common species, providing seasonal information and introducing differential commission rates on species.
- Monitor GR payments to farmers to ensure earnings are distributed fairly and on time.



Decrease dependence on and conflict over group representatives

GRs carry out the essential functions of the collection and distribution of caterpillars to farmers, collection of pupae from farmers, and distribution of income to farmers. Several options exist to streamline this role:

- Stricter systems of regulation and monitoring could encourage increased transparency and efficiency. Institutional development support can be accorded to communities to assist in maintaining and monitoring these systems.
- GR functions could be "liberalized" enabling licensed persons to supply and sell caterpillars, or pay for a license to collect in the forest reducing the monopoly retained by GR's. Alternatively, the project could structure fixed weekly times when pupae will be purchased at collection points.

Enhance access to loans

The project could help groups to develop fair and effective revolving loan systems by training, adapting experience from other projects, and institution-building within the groups.

Enhance benefits to women

The project currently focuses on registered "members" rather than producers. The project should reassesses the concept of "membership" and make direct links with women producers to enhance their share of the benefits.

The number of beneficiaries could be increased by:

- Allowing households not adjacent to the forest to register as members, form groups, and obtain licenses for collecting butterflies;
- Liberalizing the supply and purchase of caterpillars and pupae (see above under GRs) so that production is not confined to those in a group.

9.2 How could conservation impacts be enhanced?

Raising awareness of forest values among decision-makers is a key conservation contribution. Activities to maximize awareness and fundraising should be developed. This will be assisted by a clear assessment of how local farmers make livelihood and resource-use decisions, how policy-makers make planning decisions, and what the main threats to the forest are.

10.0 Conclusion

Butterfly farming is a development strategy which provides a diversification option for households with unpredictable income. A large number of participants indicate that it is now a significant source of income. Apart from the unreliability of butterfly earnings, it fits very well with livelihood strategies in other ways, by providing work that can be done easily at home, with little investment of money or time. These advantages are particularly important to women and poor families. The earnings enable families to spend more on food, school fees and health.

The development impact of the project suffers from two fundamental limitations:

- The total number of beneficiaries is limited compared to the total community.
- Benefits disproportionately accrue to fewer individuals and for the majority of farmers, butterfly farming is a bonus, but does not alter their long-term livelihood security.

The main negative impact for participants relates to the monopoly held by GRs, which exacerbates the unreliability of earnings. Measures to reduce the power of GRs would involve substantial restructuring of enterprise functions and need prior feasibility assessment.

The enterprise does appear to be contributing to the conservation of the Arabuko Sokoke forest by raising awareness among residents and decision-makers of the benefits of conservation. It may reduce some illegal activities in the forest, but is unlikely to significantly affect total degradation pressure of forest resources. However, the project is reducing pressure to degazette the forest by fostering positive conservation attitudes in surrounding communities.

The project incorporates a combined approach of development and conservation objectives. Finding the right balance between development and conservation objectives is critical to avoid an imbalance of overall benefits. Ecosystem functions and services provided by the forest are actually critical to the productivity and sustainability of farming in the area.

Achieving financial sustainability can often contradict development and conservation objectives. Without donor funding, the project would regularly run at a deficit. The financial analysis suggests that some of this may be due to inefficiencies, but much is due to simultaneously serving both development and conservation objectives. If the primary goal were to ensure profitability and financial sustainability, the project would adopt a radically different approach. It would focus on marketing; employing fewer farmers, invest in production training; and allow prices to be market driven without contributions to group and development accounts. A key question to address is whether the project can secure long-term funding to cover the extra costs associated with the development and conservation approach. If not, sustainability is jeopardized, and the enterprise needs to internally streamline its commercial viability.

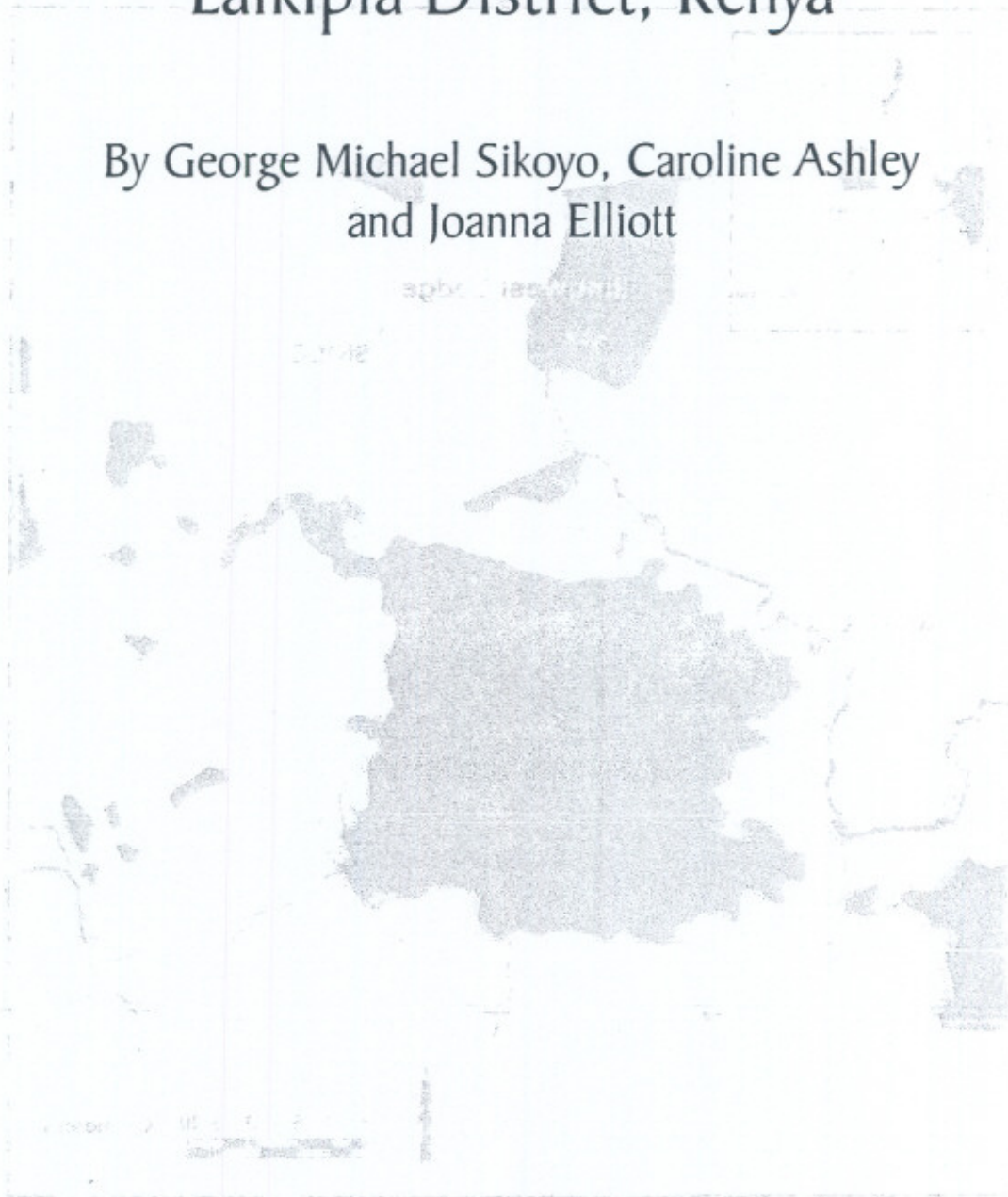
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Case Study Two:

Financial and Livelihood Impacts of Il Ngwesi Lodge, Laikipia District, Kenya

By George Michael Sikoyo, Caroline Ashley
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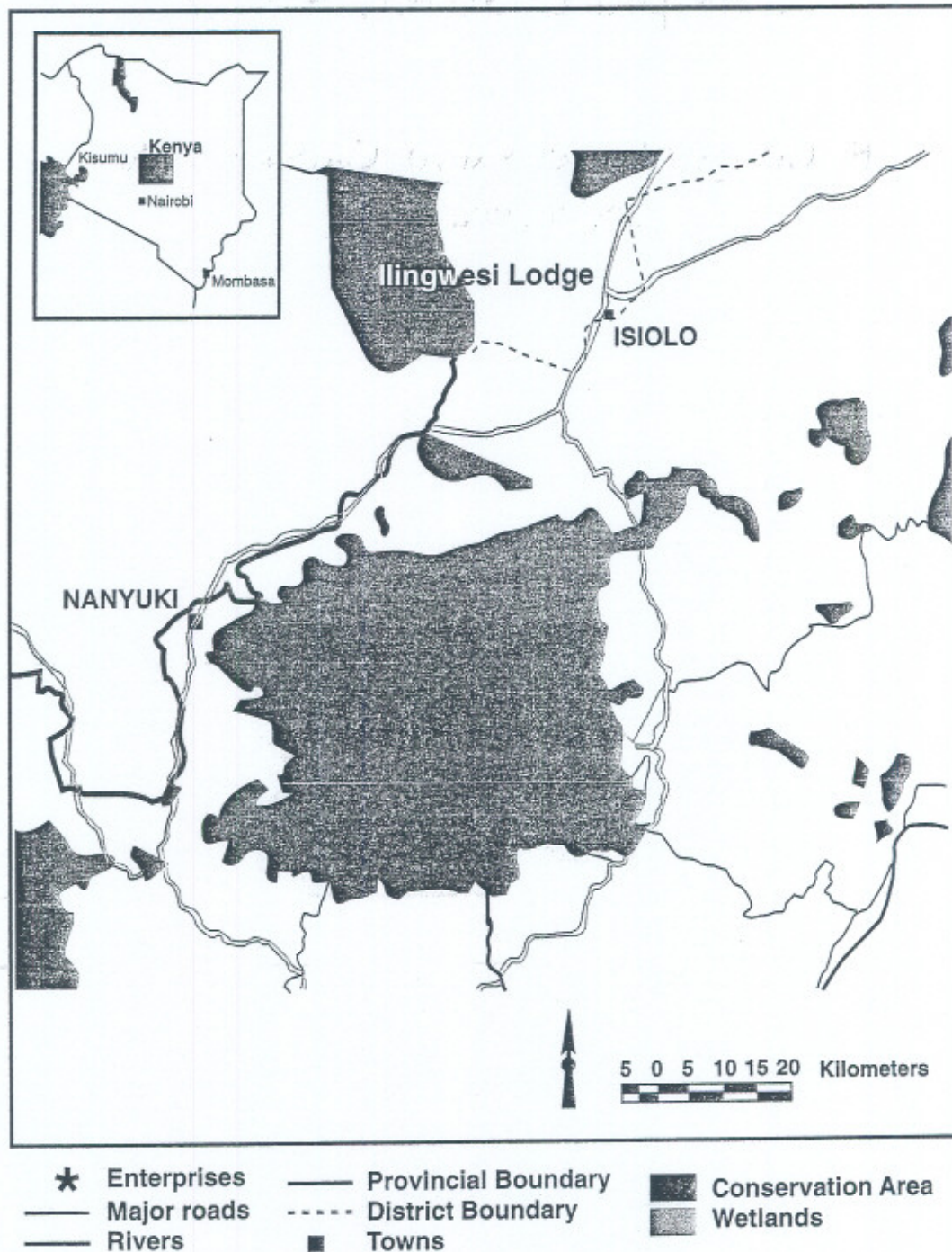
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1.0 Background

Il Ngwesi Lodge is a 12-bed self-catering tourist lodge established on the Il Ngwesi lodge group ranch by community members with external assistance. The lodge started operations in December 1996. By November 1998, several local benefits were already evident, including cash, employment opportunities, community development projects, and changing land management practices. The lodge has received widespread national and international publicity as a success story and potential model for other community-based wildlife enterprises (see Fig 2).

Fig 2. Location of Ilngwesi Lodge



1.1 Geographical and Ecological Overview

Il Ngwesi Group Ranch covers an area of 8,765 hectares. The ranch has a registered membership of 448 households representing a population of approximately 5,520 people. There are 12 neighborhoods within the group ranch. About 50% of the registered members reside outside the group ranch, where they have acquired individual farms through membership in land buying companies.

Most parts of Il Ngwesi including the wilderness area, are prone to drought. The ranch is an important part of the Laikipia elephant range and is a seasonal home to up to 600 elephants. Other wildlife species include a variety of endemic northern Kenya species such as the reticulated giraffe and gerenuk.

There are communally and privately owned ranches adjacent to Il Ngwesi. Lewa Downs and Borana are privately owned ranches and are to the south and west of Il Ngwesi group ranch, respectively. Il Polei, a neighboring community owned ranch is also trying to establish wildlife tourism.

1.2 History of Wildlife Tourism on Il Ngwesi

In the early 1980's, the elders and GRMC of Il Ngwesi had an informal agreement with Camel Trek Safaris, who started a tented camp on the ranch in 1982. The local community benefited from the employment opportunities and camping fees charged to clients. Though the benefits to the local community were small, they started to demonstrate the potential of wildlife tourism. By December 1996, when the lodge started operating, the group ranch was earning about KShs 0.5 million per annum from Camel Trek Safaris.

In the 1980's, Laikipia was a focal area for the first Conservation Of Biodiverse Resource Areas (COBRA) project funded by the United States Agency for International Development (USAID) and implemented by the Kenya Wildlife Service (KWS). Through COBRA, the Il Ngwesi community benefited from mobilization tours to Maasai Mara to change the attitudes of communities towards wildlife resources and stimulate a sense of value for them. A change of attitudes towards conservation would also enable members to come up with a community action plan. The outcome was the construction of the lodge. KWS helped the group ranch to access grants worth KShs 9.8 million to fund the capital investment needed for the lodge. The board of Directors of the Il Ngwesi Company Ltd oversees the lodge and its management on behalf of the community.

One of the impacts from Il Ngwesi lodge is that people from Ntalabany and Leperua neighborhoods of Il Ngwesi group ranch were drawn away to form a self-help group and establish a cultural boma (CB) 4 km from the lodge. The cultural boma customers are mainly visitors to the lodge, though also include some tourists staying at Lewa Downs or Borana's facilities.

2.0 Assessment Of Commercial Viability

2.1 Profitability of Il Ngwesi Lodge

The study concludes that Il Ngwesi is commercially viable, and that gifts of capital, time and skills have contributed greatly to this viability. Recent data on revenues, cost and asset values was used to assess lodge-profitability to date. Box 1 demonstrates the commercial performance of Il Ngwesi using several economic indicators.

Box 1: Actual Commercial Performance 1998-99

	1997-98	1998-99
Rate of return on sales	9%	33%
Rate of return on investment	3%	14%
Annual growth in sales/month	N/A.	23%
Profit per occupied night (KShs)	1,183	4,880

Note: 1998-99 data is taken from unaudited accounts for 8 months to end November 1998



Il Ngwesi performed well through the first 8 months of its 1998-99 financial year, and significantly better than its first full year of operation in 1997-98. A 14% rate of return on investment is respectable compared with other business sectors. although it would not satisfy some venture capital companies (who expect a 2-3 year payback, i.e. a return on investment of 30-50% p.a. is perceived good for high-risk Kenyan markets such as tourism). A key factor is the access to the marketing and accounting support given by Lewa Downs and Borana ranches.

An additional issue is whether the lodge would still be profitable without donor funding or if it had to pay commercial rates for its capital, marketing and financial support services. This scenario estimates values for the following:

- Donation of time, money and marketing work by representatives from Lewa Downs and Borana Ranch;
- Accounting and secretarial services provided by Lewa Downs Conservancy.
- Interest payable on a loan, equivalent in size to half the value of initial grants received¹.

The outcome of the analysis for all three scenarios is shown in Box 2.

	1997-98	1998-99
Rate of return on sales	-30%	-12%
Rate of return on investment	-10%	-5%
Annual growth in sales/month	N/A.	23%
Profit per occupied night (KES)	-4,118	-1,732

Note: 1998-99 data is taken from unaudited accounts for 8 months to end November 1998.

In order to achieve the return on investment of 14% p.a. as well as pay the imputed costs as calculated, the Lodge would have to increase occupancy rates from an average 50% to an average 80%, or cut operating costs by 40%.

The sustainability of lodge performance would be enhanced by building the capacity of actual and potential lodge staff in key tourism handling and facility management skills; such as marketing, management, negotiating with tour operators, accounting and secretarial services.

2.2 Profitability of the Cultural Boma

The cultural boma is commercially viable without any support or subsidies. However, its viability is highly dependent on seasonal accessibility by road and on visitors to Il Ngwesi Lodge, Borana and Lewa Downs. The cultural boma made sales of Kshs. 330,000 for the first eight months of fiscal year 1998/99, of which 90% came from performance fees and 10% from handicraft sales. Box 3 summarizes the commercial performance of the cultural Boma, indicating good growth and profitability performance.

	1997/98	1998/99
Rate of return on sales	21%	32%
Annual growth in sales	N/A.	50%
Rate of return on investment	37%	37%

¹The donation used as investment in the Lodge amounted to KShs 4 million from the KWS Wildlife and Development fund (largely funded by USAID COBRA Project) and US\$100,000 from Liz Claiborne and Art Ortenburg Foundation.

3.0 Stakeholders Analysis

Table 1 summarizes the key stakeholder groups within Ilngwesi.

Table 1: Summary of key stakeholder groups within Ilngwesi Group Ranch

Stakeholder group	Active participants	Non-participants
Group ranch residents	Group ranch members Households with a stake in cultural Boma	Some group ranch members e.g. those registered in other group ranches like Makuariani Residents in Il Ngwesi who are actually members of other group ranches
Neighbors	Lewa Downs Conservancy, Borana Ranch	Neighboring Somali communities in Isiolo to the North. Camel Trek Safaris. Other private and group ranches involved in wildlife conservation near Il Ngwesi
External Institutions	Kenya Wildlife Service, Laikipia Wildlife Forum (LWF), USAID, AWF	Influencing institutions e.g. district government

The group ranch members are the main intended beneficiaries of the project. There are four specific groups with high involvement in the enterprise, though relatively small in proportion to the total Il Ngwesi population. These are:

- Workers at the lodge
- Self-help group members at the cultural boma
- Members of the Board of Directors of Il Ngwesi Company Limited
- Members of the GRMC

The group ranch residents can also be divided into stakeholder categories based on the differences in their interests. The benefits and costs of the Lodge are distributed differently according to:

- Gender
- Age (not only between adults and children, but, within adults, between elders, married women, young unmarried men ("morans") and young women)
- Neighborhood (particularly whether inside or outside the group ranch)
- Socio-economic status

3.1 Size and Characteristics of Il Ngwesi Stakeholder Groups

An estimated total of 50 households out of 450 (about 11%) are receiving direct cash benefits from the Lodge. Table 2 shows that the majority of these direct beneficiaries are male.

Group ranch members vary in their degree of poverty and socio-economic security. For categorizing different

Table 2: Number of beneficiaries of Ilngwesi Lodge by category

Category	Number of Beneficiaries				Total
	Men	Women	Young Adults		
			Morans	Young Women	
Lodge employees	10	0	16	0	26
Cultural Boma Workers Management committee	4 25	6	7	6	23 25
Group Management Committee	25	0	0	0	25
Board of Directors	4	0	0	0	7
Total	68	6	23	6	106

Data source: PALI, October 1998

members of the group ranch into wealth strata, the number of livestock owned was used as an assessment as an important indicator of wealth in pastoral communities. Proximity to business opportunities such as accessibility to Timau, Nanyuki and Meru towns is an important factor in neighborhood wealth.

3.2 Other Stakeholder Groups

Kenya Wildlife Service

KWS is the main national level stakeholder and the designated "owner" of all of Kenya's wildlife resources. KWS has the authority to assign and protect property rights in wildlife and to implement management of wildlife nationally.

KWS has always been fully supportive of the group ranch and the lodge. Through KWS the first Participatory Rural Appraisal (PRA) was conducted and funds secured for a significant proportion of lodge construction. The granting of use rights to the group ranch has helped to decentralize conservation management and reduce costs such as anti-poaching patrolling on the part of KWS.

The success of the lodge also supports the institutional interests of KWS through sharing in the credit for the lodge. Il Ngwesi has had a powerful demonstration effect on communities, both within and outside Laikipia. The lodge therefore serves to foster public support for intended wildlife actions and encourages community investment in wildlife conservation.

Lewa Downs Conservancy and Borana Ranch

The Lewa Conservancy was established to conserve rhino and other key species. Borana ranch is principally a cattle ranch, but has now set aside a substantial wilderness area combined with a luxury lodge for wildlife viewing.

A major reason for close links between Lewa Conservancy, Borana and Il Ngwesi is that they form a critical wildlife corridor, particularly for migrating elephants. Il Ngwesi is central to the migratory route linking Lewa with Samburu Game Reserve in the north. The elephant population on the three ranches varies between 120-300.

Borana and Lewa gain significant benefits from the lodge. A joint security surveillance system helps reduce poaching and banditry. Encouraging local development and support for wildlife-based businesses helps to build a secure and sustainable livelihood asset base for all people living in the ecosystem, and attracts donor funding to support conservation.

Laikipia Wildlife Forum

The Laikipia Wildlife Forum (LWF) is a broadly based association of landowners and other local stakeholders that aims to coordinate local management and use of wildlife resources. It is highly regarded within Kenya for its groundbreaking efforts to monitor and manage wildlife cropping and security issues, and for its policy advocacy work, particularly with KWS.

4.0 Financial Impact On Local Residents

4.1 Financial Flows from Il Ngwesi Lodge

Salaries

Currently there are 26 lodge employees. From December 1996 to November 1998, they earned a total of KShs 2,142,000 as wages, including rations and tips. This represents an average of KShs 86,100 per worker over the period, or around KShs 3,590 per worker per month.



Casual Earnings

Casual earnings amounting to Kshs 1.8 million were paid to community members in 1995/96 during lodge construction (Auditors Report 1996/97). Periodically, there are casual labor opportunities for workers to maintain tracks, the airstrip and the lodge.

Collective Income

Between 1996-1998, the group ranch collectively earned approximately Kshs 1 million from the lodge. Fifty percent of collective income is allocated to the group ranch Development Account with the remainder supposed to be distributed to group ranch members as dividends. The 500,000 KShs divided equally among the 450 registered households equates to roughly Kshs. 1,320 each.

The Development Account income has been allocated into various activities as shown in Table 3.

Table 3: Allocation of Group Ranch Development Account Income

Table 4 summarizes local earnings to date from the Lodge. Formal wages account for a substantial share of total cash income (41%).

Table 4: Summary of Lodge Financial Flows

Income spent on:	Percentage	Amount in KShs
Management	10	115,000
Development of schools	25	287,000
Bursaries	10	172,000
Dividends to GR members	50	575,000
Total	95¹	1,490,000

Source: Records of the General Secretary of the GRMC

4.2 Financial Flows from the Cultural Boma

Payments to Owners

	Wages	Casual earnings	Collective Income	TOTAL
Earnings to date KShs	2,238,890	1.8 million in 1996 N/A. for 97-98 ¹	1,490,000	5,528,890
Percentage of total	41	33	27	100
Estimate for year 1998/99 (KShs)	1,383,640	N/A.	1,000,000	2,383,640
No. of direct beneficiaries	26	N/A.	450	450
Beneficiaries	Lodge workers, tour guides, game scouts, driver and camel riders	Those dependent on casual earnings	All registered households	
Avg. KShs/earner		N/A		
- to date	86,110		3,311	
- per year	53,220		2,220	

¹Not available in records surveyed.

Profits generated by the cultural boma belong to the 25 members of the Self-Help Group, who are "owners" of the enterprise. So far, dividends of 100,000 KShs. have been paid amounting to KShs 4,000 per member.

Wages

The cultural boma employs 23 staff. Total wages from January 1997 to November 1998 were KShs. 362,220, as shown in Table 5. The difference in earnings between different groups is significant (Table 6 shows the variation in wages by type of worker and by month). For example, in 1998/9, maximum monthly wages for a young woman is 840 KShs/person/month and for a male guide is 3,000 KShs/month.

Earnings from Handcraft Sales

Maasai jewelry and crafts are sold to tourists at the cultural boma. The women who work in the boma have the major share of this market. Total income earned by crafts people to date has been 99,000 KShs. This suggests that each woman has earned a total of 15,750 KShs to date, or an average of about 650 KShs per month.

Table 5: Total wages earned by cultural boma staff between 1997-1998

Year	Operating months	Total wages earned KShs
1996/7	4	49,680
1997/8	12	143,930
1998 (to Aug?)	8	168,610
Total to date	24	362,220

Source. Records of the Secretary to the Self-help Group

Table 6: Variation in wages by type of worker and by month.

	Young Women	Morans	Men	Women	Elder (guide)	Total
No. in group	6	7	3	6	1	23
Wages per person in KShs						
1996/7	980	1,400	4,000	2,000	10,000	49,680
1996/7	2,730	3,900	6,250	7,750	35,000	143,930
1996/7	3,660	6,250	14,300	6,000	24,000	49,680
Total						362,220

Source. Records of the Secretary to the Self-help Group

Collective Income

Since January 1997 the Boma has contributed 190,000 KShs to the Group ranch collective income account. Of this, 160,000 KShs was a fee paid by a camera crew for filming. The women's group in the CB has contributed about KShs 30,000 to the Group ranch collective account.

4.3 Impact Relative to Other Income from Employment

The main sources of cash income for Group ranch members are the sale of livestock and employment in the tourism sector. In each of the neighborhoods, results show that the main cash need is for buying food, and that the main source of cash is livestock. The average monthly cash needs for a household is Kshs. 6,800. However, very few households on the ranch reach this amount. In the household survey, 71% of the respondents reported having someone in employment. Of these households, 59%, 29%, 7% and 5% had 1, 2, 3, and 4 people, respectively employed. The survey did not disaggregate according to gender. Of the households surveyed, 52% reported having at least one family member working away from the group ranch, with an average of about KShs 3,970 per month remitted.



5.0 Local Livelihood Impacts

5.1 Indicators of Desired Livelihood Security

Some benefits of the lodge accrue to all neighbourhoods. There are impacts that accrue to all neighborhoods. These include improved security, improved grazing management and establishment of pre-primary schools, renovation of the educational and infrastructure facilities in the group ranch. The most significant benefit of the lodge to group ranch members is increased security, ranked as very significant by 98% of respondents. Other advantages ranked in order of importance are wildlife conservation (93%), infrastructure development (79%), wages and salaries for those employed (72%) and preventing other people from grazing in the wilderness area (67%).

5.2 Distribution of Impact between Neighborhoods

Elders were ranked as the number one beneficiary of cash disbursements. The youths were ranked second in terms of cash beneficiaries because of wages, salaries and casual earnings from the lodge and cultural boma. The women's group was ranked third.

In the use of development funds, children were ranked as number one beneficiaries because of the six pre-schools under construction at the time of this study. Finally, bursaries are intended to benefit the youths at tertiary levels of education. For instance, the GRMC-run bursary fund is supporting a law student through his final year at Moi University.

On the other hand the lodge has several perceived negative effects. For example, it particularly limits access to grazing resources for some neighborhoods and increased conflicts, insecurity and wildlife damage. However, the net livelihood benefits are perceived as positive to due to improved security, investment in human capital and infrastructure development, transfer of skills and empowerment.

5.3 Impacts on Natural and Productive Assets

- Improved security. Il Ngwesi is directly linked to the well developed security network at the Lewa Conservancy. The group ranch members participate in self-policing activities, and work with Lewa Downs and KWS to reduce the level of poaching and insecurity in the ranch.
- Increased livestock numbers. Il Ngwesi has had impacts on livestock and pastoralism in general. A significant portion of employee earnings from the lodge and boma are spent on restocking livestock.
- Improved grazing. The lodge contributes to improved grazing management within the ranch. The lodge area, is not available for grazing for most of the year and is conserved pasture for dry-season grazing.
- Increased human-wildlife conflict. This is manifested through increased damage to agricultural crops and livestock loss due to increases in predator numbers on the ranch.

5.4 Impacts on Social and Human Capital

- Communal income diversification. This results into reduced dependence on livestock to fund social development projects.
- Boosts community conservation incentives. Benefits such as security, dry-season grazing and recognition have boosted collective responsibility and given the community an added incentive to protect wildlife.

5.5 Impacts on Non-Registered Residents

Some families living in Il Ngwesi are registered at other group ranches. Direct benefits like dividends and employment do not accrue to this stakeholder group. The impact on non-participating residents is not significant since access to grazing resources is not completely denied to this stakeholder group, and social



development benefits are accessible to all groups. Thus they benefit from:

- Partial access to grazing resources during drought.
- Improved security.
- Access to improved infrastructure and social services - roads, radio communications, pre-schools and primary school.

5.6 Impacts on Neighboring Communities

This stakeholder group includes the Somali community in Isiolo District to the east and Samburu to the north. This group has no access to Il Ngwesi's grazing resources. Denying this stakeholder group access to the ranch is thought to reduce the threat of poaching for wild game and trophies. Whereas this is advantageous in terms of improved security for tourists, Group ranch members and wildlife, the loss of these income sources will affect some members of neighboring communities.

6.0 Overview Of Development Impacts

Group ranch institutions, particularly the Natural Resource Management Committee (NRMC) and GRMC have been strengthened, though lack of transparency and accountability by the latter is a serious problem. However, the long term viability and sustainability of the Lodge is not secured: it is viable for now, but does need to address weaknesses for the long-term.

Il Ngwesi lodge and cultural boma have generated an estimated 6.3 million KShs for Il Ngwesi households from December 1996 to November 1998, or about 0.26 million KShs per month. Of this, about 27% accrues to all 450 households and is managed by the GRMC (though we note that the bulk of this money has yet to be distributed). The amount earned so far relative to project investment and household income levels, is quite significant.

6.1 Distribution of Impacts

The Lodge has changed the livelihood status of the salaried employees of the Lodge. For others, it has provided significant support to their current livelihood strategies, boosting livelihood security and sustainability. This is principally through improved collective assets (security, infrastructure, education and possibly in the long-term management capacity).

6.2 Opportunity Cost

There are very limited alternative opportunities for waged employment or sources of income within the group ranch. Honey gathering has potential, but is currently practiced only to meet subsistence needs. Therefore the Lodge is playing a significant role in:

- Developing alternative livelihood options.
- Developing infrastructure and roads, communications and improved security.
- Establishing external linkages for group ranch members, including with international donor agencies and NGOs.
- Funding development projects.

These impacts are likely to be sustainable because it allows the community to invest in asset building. However, much will depend on the long-term viability of the Lodge, which looks promising, but is not secure.

6.3 Key Factors Driving Scale of Impact

The key factors influencing the scale of impacts from the lodge are:-

- Factors driving Lodge profitability including those related to the health of the Kenyan tourism market;

- The number of job opportunities created, which must be balanced with the need for profitability;
- The performance of the GRMC in investing in development projects, ensuring transparency and equitable access to benefits, and distributing the cash dividends;
- The level of external support, including ongoing support from KWS, Lewa Downs and Borana.

The level of cash benefits accruing from the Lodge and Boma is not sufficient to benefit all the various stakeholders within the ranch. There are too few jobs for youths and middle-aged men. If dividends were shared with all the 450 shareholders, each would receive about KShs1,320 per year - a useful but not highly significant sum. Higher lodge and boma profits and expansion of casual employment and other business opportunities would be needed to address this.

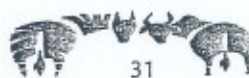
7.0 Summary of Conservation Impact

The lodge has changed the cost-benefit ratio of conservation to members of key stakeholder groups. From the overall community perspective, the link between the wildlife resources and the development funds, improved security, bursaries, and cash dividends is clear. These benefits were not received before the lodge was constructed, and while costs are being borne. The benefits still outweigh the costs for most, although there are increasing reports of livestock loss and crop damage due to wildlife.

Critical issues to link conservation objectives and enterprise impacts of the Lodge and to ensure the sustainability of community-managed enterprises are:

- Increasing Lodge profitability, employment, spin-off business potential and development investment to help ensure the sustainability of conservation gains.
- Communal tenure requires strong community institutions for managing communal resources. The GRMC and NRMC in Il Ngwesi lack the capacity to direct or manage the affairs of the Lodge, and are criticized for non-transparency and slow processes. The linkage between conservation and social impact and empowerment is therefore weak. However, the lodge promotes positive attitudes to conservation locally and among decision-makers.

Yet the national and international context for Lodge profitability and for wildlife populations is a vulnerable one. A major change in land law or wildlife policy, or a collapse in demand for wildlife-related products, such as ecotourism, could dramatically affect the cost-benefit ratio of conservation for the Group ranch households.



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