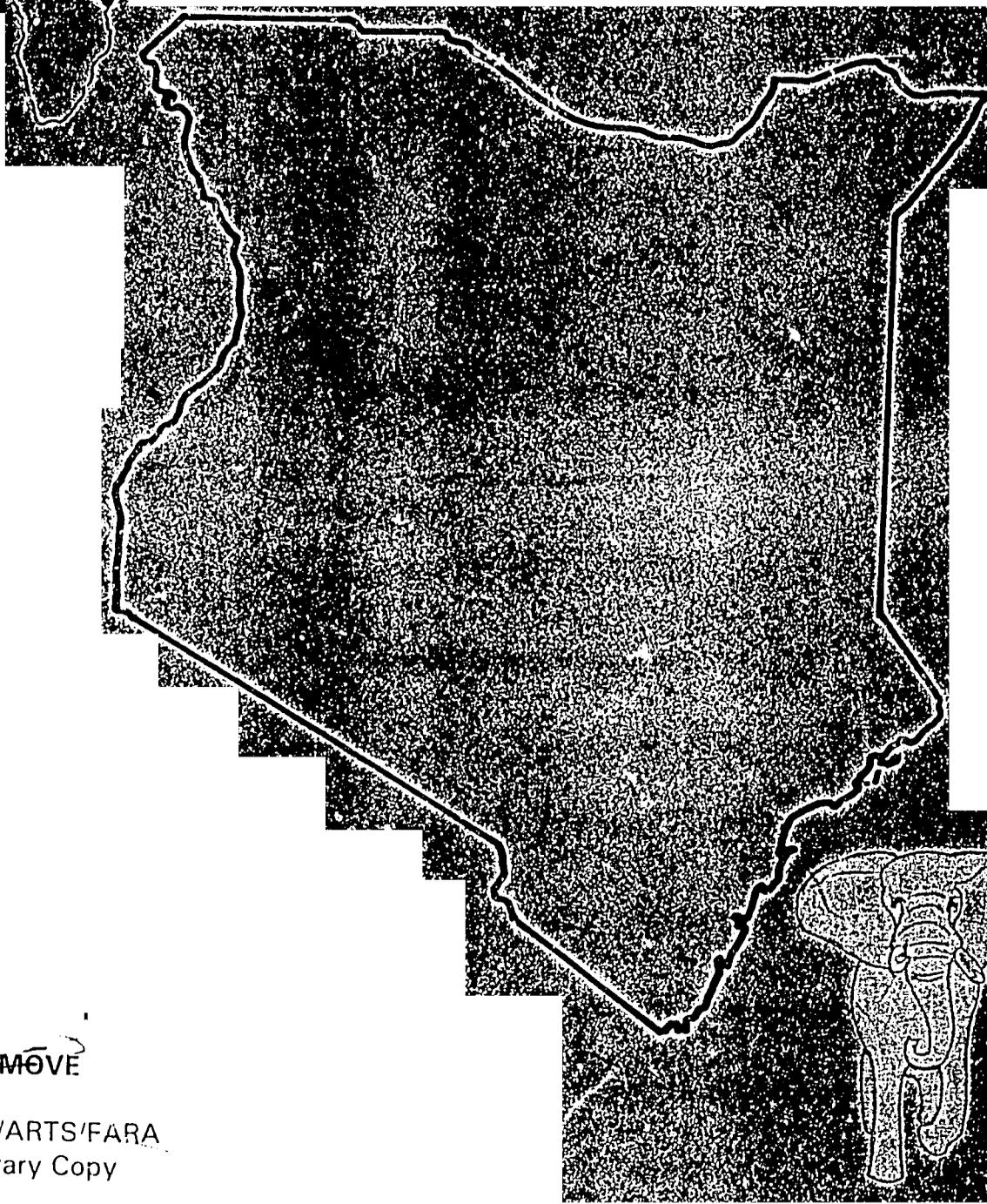


ELEPHANT CONSERVATION

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PLAN

KENYA



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October 1991

ELEPHANT CONSERVATION

PLAN

for

KENYA

October 1991

Kenya Wildlife Service
PO Box 40241, Nairobi
Kenya



HEADQUARTERS PO Box 40241, Nairobi, Kenya Telephone: 501081-7 Fax: 505866, 505752

31/10/91

Mr. Mustafa Tolba
Executive Director
U N E P
P.O. Box 30852
N A I R O B I

Dear Mr. Tolba,

The following plan has been prepared for the African Elephant Range States meeting and represents the official Kenya Wildlife Service position.

Kenya is extremely pleased that the Range States Meeting is taking place and that the donors are giving it the support that it so rightly deserves. Much of the impetus for this donors meeting began several years ago as a consequence of the devastating poaching that Kenya's elephant populations were then suffering.

As a consequence of global public awareness, the ivory ban and the strong support of international donors, elephant conservation in Kenya has since made great progress. Ivory poaching has all but stopped, and numerous elephant protection, surveys research, management and community conservation. Kenya's success is proof that much can be achieved with hard work, determination, political will and international assistance.

It is my hope that this meeting will lead to the international co-operation and assistance necessary to ensure the long-term survival of the African elephant and their habitats throughout the African continent.

Yours sincerely,

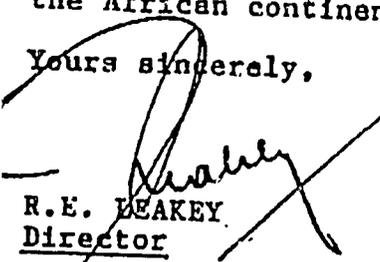

R.E. BEAKEY
Director

TABLE OF CONTENTS

PREFACE	iv
BACKGROUND TO THE PRODUCTION OF ELEPHANT CONSERVATION PLANS	vi
ACKNOWLEDGEMENTS	viii
SUMMARY	ix

SECTION A: INTRODUCTION

1	ELEPHANTS	1
	1.1	Elephant Numbers and Trends
	1.2	Present Distribution
2	PROTECTED AREAS	9
	2.1	Protected Area Network – Priority Areas for Elephants
3	RESOURCES FOR CONSERVATION	13
	3.1	Staff of KWS
		3.1.1 Security Staff
	3.2	Revenue
4	ELEPHANT MANAGEMENT AND THE IVORY TRADE	17
	4.1	Kenya's Policy on the Ivory Trade
	4.2	Effects of the Appendix I Listing
	4.3	Elephant Management Issues and Policy
5	ELEPHANTS AND PEOPLE	21
	5.1	Policy and Practice on Elephant Control, Crop Damage and Compensation
		5.1.1 Elephant Control
		5.1.2 Crop Damage
		5.1.3 Compensation
	5.2	Community Conservation
	5.3	Private Sector Involvement in Elephant Conservation
6	POLICY AND LEGISLATION	23
	6.1	Government's Commitment to Elephant Conservation
	6.2	Current Wildlife Legislation
7	FOREIGN ASSISTANCE TO NATURAL RESOURCE MANAGEMENT	25
	7.1	Foreign Aid Programmes
	7.2	Cooperation with Other Elephant Range States

SECTION B: PROJECT OUTLINES

1 THE ELEPHANT PROGRAMME 27

SECTION C: POLICY REFORMS AND STRATEGIES

1 JUSTIFICATION 29
1.1 Justification of the Elephant Programme

2 STRATEGIES TO CURE THE ELEPHANT RELATED
PROBLEMS IN THE COUNTRY 31

3 LIST OF PRIORITY PROJECTS BY AREA 33

ANNEXE 1 NAMES AND ADDRESSES OF CONTACTS 39

ANNEXE 2 ACRONYMS USED IN THIS PLAN 45

ANNEXE 3 FINANCING PROPOSAL TO THE EC: ELEPHANT AND
COMMUNITY WILDLIFE PROGRAMMES 47



PREFACE

The Government of Kenya created a new parastatal organisation, the Kenya Wildlife Service (KWS) in January 1990. This move followed a long period of decline in the standards of wildlife conservation in the country, as was made all too clear by the disappearance of 85% of the country's elephants in 15 years, and 97% of its rhinos in the same time. This period coincided with the existence of the Wildlife Conservation and Management Department (WCMD), a Government body which amalgamated the former National Parks and Game Department.

The new body came into existence at a time when tourism, inextricably linked to Kenya's wildlife, had become the country's principal source of foreign exchange, exceeding the revenues from coffee and tea combined in 1989. Prospects for continued growth in the tourism and wildlife sectors are very good.

KWS quickly embarked on the process of revitalising wildlife conservation in Kenya. Recognising that management capability needed drastic improvement, KWS has introduced radical reforms to the conditions and terms of service of its staff, in order to restore morale and to create incentives. These were accompanied by substantial reductions in staff numbers.

KWS also started on urgently needed actions in the field. Significant progress has been made on the crucial task of regaining control of security, in the Parks and Reserves, along the ivory smuggling routes and elsewhere. This is both for the protection of the wildlife and for the safety of visitors. The task has been made possible by newly acquired legal authority, modern equipment and strong Government backing.

During 1990 KWS developed a Policy Framework and Five-Year Development Programme for submission to the World Bank and bilateral donors. The document, (known on account of its cover design) as the "Zebra Book", was submitted to the World Bank and other donors in December 1990 and consists of a Main Report (hereafter the 'KWS Report') and 11 Annexes, one of which deals specifically with elephant conservation and management. The Annexes of the KWS Report include: Organisational Structure and Management; Revenue Sources; Development and Management of Tourism in Parks; National Park and Reserve Planning; Wildlife Education and Visitor Services; Community Conservation and Wildlife Management Outside Parks and Reserves; Conservation of Elephants and Rhinos; Wildlife Research; Capital Investment Needs; Land Use Planning, and Management in Kenya; Programme Impacts: Three Case Studies. Although the entire programme will contribute toward elephant conservation, the Annexe on elephants outlines the issues, policies and programmes specifically related to elephant conservation and management. Since much of the information for submission to donors is already contained in the KWS Report and its Annexes, Kenya's Elephant Conservation Plan will concentrate on issues directly related to elephant conservation and management.

The Pre-Appraisal and Appraisal Missions of the World Bank have now taken place and the final plan calls for the investment of some \$300 million over eight years with \$149 million scheduled for the first five years. This will be shared between several donors, including the World Bank, ODA, USAID, the Netherlands and the EEC. Negotiations with the Governments of Japan, Germany and Italy are also in progress. The majority of the Elephant Programme will be financed by the EEC including ECU 1.45 million for research and monitoring; ECU 5.1 million for fencing and ECU 0.53 million for elephant protection. This project is included in Section B of the Report, and the total figure of anticipated donor support, \$149 million, is included in the Summary, since the investment will improve the conservation prospects for elephants at every level.

KWS and the Government of Kenya are extremely grateful to the donor community for its swift and positive response to their request for support. In part, KWS believes that this has been due to the global attention given in the last three years, to the crisis facing the African elephant over much of the continent. The investment programme and the future of Kenya's elephants are thus inextricably linked.

Thanks to the successful conduct of the negotiations with the donor community, KWS is making no request for further financial support in this plan.

BACKGROUND TO THE PRODUCTION OF ELEPHANT CONSERVATION PLANS

The 1980's were a devastating time for the African elephant over most of the continent. One principal problem was that wildlife management, particularly through government agencies, was woefully underfunded.

The AECCG was created in partial response to this problem: to provide a means for improving the flow of funds into elephant conservation. The AECCG produced, in 1989, an African Elephant Action Plan, which established a broad view of continental priorities. The original Plan was reviewed informally by African States meeting in Gaborone, Botswana in July 1989, and at Lausanne, Switzerland in October 1989, and it became clear that their priority was to translate the continental generalities of the Action Plan into specific plans for each of their countries.

Because of this, the AECCG and its members have assisted nearly 30 African nations to create elephant conservation plans, with an emphasis on projects that can attract foreign assistance. These projects are intended to complement each country's existing programme of conservation activities. In this regard, it should be noted that the principal supporters of elephant conservation in Africa, are the African governments themselves.

The Elephant Conservation Plans are not exclusively concerned with benefits to elephants, but aim also to promote wider conservation goals in areas where elephants are but one of the species in need of active support.

The plans follow a common format, so that the structure of this plan is generally similar to that of other countries. The plans are being produced so that they may be circulated to potential donor organisations in advance of the meeting being hosted at UNEP headquarters, Nairobi, between 28th – 31st January 1992, at which elephant range states will present their needs to the donor community.

In addition to producing country plans, the AECCG has established a computerised database of elephant-related projects. Information on projects throughout Africa is compiled from all possible sources. Using the database, the AECCG periodically produces a summary of project information. Its principal purpose is to help define the needs of elephant conservation that can be met by donor assistance. Donor agencies wanting to fund elephant conservation projects can use the database in conjunction with Elephant Conservation Plans to determine for any one country, region or type of conservation activity, what projects are being planned or carried out, and which projects are currently in need of funding. The fourth edition of the database summary will be distributed to international donors and government wildlife departments towards the end of December 1991, prior to the Range States' and Donors' Meeting.

The needs of each country and each region have in turn been summarised and analysed in a document called "The Elephant Conservation Review", which replaces its predecessor the African Elephant Action Plan. The analyses in this document are based upon project information appearing in the database as well as other elephant conservation information found in the Elephant Conservation Plans. This document will act as an overall aid to determining where needs are greatest for each type of activity. It too will be distributed just prior to the Range States' and Donors' Meeting.

For any further information about the plan, the projects within it, or the process of which it is a part, please contact either:

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ACKNOWLEDGEMENTS

The text of this plan was written by Dr Joyce Poole, Elephant Conservation Coordinator of the Kenya Wildlife Service. She wishes to thank the many colleagues within the KWS who contributed to it in many ways. Dr Richard Leakey, Director of the Kenya Wildlife Service, supervised the process as a whole.

This plan was produced with assistance from the African Elephant Conservation Coordinating Group (AECCG) with financial support from the US Agency for International Development (USAID), the European Commission (EC), the World Wildlife Fund (WWF), and the US Fish & Wildlife Service (USF&WS).

While this plan was produced with the assistance of the AECCG, the views expressed in the plan reflect the conservation beliefs of the government and technical staff within Equatorial Guinea, and are not necessarily the views of individual AECCG members.

AECCG members include: the African Wildlife Foundation (AWF), the EC (DG XI), the World Conservation Union (IUCN), TRAFFIC International, USF&WS, Wildlife Conservation International (WCI), the World Wide Fund for Nature (WWF) and the World Conservation Monitoring Centre (WCMC). The CITES Secretariat is an observer.

The production process of the plan was coordinated by Stephen Cobb with the assistance of the AECCG editorial team: Ilyssa Manspeizer, Helen de Jode, Megan Parry, Sarah Lyne, Georgina Dasilva and Clare Shorter.

ELEPHANT CONSERVATION PLAN FOR KENYA SUMMARY

The elephants

Between 1973 and 1989, ivory poaching reduced the country's elephant population from some 130,000 to an estimated 16,000. At first, only elephants outside the National Parks and Reserves were affected, but after 1976 even those inside protected areas declined significantly. Only in a few areas of the country did protection, provided by either tourism or forest cover, allow elephant populations to remain relatively stable. Today, thanks to more exhaustive surveys, the population is estimated at just under 20,000. Some of the populations may no longer be viable. Better elephant conservation underpins the future of Kenya's lucrative tourist industry.

The problems and policies

Wildlife conservation in Kenya was in a desperate state until, in January 1990, the Government created a new autonomous body, the Kenya Wildlife Service. The KWS has developed a programme of sweeping policy reforms, involving both its own internal structure and management, and the rights to benefit from wildlife on private and public land; these are backed by a major investment programme.

While crop damage caused by elephants is considered to be a serious problem in Kenya, KWS endeavours to avoid the controlled shooting of elephants. Instead, KWS is embarking on a major programme to erect wildlife barriers in order to reduce the damage caused to human life and property by elephants (and other species of wild animal).

An elephant programme has been formulated by KWS as part of the overall programme. It focuses on the following issues: elephant protection, monitoring of illegal trade in ivory, monitoring the status and trends of populations, basic and applied research, the management of elephants in Parks and Reserves, the reduction of crop damage and the contribution elephants can make toward stimulating tourism and increasing revenues, both for local communities and for KWS.

The projects

The KWS investment programme (covering all aspects of institutional support) has been submitted to major donors, including the World Bank, ODA, EEC and the Governments of Germany, Netherlands, Japan and Italy. A five-year programme, costing US\$ 149 million, is assured of support. One part, uniquely concerned with elephants, will be funded by the EEC. Because of the start of this successful partnership with donors, this plan makes no appeal for further funds.

Main Activity	Number of projects	Funds raised (US\$)	Funding Status
			Funds needed (US\$)
Institutional Support	1	149,000,000	0
TOTAL	1	149,000,000	0

This plan is available in English only.

Elephant Conservation Plan

for

Kenya

PART A:

INTRODUCTION

&

BACKGROUND

October 1991

Kenya Wildlife Service
PO Box 40241, Nairobi
Kenya

1 ELEPHANTS

1.1 Elephant Numbers and Trends

Over the last two decades, poaching and loss of habitat have caused the decline, extermination and compression of elephant populations throughout eastern Africa. A number of factors have contributed to the reduction of elephant populations in the region including a large illegal ivory trade, widespread poverty, civilian disruption, lack of arms control, lawlessness and land-use conflicts between humans and elephants.

Kenya has been no exception to the pattern. Between 1973 and 1989 ivory poaching reduced the country's elephant population from some 130,000 individuals to an estimated 16,000. While it is acknowledged that human population growth and land-use conflicts are likely to limit elephant distribution in Kenya in the long-term, the primary cause of the declines through the 1970s and 1980s can be attributed to the illegal trade in ivory. In many areas, including within some Parks and Reserves, pressure from poaching either eliminated entire elephant populations or reduced population densities to levels that are no longer viable.

The incentive for ivory poaching was fueled by a steady increase in the price of ivory on the international market which rose from less than \$10 per kg in 1970 to nearly \$300 per kg by 1989. During the same period a lack of appreciation for the value of wildlife in government spending priorities left Kenya's wildlife department ill-equipped to cope with the increasing levels of poaching and unable to contain the situation.

The decline in elephant numbers throughout the country, both inside and outside Parks and Reserves, was well documented. Through regular country-wide aerial surveys, the Department of Resource Surveys and Remote Sensing (DRSRS, formerly KREMU) was instrumental in gathering information on the distribution and status of Kenya's elephant population. Since the mid 1970s, Kenya witnessed the decimation of one elephant population after another. At first, only elephants outside the National Parks and Reserves were affected, but after 1976 even those inside protected areas declined significantly. Only in a few areas of the country has protection, provided by either tourism or forest cover, allowed elephant populations to remain relatively stable.

Tsavo, Kenya's largest National Park provides a typical example of the history of Kenya's elephants over the last two decades. The Tsavo elephant population, after increasing in the 1960's to over 40,000 elephants, crashed in two phases: in 1971 drought and starvation killed about 7,000 elephants and in 1975 and 1976 poaching for ivory killed large additional numbers. The population continued to decline through the 1980s due to another upsurge of poaching which intensified during 1988. By mid-1989 groups of Somali poachers, armed with automatic rifles, had reduced the population to less than 6,000 elephants.

Data on elephant numbers compiled by Douglas-Hamilton (1989) from the Department of Remote Sensing and Resource Surveys (DRSRS - formerly KREMU) and other sources are presented in Table 1 and show the dramatic decline of elephants in the Districts and Parks and Reserves where they were once plentiful.

Table 1. Trends in elephant numbers (from Douglas-Hamilton, 1989) giving examples from several Districts (excluding protected areas) and some Parks and Reserves

	1973	1977	1987	1989
Examples of Districts – excluding protected areas				
Garissa	14,500	7,092	678	189
Lamu	7,000	3,413	310	0
Tana River	32,000	6,524	1,152	1,094
Kilifi	10,000	806	23	0
Kwale	2,000	1,420	182	0
Isiolo	2,000	1,275	154	187
Samburu	9,000	1,318	427	372
Turkana	1,500	1,318	444	39
Laikipia	1,000	3,060	2,791	2,492
Narok	5,000	1,921	243	332
Examples of Parks and Reserves				
Maasai Mara	720	710	1,100	1,235
Amboseli	550	450	680	715
Meru	1,500	2,000	427	200
Samburu complex	2,500	531	632	62
Marsabit	300	900	529	155
Tsavo ecosystem	35,000	19,300	6,000	6,000

From population estimates over the last 15 years, it would appear that Kenya was losing an average of 5,000 elephants annually. During the last two years, however, the number of elephants killed has declined significantly. As a result of the international ban on commercial trade in ivory, the decreased price of ivory and increased elephant protection, only 55 elephants were killed by poachers in Kenya during 1990. Thus, it is likely that the majority of elephant populations in the country are now either stable or increasing. However, the only population actually known to be increasing (through known individuals) is Amboseli. Some of the remnant populations (see Table 2) such as Arawale, Boni, Dodori, Kamnarok, Kora, Bisinadi, North Kitui, Rahole, Tana River, and other areas which have suffered from heavy poaching over the past three decades, may be decreasing due to highly skewed age structures and sex ratios and extremely low densities.

Based on recent surveys and estimates, Kenya's elephant population is thought to be about 20,000 individuals. This figure should not be seen as an increase over the 1989 figure of 16,000, but rather a result of better surveys. The continual monitoring of the status and trends of Kenya's elephant populations will be an important component of KWS's Elephant Programme over the next five years for several reasons. The results of elephant surveys will gauge the effectiveness of the wildlife protection measures that have been initiated and ensure that there is no upsurge in the killing of elephants. Monitoring the age structure and dynamics of populations will become crucial for the effective management of elephants in small fenced Parks and Reserves. Finally, many forest populations remain unknown and surveys are required to establish their status and conservation requirements.

KWS has already initiated an elephant survey programme and will continue to monitor the status and trends of elephant populations. Monitoring will include both aerial counts, ground counts and age structure surveys. Priority will be given to the populations that have been selected as the focus of conservation effort. Ground counts in uncensused forests and aerial counts and ground age structure surveys in areas that were heavily poached will be a priority during the first few years of the programme.

1.2 Present Distribution

While the data gathered by DRSRS through aerial counts have been fairly comprehensive with respect to the numbers and distribution of elephants in savannah ecosystems, most forest populations in Kenya still remain uncensused. In addition, elephants located in regions where remnant populations occur at very low densities, are often overlooked during DRSRS sample counts. For this reason, questionnaires were sent, in July 1990, to District, Park and Reserve Wardens requesting specific information about the current distribution and status of elephant populations in their respective areas. The data gathered include an assessment of population size, touristic value, poaching threat, location, migration and areas of crop damage. The detailed information from Wardens who responded to these questionnaires is presented in Appendices 1-4 of Annex 7b of the KWS Report.

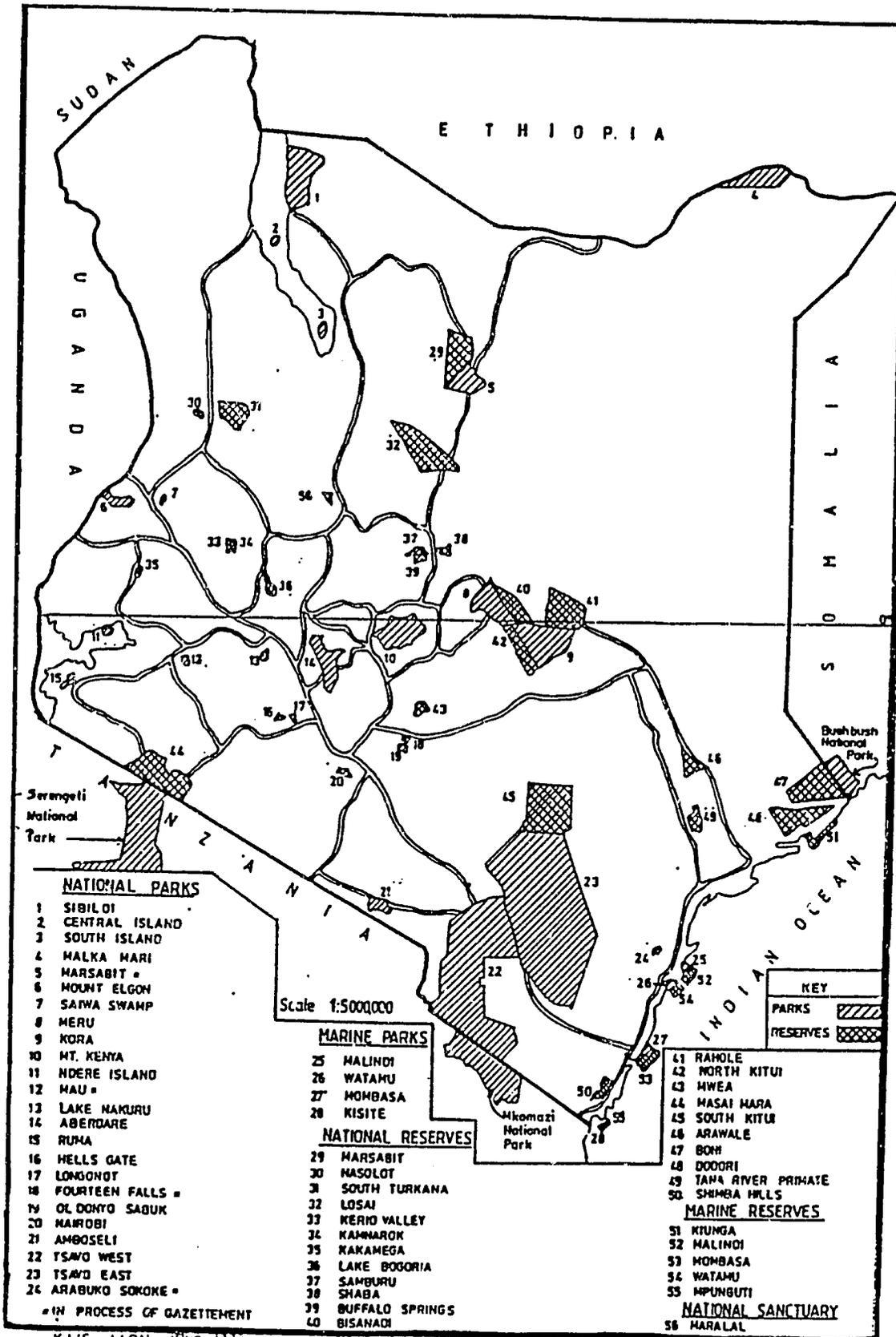
The responses from the questionnaires indicate that, despite the severe poaching that took place from the mid-1970s until early 1989, 29 of Kenya's Parks and Reserves still contain elephants. In many of these areas, particularly those in the northeastern portion of the country, populations have been reduced by poachers to only a few isolated groups and may no longer be viable. However, several Parks and Reserves and their surrounding ecosystems still contain viable populations that survived the poaching years through protection provided by forest cover (eg. Aberdares, Mt. Kenya), tourism (eg. Mara, Amboseli) or cooperation from local people (eg. Shimba Hills). While forest cover has often provided elephants with protection from poachers, very little is known about the true status of these populations as a consequence of the low visibility. Frequently these same elephants are in serious conflict with the intensive agriculture that typically surrounds forest areas. Some forest populations are known to have fared less well due to their geographical position which allowed easy access by sophisticated gangs of poachers (eg. Mt. Elgon). Based on information provided by the Wardens and other sources, Table 2a lists the Parks and Reserves that still contain elephants and the estimated population size that utilises the protected area and surrounding ecosystem.

In addition, there are still many areas in the country where elephants exist outside the Park and Reserve system. The largest of these populations are in Laikipia District and in the Forest Reserves of Aberdare, Mt. Kenya, the Mau, the Mathews Range, Mt. Elgon, Maralal and the Nguruman. In the north of the country there are many areas that are visited infrequently by small, highly migratory remnant groups of elephants. Many of these groups migrate back and forth across Kenya's borders with Somalia, Ethiopia, Sudan and Uganda. Table 2b lists the areas outside Parks and Reserves where sizeable numbers of elephants are known to exist. Additional areas where elephants have been seen are described in Appendix 2 of Annex 7b of the KWS Report.

The total number of elephants currently believed to occur in each District (both inside and outside Parks and Reserves) has been estimated by each District Warden. These estimates are presented in Table 3 and give a range for the entire country of between 11985 and 26550 elephants. This approach confirms the figure quoted earlier, that Kenya's elephant population lies around 20,000 individuals.

Figure 1 presents a map of the Parks, Reserves and forests where elephants are known to occur, as well as the general areas of the country where small migratory groups or remnant populations have been sighted recently.

Figure 1 Protected Areas of Kenya



KWS—WPII—JUNE 1990

Compiled and Drawn by F. N. Muchiri

Table 2 Main Areas Of The Country With Elephant Populations

The areas listed below correspond to those illustrated on the map (Figure 1). The figures presented for population size are estimates for 1990 or 1991 either known through census (*); estimated by the Warden in answer to a questionnaire distributed in mid 1990 (w); or an informed guess by J. Poole, KWS

A. Parks and Reserves with Elephant Populations

Name of Protected Area	Population Survey		Year
	Size	Method	
Aberdare NP	1800	* dung count	1990
Amboseli NP	755	* known individuals	1991
Arawale NR	<50	informed guess	1990
Boni NR	<50	informed guess	1990
Bisanadi NR	<50	informed guess	1990
Dodori NR	<50	informed guess	1990
Kamnarok NR	<50	informed guess	1990
Kerio Valley NR	<50	informed guess	1990
Kora NP	<50	informed guess	1990
Lesai NR	<50	informed guess	1990
Mara NR	1300	* aerial count	1990
Malka Mari NP	<50	informed guess	1990
Marsabit NP & NR	250	w	1990
Meru NP	260	* aerial count	1990
Mount Elgon NP and forest	250	w* prelim. dung count	1991
Mount Kenya NP and forests	3000	* prelim. dung count	1991
Mwea NR	33	*	1990
Nasolot NR & S. Turkana NR	400	w	1990
North Kitui NR	<50	w	1990
Rahole NR	<50	informed guess	1990
Samburu/Buff Springs/Shaba NR	200	w	1990
Shimba Hills NR	400	w	1990
South Kitui NR	<50	w	1990
Tana River NR	<50	informed guess	1990
Tsavo E & W NP	6600	* aerial count	1991

Estimated Total in Parks and Reserves 15,898

B. Forest Reserves and Other Areas With Substantial Elephant Populations

Aberdare Forest	500	informed guess	1991
Arabuko/Sokoke Forest	80	* dung count	1991
Laikipia, Mukogodo, Ngare Ndare, Kipsing	2,100	* aerial count	1990
Mathews/Ndotos Range	250	informed guess	1990
Olpusimoru/Trans Mara/ S.W. Mau/Olenguruone	350	informed guess	1990
Nguruman and Loita Hills	200	informed guess	1990
Rumuruti and Marmanet Forest	50	informed guess	1990
Maralal NS/Larochi Forest/ Karisia Hills	200	informed guess	1990
Manda Island and mainland	100	w	1990
Estimated total	3,830		
GRAND TOTAL	19,728		

Table 3. Estimates of Elephant Numbers by District Including Parks and Reserves

	Estimate	
	Lower	Upper
Nairobi		0
Kajiado	735	850
Narok	2000	4000
Nakuru	0	100
Kericho	500	1000
Nandi	0	100
Laikipia		2200
Samburu	1000	2000
Baringo	100	250
Marakwet	100	250
Uasin Gisho		0
Transzoia	100	250
West Pokot	500	1000
Turkana	100	250
South Nyanza		0
Kisumu		0
Siaya		0
Kisii		0
Kakamega		0
Bungoma	100	250
Busia		0
Embu	500	1000
Meru	1000	2000
Kitui	0	100
Machakos	0	100
Isiolo	500	1000
Marsabit	250	500
Wajir	250	500
Mandera	100	250
Garissa	250	500
Tana River	250	500
Kilifi	100	250
Lamu	100	250
Mombasa		0
Kwale	250	500
Taita Taveta	1000	2000
Nyeri	1000	2000
Muranga	100	250
Kirinyaga	1000	2000
Kiambu	0	100
Nyandarua	100	250
Country Total	11985	26550

2 PROTECTED AREAS

2.1 Protected Area Network – Priority Areas for Elephants

There are 56 Parks and Reserves in Kenya and these are illustrated in Figure 1. The protected areas which contain elephants are listed in Table 2a. The Kenya Wildlife Service has recently been negotiating a Memorandum of Understanding with the Forestry Department under which KWS will be responsible for the management of wildlife within natural forests. Thus elephant populations within forests would come under KWS management.

Sixteen areas of the country have been chosen as the focus for elephant conservation and management efforts over the next five years. These include populations in National Parks and Reserves, some in Forest Reserves and others on State and private land. The following populations have been selected: Aberdares, Amboseli, Arabuko Sokoke, Laikipia, Lamu District (including Manda Island, etc), Mara, Marsabit, Mathews/Ndotos Range, Mau, Meru, Mt Elgon, Mt Kenya, Nasolot/South Turkana, Samburu Complex /Kipsing, Shimba Hills and Tsavo, comprising between 75 and 80% of Kenya's total elephant population. These areas have been selected on the basis of a combination of factors including population size, present or future touristic potential, poaching threat and/or strategic location for preemptive security measures, biological diversity of the area, crop damage problems and the likelihood of future management problems. The justification for including each of these elephant populations is given below.

Aberdares NP and FR

- Kenya's third largest population;
- High revenue earner;
- Future tourism potential;
- High biodiversity;
- Requires management to reduce crop damage by elephants.

Amboseli NP

- Scientific value of the elephant population;
- High revenue earner;
- Conservation and management implications;
- Relatively large population;
- High biodiversity;
- Important dispersal area for Kilimanjaro elephants necessitates establishment of a corridor and cross-border cooperation with Tanzania.

Arabuko Sokoke FR

High potential for encouraging coastal tourism and for engendering support for conservation of coastal forests;
Threatened population;
Conflict and crop damage;
High biodiversity.

Laikipia (private land)

Kenya's fourth largest population;
Crop damage and management implications.

Lamu (NR, State and private land)

Once one of Kenya's largest elephant populations, now highly endangered and reduced to isolated, remnant groups by Somali poachers;
Establishing effective security in the area is crucial for the protection of the Tsavo and Tana River populations as well as to reduce general banditry in the region;
Long-term potential of replenishing an area of low human densities with elephants;
Future potential for tourism near Lamu Island and Kiwaiyu and in Boni NR and Dodori NR.

Mara NR

Kenya's fifth largest population;
Important revenue earner;
Compression caused by poaching in the Serengeti;
The effect of high elephant densities on the habitat and the implications for cross-border cooperation on anti-poaching issues.

Marsabit NP and NR

Single most important elephant habitat in northern Kenya;
Additional security for elephants could restore potential for future diversification of tourist routes.

Mathews/Ndotos FR

Scenic beauty and high potential for diversification of tourism including walking and camel safaris;
Highly endangered population;
Increased anti-poaching in the area would allow Laikipia elephants to return to their original range, thereby reducing the present conflict between elephants and humans on the Laikipia plateau;
Increased security in the area would open up the northern circuit which has huge potential for the diversification of tourist routes and activities.

Mau FR

An unknown forest population;

A portion of the Mau Forest is due to be gazetted as a National Park and it is important to determine how many elephants are within the proposed National Park and the surrounding forest;

There are complaints of crop damage by elephants in the surrounding agricultural land such as Merigi, Chepsir, Sabret, Kamwaura and in the Olenguruone Nyayo Tea Zone;

High biodiversity.

Meru complex NP and NR

Population seriously reduced by poaching;

A large protected area network which has the potential to support a very large elephant population in the future;

Future tourism potential.

Mount Elgon NP

Endangered population still threatened by poaching;

Conservation projects would encourage tourism in a presently underutilised, but scenically beautiful Park;

Increased security would reduce the general banditry in the area and close the illegal border crossings on the mountain.

Mount Kenya NP and FR

Severe crop damage around the perimeter of the forest in the Districts of Embu, Meru and Kirinyaga, necessitates the initiation of management and fencing programmes.

Kenya's second largest population.

Nasolot/South Turkana NR

Unknown population with potential for tourism in the future.

Samburu Complex/Kipsing NR and private land

Samburu is an important revenue earner;

The Kipsing is a dispersal area for the elephants of both Samburu and the Laikipia plateau and protecting this area would help to alleviate the present conflict between elephants and humans on the plateau.

Shimba Hills NR and FR

High potential for tourism; sizable elephant population; need for a corridor;
A reserve that KWS expects to at least partially fence (due to frequent conflict with human interests) and therefore it is essential that the dynamics of this population is monitored closely.

Tsavo NP

Kenya's largest population;
Recently heavily poached;
When properly protected Tsavo would provide space for Kenya's largest and most important elephant population;
Crop damage problems in Bura, Mwatate, Ziwani, Maktau and Voi necessitate careful intervention.

3 RESOURCES FOR CONSERVATION

Kenya's resources for elephant conservation including staff strength, equipment, recurrent and capital budgets can be found, in detail, in the KWS Report. Staff and financial resources are, therefore, only briefly summarized in this country plan.

3.1 Staff of KWS

KWS is currently undergoing organizational changes which include streamlining (in particular reducing numbers of subordinate staff and increasing and strengthening senior management); developing regional offices and building management capabilities. Table 4 summarizes projected staff levels for 1993.

Examples of organizational charts for Senior Management, a Region and a Park/Reserve are presented in Section 10 of the KWS report.

3.1.1 Security Staff

Although the ivory trade ban and public awareness campaigns in consumer nations have reduced the demand for ivory, poaching will undoubtedly continue at some level. For this reason, well-equipped, highly trained anti-poaching forces will still be required. To preempt poaching incidents, intelligence gathering will become an increasingly important component of the strategy. If the ivory trade remains closed, KWS will be able to reduce its paramilitary forces and concentrate resources in directions other than anti-poaching. If, however, trade is reopened in 1992, there could be serious repercussions for Kenya's remnant elephant populations. KWS needs to be prepared for any upsurge in poaching activity which may occur as new illegal markets are created, or if the ban is lifted.

KWS' anti-poaching forces are currently being retrained and restructured into three units. The field force units will be based in particular National Parks and reserves which require special protection, the strike force will be trained and equipped as a mobile unit dealing with problems arising outside protected areas, and the third unit will be developed as a small 'Special Operations' force. Anti-poaching needs for elephants have been closely coordinated with overall anti-poaching needs of KWS, and financial requirements are outlined in the KWS Report, and have been largely met already.

Table 4 Proposed numbers of staff from 1993

Headquarters

Senior Management	6
Director's Office	10
Management Support Unit	4
Public Relations & Marketing	5
Finance & Administration	46
Radio Network	11
Air Wing	8
Nairobi Workshop	58
Training Unit	22
Headquarters Total	170
Regional Management	40
Park/Reserve Management	1547
Community Wildlife Service	761
Education & Visitor Services	116
Research	110
Planning	23
Security	593
Technical Services	404
Total	3764

3.2 Revenue

A revenue study has been recently undertaken, with the aim of investigating more efficient methods for collecting revenue from visitors to parks and reserves, and alternative income sources not directly dependent on the tourist industry.

Annual income from visitors to National Parks and Reserves is projected to increase from 18,570,000 \$ (US) in 1991/1992 to around 42,000,000 \$ by 1995/1996 (Table 5)

Table 5 Revenue Projections 1991-1996 (US\$ x 1000 at 1990 prices)

	1991/92	1992/93	1993/94	1994/95	1995/96
Parks and KWS managed Reserves	13,203	21,434	26,340	28,836	30,144
Other Reserves	5,367	8,524	10,306	11,248	11,741
Total	18,570	29,958	36,646	40,084	41,885

4 ELEPHANT MANAGEMENT AND THE IVORY TRADE

4.1 Kenya's Policy on the Ivory Trade

As recently as two years ago the world was witnessing the wholesale slaughter of the earth's largest and one of its most socially complex land mammals. Between 1979 and 1989 poaching for ivory reduced the continental population from 1.3 million to 609,000 elephants. During the 1980s the international ivory trade peaked at some 800-1,000 tonnes per year, representing the slaughter of up to 100,000 elephants annually. The 1989 international ban on commercial trade in ivory was implemented by the international community because of concerns about the trend towards extinction of many African elephant populations. As a result of the ban and an intensive public awareness campaign, the price of ivory in Africa has fallen dramatically resulting in a reduction in the illegal killing of elephants in many parts of Africa where they had been threatened. For example, during the 17 years prior to the ban, Kenya's elephant population declined from 130,000 to about 16,000 individuals - a loss of some 6,700 elephants per year. In 1990, the year the ban went into effect, Kenya lost only 55 elephants to ivory poachers. In Tsavo National Park, where poachers were slaughtering some 3 elephants a day in 1988, only 15 were killed in 1990. Prior to the ban the price paid to the poacher for a kilo of ivory was \$30, today the figure is closer to \$3.

Kenya was one of several countries to propose an Appendix I listing for the African elephant and, as a result of the positive effects of the ban, remains firmly against reopening of the ivory trade in the near future. Kenya believes that a premature relaxation of the current ban would indicate to the world that elephant populations had miraculously recovered. Even a limited reopening of the trade would signal to the consumer that it was, once again, acceptable to buy, sell and wear ivory and would stimulate global demand and rising prices. Such a situation would undoubtedly encourage the illegal exploitation of threatened populations in other parts of Africa where the infrastructure and the finances simply do not exist to mount the sophisticated anti-poaching operations necessary to prevent well-armed gangs of poachers from killing elephants. Under the circumstances, it is Kenya's opinion that any support by the international community for a limited trade would have adverse repercussions for elephants across most of the continent. Kenya believes that the elephant's future will only be secure if the ban is kept in place, and if the demand for ivory and its value remain low.

By the next meeting of the Parties to CITES in Japan in March 1992, the international ban on the ivory trade will have been in effect for a period shorter than even one elephant interbirth interval. At the 1992 meeting there will be proposals from several Southern African States to downlist their populations from Appendix I to Appendix II and reopen the trade on a limited basis. It is Kenya's opinion that any resumption of the trade from Southern Africa would send the wrong signals to the potential international market and that renewed purchasing of ivory, through a mechanism however tightly controlled, would at once lead to a resumption of illegal trade from elsewhere in Africa to illegal destinations, mainly in the Far East.

Kenya hopes to see all populations of African elephants remain on Appendix I of CITES until the Convention's 9th Conference of the Parties (in 1994/5). After this, Kenya proposes that those countries with well managed populations (sensu the criteria established by CITES) be allowed to downlist to Appendix II and permitted to trade in elephant products except ivory and that a moratorium on the trade in ivory be kept in effect for a period of ten years.

4.2 Effects of the Appendix I Listing

In mid 1989, prior to the Appendix I listing, the rate of killing of elephants in Kenya began to decline sharply. The dramatic change in events can be attributed to several factors including: the establishment of the new parastatal, Kenya Wildlife Service; increased effectiveness of elephant protection operations and intelligence gathering; global awareness of the plight of the elephant; and multi-national moratoria on the ivory trade.

Within KWS the success of elephant protection has been due to: increased intelligence; increased air patrols; increased man power (the Wildlife Protection Unit was increased from 465 men pre-ivory ban, to 523 men post ivory ban); better training; the purchase of sophisticated weaponry; increased mobility; better communications.

In October 1989, the Parties to the Convention on International Trade in Endangered Species (CITES) voted to uplist the African elephant from Appendix II to Appendix I, thus banning international commercial trade in ivory between Parties. The move has had a profound effect on the survival prospects for elephants throughout the region for a number of reasons. Ivory prices around the world have fallen by 40-75% since the ban, and due to effective public awareness campaigns, demand simply no longer exists in many parts of the world. In Kenya, prices paid to the poacher have declined from \$20-30 per kg in 1989 to \$2-3 per kg by 1990. This factor combined with the increased effectiveness of elephant protection efforts has reduced the appeal of illegal take as a means of income.

The results of the successful campaign against poaching can already be seen in the field: fresh carcasses are rarely found; elephants are being sighted in places they have avoided for many years; the number of elephants killed per year has declined from between 3,000-5,000 per year prior to the ban to 55 elephants in 1990.

Table 6 Kenya's Poaching Statistics

Number of Elephants Killed by Poachers Country Wide

Average Per Year 1973–1989	6,700
In 1990	55

Number of Elephants Killed by Poachers in Tsavo National Park

In 1988	approx. 1,000
In 1990	15

Price Paid to Poachers for 1kg of Ivory

Prior to Ban	\$30
1990	\$3

4.3 Elephant Management Issues and Policy

Although Kenya is still reeling from the ivory poaching that devastated the country's elephant populations, KWS' policies with regard to elephant management must now look forward. If the international ivory ban stays in place, and if KWS can ensure that there is no upsurge in elephant poaching, we can assume that over the next decade elephant populations will gradually increase. In some areas the increase in elephant numbers will eventually lead to conflict with the activities of a rapidly expanding human population. As a consequence, elephants and other wildlife will be increasingly confined to smaller, often fenced, areas necessitating closer management. Fencing can have serious implications for the dynamics of wildlife populations and much of KWS's Elephant Programme will involve monitoring and research aimed at understanding and managing the effects of restricting elephant migration. As these Parks and Reserves become islands surrounded by cultivation, the isolated elephant populations in some of the smaller areas may need to be regulated.

KWS considers the culling of elephants to be undesirable for several reasons including: ethical considerations; the disturbance that the killing of elephants would have on the survivors and the negative impact it would, in turn, have on tourism; the destabilizing effect on population dynamics. Therefore, one of the main areas of KWS's elephant research programme will be to investigate the feasibility of elephant contraception. The first phase of the programme will involve feasibility studies on both captive and free-living elephants to establish effective dosage and non-invasive techniques of administering the drug. Once the feasibility trials are complete, age structure surveys and population dynamics modelling will assist in the decision of which age classes to target in the fertility control programme.

Nonetheless, KWS recognises that expanding elephant populations present special management problems and that wildlife management agencies in different countries must be free to pursue what they judge to be the most appropriate policy.

5 ELEPHANTS AND PEOPLE

5.1 Policy and Practice on Elephant Control, Crop Damage and Compensation.

5.1.1 Elephant Control

KWS endeavors to avoid the control shooting of elephants whenever possible. However, as the killing for ivory has declined, elephants are becoming more bold in some areas of the country and reports of elephants "invading" towns are now not uncommon. While KWS will normally attempt to chase elephants away, it will resort to control shooting when necessary. An urgent need of KWS is to train a team in effective wildlife control practice.

5.1.2 Crop Damage

Elephants are believed to be responsible for a considerable proportion of the crop damage caused by wildlife. KWS will initiate programmes to reduce the damage caused to human life and property by elephants. Where crop damage is severe barriers will be erected to separate human activities from access by elephants. The areas where elephants are causing crop damage are summarised in Annexe 4 of the EEC financing proposal, which itself is Annexe 3 of this report, and some 1,500 km of fencing has been identified to prevent crop damage by elephants. A detailed discussion of fencing can be found in Annexe 6 of the KWS Report.

5.1.3 Compensation

The Kenya Wildlife Service does not pay compensation. Instead KWS will be erecting wildlife barriers in areas where human activities and wildlife are incompatible and has introduced a programme of revenue sharing with communities living close to Protected Areas where people and wildlife coexist. The framework for revenue sharing can be found in Annexe 6 of the KWS Report.

5.2 Community Conservation

Kenya is encouraging the development of non-consumptive economic values for elephants in ranching communities around protected areas. Details of the KWS Community Conservation Programme can be found in Annexe 6 of the KWS Report.

5.3 Private Sector Involvement in Elephant Conservation

Kenya is fortunate to have a number of NGOs in the country who are actively involved in elephant conservation (eg. African Wildlife Foundation, David Sheldrick Memorial Appeal, East African Wildlife Society, Friends of Conservation, Gallmann Memorial Foundation, IUCN, Wildlife Conservation International, Wildlife Clubs of Kenya, World Wide Fund for Nature). In addition, many private landowners allow elephants to use their land and others provide protection for them. While the most notable area is on the private ranches of the Laikipia plateau, many Group Ranches in Kajiado, Samburu, Isiolo and Maralal tolerate elephants on their land.

6 POLICY AND LEGISLATION

6.1 Government's Commitment to Elephant Conservation

The Government of Kenya continues to be fully committed to elephant conservation and to providing the political support necessary for KWS's programmes to succeed. As one indication of the Government's support, July 18th has been recently recognised as Elephant Day in commemoration of the burning in 1989 of 12 tons of ivory. Elephant Day was celebrated throughout Kenya with parades and speeches on wildlife and, in particular, elephant conservation. In Nairobi another 6.7 tons of ivory (recovered from the previous year's poaching) was burned in 1991 to remind the world that Kenya stands firm in her belief that a ban on the trade in ivory is the best way to ensure a future for the African elephant.

6.2 Current Wildlife Legislation

The Wildlife Conservation and Management Act (1976) provided for various forms of consumptive utilisation but was soon superseded by the Presidential Directive banning hunting, a ban which was confirmed in a Legal Notice in 1977. Soon afterwards, all wildlife dealers' licences were revoked by an Act of Parliament.

The intention of KWS is not to lift the ban in a stroke, but to exempt selected pilot projects from the ban. Nevertheless, the legislation will need substantial revision to accommodate the concept of wildlife use rights, whether consumptive or not, and to provide for KWS's intended methods of control and supervision.

More detailed information on Kenya's current wildlife legislation and future plans may be found in Chapter 5 of the KWS Report and its Annex 6. It should be noted, however, that KWS has no intention of introducing consumptive utilisation of elephants.

The most recent reform of the wildlife legislation was that which brought the Kenya Wildlife Service into being, in January 1990, as a parastatal body that has taken over the functions of the former government agency, the Wildlife Conservation and Management Department

7 FOREIGN ASSISTANCE TO NATURAL RESOURCE MANAGEMENT

7.1 Foreign Aid Programmes

As stated in the Preface, negotiations with the international donor community have led to an agreement to provide Kenya Wildlife Service with \$149 million over 5 years, with a further agreement in principle to extend this to a full \$300 million programme (over an eight year period), subject to satisfactory progress.

7.2 Cooperation with Other Elephant Range States

There is considerable potential for cross-border cooperation between Kenya and its neighbours with respect to elephant conservation. In several areas elephant populations move across international borders (eg with Tanzania, Uganda and Somalia), and there is concern about cross-border poaching. There is, therefore, a need for better communication between wildlife authorities in neighbouring countries. Preliminary discussions have taken place with the wildlife authorities of Tanzania and Uganda, and suggestions have been made which include: common radio frequencies for more effective communication; joint anti-poaching operations and cross-border surveys of populations. The KWS elephant programme is also willing to provide practical training in elephant studies for nationals of neighbouring countries, and to initiate exchange of data and ideas.

KWS will increase its intelligence gathering expertise and will cooperate with neighbouring countries and with the Regional TRAFFIC Office (to be opened shortly, probably in Lilongwe) in identifying poachers and illegal ivory dealers and in building a database on their activities. It would also be helpful to consider standardisation of legal procedures involving non-nationals.

Elephant Conservation Plan

for

Kenya

PART B:

PROJECT OUTLINES

October 1991

Kenya Wildlife Service
P.O. Box 40241, Nairobi
Kenya

1 INTRODUCTION

Unlike the other Elephant Conservation Plans this plan contains only one large project, which is already fully-funded. The project will provide institutional support to the KWS, but the EC component of the project provides funds specifically for elephant conservation.

The exact relationship between this project and the overall elephant conservation programme in Kenya is explained in the preface on page iv. The following two pages provide a brief outline of the project, and Annexe 3 contains the full details.

Project Title: **PROTECTED AREAS AND WILDLIFE SERVICE (PAWS) PROJECT**

Database Project No. 473

Date last updated: 01/10/1992

Region: EAST

Country: KENYA

Summary Information

Project Status: PROPOSAL

Fund Raising Status: FULL

Project Objective: This is a large multi-donor project that will establish the KWS as a sustainable and efficient organisation that can manage Kenya's wildlife and protected areas, & preserve its biodiversity.

Project Activities: 1. Institutional Support 2. Research 3. Rural Development

Funding Start Date: 01/01/01 End Date: 12/31/03 Further phases ?:

Elephant Population directly affected - Name: Approx Numbers :

Budget Information

Total Budget :- \$ 149,000,000 Original Currency: US\$ Exchange Rate Used:

Budget Breakdown according to AECCG standardisation

	Yr 1:	\$	Yr 2:	\$	Yr 3:	\$
	Yr 4:	\$	Yr 5:	\$		
Technical Assistance:	\$		Infrastructure:	\$		
Monitoring & Research:	\$		Local Development:	\$		
Staff Costs:	\$		Recurrent Costs:	\$		
Training:	\$		Miscellaneous:	\$		
Education:	\$		Project Management:	\$		
Equipment:	\$		Contingency Provision:	\$		

Fund Raising Information :-

Total funds raised: \$ 149,000,000 Funds raised for current year: \$
Total funds needed: \$ 0 Funds needed for current year: \$ 0

Origin of funds -	Organisation: EC	Amount:	\$
	Organisation: ODA	Amount:	\$
	Organisation: World Bank	Amount:	\$

Organisation through which funds are being channelled:

Future donor interest:

Donors actually approached: ODA; World Bank; EC

Organisations and People Involved with the Project

Govt/Local agency executing project: KWS Address: P.O.Box 40241/ Nairobi

Project Administrator: Address:

Project Executant: KWS Address: P.O.Box 40241/ Nairobi

Project Originator: Address:

Collaborating Bodies: ODA; World Bank; EC; Netherlands; Japan

#473

EC will take part in a multi-donor project which will establish the Kenya Wildlife Service (KWS) as a sustainable efficient organisation that can manage Kenya's wildlife and protected areas, preserve Kenya's biodiversity, protect important natural resources and support the development of wildlife based tourism.

The EEC contribution will form an integral part of the overall project known as the Protected Areas and Wildlife Service (PAWS) Project, co-ordinated by the World Bank and also financed by other donors, namely ODA, USAID, KFW, Japan and Netherlands. EEC will assist KWS in both the elephant conservation and community wildlife programmes of this project.

The Elephant Conservation Programme will deal with elephant research and wildlife protection. It will cover monitoring the large mammal populations, core management related research, and scientific training. The wildlife protection will be designed to guard against any resurgence of ivory trading or poaching and reverse the disastrous trend in elephant numbers which recently threatened the existence of the species.

EC's contribution of the Community Wildlife Programme will consist of protecting rural communities, where most urgently needed, with fences or barriers from the adverse affect of wildlife, particularly elephants. By lowering the cost of wildlife to the Communities, it will complement other components of the community Wildlife Programme, that develop the sharing of wildlife and tourism derived revenues with local communities.

The PAWS project cost is estimated at US\$ 149 million net of taxes and duties. The project is the first time slice of an eight year programme costed at US \$300 million. The EEC contribution to the PAWS project is recommended at US\$ 8.9 million (ie 6%), over the first three years.

The management and implementation of the programmes will be by KWS.

The main impact of the programme will be to set a completely new standard of wildlife management in Kenya on a sustainable basis, which will safeguard biological diversity, protect endangered species, enhance Kenya's wildlife tourism and improve to balance of payments situation.

The PAWS project, its background, organisation, and implementation; financial and market aspects, benefits and risks are all described in the World Bank Appraisal Report which is summarised in the attached Annexes. These describe the community wildlife programme, special conservation programmes including elephants, and an analysis of the revenue prospects.

Elephant Conservation Plan

for

Kenya

PART C:

POLICY REFORMS

&

STRATEGIES

October 1991

**Kenya Wildlife Service
PO Box 40241, Nairobi
Kenya**

1 JUSTIFICATION

Justification for the entire KWS investment programme can be found in the KWS Report and is not documented here.

1.1 Justification for the Elephant Programme

In recent years Kenya's wildlife resource has suffered a steady deterioration and the dramatic reduction of the country's elephant population has been a highly visible symptom of the general state of decline within the wildlife sector. By 1988 the poaching of elephants had escalated to such an extent that negative international press began to threaten the tourist industry. In response to this situation, in early 1989 the Government took a series of steps to stop the poaching and to rehabilitate the wildlife sector. The elephant which became a symbol of the deterioration of Kenya's wildlife heritage has now begun to play a key role in changing Kenya's image to one of a country committed to the conservation and wise management of its wildlife resource. Kenya began this process in 1989 by taking a leading role in the initiative to ban the international trade in ivory.

The elephant is deserving of special attention during the stage when KWS is redefining its wildlife policies for a number of reasons. As a large mammal, the elephant can be successfully used to engender financial support for many of Kenya's Parks and Reserves and for the other, less charismatic species that live within them. Elephants have the potential to modify the habitats in which they live and thus, clear management policies for elephants are essential for the future integrity of the ecosystems they inhabit. Further, by providing protection and sound management for elephants, KWS will be able to secure the overall biodiversity of its priority wildlife areas and, in so doing, secure the country's highly profitable tourist industry. Finally, in some parts of the country elephants are the focus of severe crop damage complaints so that protecting people and their property from injury or damage by wildlife is, therefore, one of KWS stated objectives. For all of these reasons the elephant is Kenya's single most important wild animal species.

2 STRATEGIES TO CURE THE ELEPHANT-RELATED PROBLEMS IN THE COUNTRY

To protect populations of elephants in Kenya in the long-term, will require a broadly integrated approach to conservation. Much of the policy reform, strategy and investment necessary to ensure the long-term survival of elephants is related to park planning, management and infrastructure, and is covered in the various Annexes of the KWS Report. The policies, strategies, priorities and investment directly related to elephant protection, management and research is presented in Annex 7b of the KWS Report and is only summarised here.

The KWS Elephant Programme will focus on the following issues: elephant protection, the monitoring of illegal trade in ivory, monitoring the status and trends of populations, basic and applied research, the management of elephants in Parks and Reserves, the reduction of crop damage and the contribution elephants can make toward stimulating tourism and increasing revenues for KWS.

While the ivory trade ban and public awareness campaigns in consumer nations have reduced the demand for ivory, poaching will undoubtedly continue at some level and well-equipped, highly trained wildlife protection forces will still be required in many elephant areas. A summary of the populations and the type of protection required can be found in Annex 7b. To preempt poaching incidents, intelligence gathering will become an increasingly important component of elephant protection. For elephant protection measures to succeed, cross border cooperation with Tanzania, Uganda, and Somalia is crucial. KWS feels confident that, if the ivory trade remains closed, over the next five years it will increasingly be able to concentrate its resources in directions other than anti-poaching.

If correct decisions about the future conservation and management of elephants are to be made, they will require good data on the status of elephant populations. Surveys will enable the most appropriate populations to be selected for conservation projects and provide a basis for monitoring the progress of conservation initiatives. Monitoring and research will focus on: reviewing the status of elephant populations; providing recommendations for conservation and management action or basic research requirements; designing better methods to assess the status of elephant populations and their habitats; finding solutions to management problems in protected areas. During the last two years aerial total counts of elephant populations have been undertaken of the Tsavo, Meru, Laikipia, Mara and Amboseli populations and dung counts have been carried out in the forests of Aberdare, Arabuko Sokoke, Elgon, Mau, Mt. Kenya and Mt. Elgon. Aerial sample counts of the rangelands by the Department of Resource Surveys and Remote Sensing continue to provide information on elephant numbers and distribution elsewhere in the country.

In addition, if KWS is to secure viable populations of elephants for the future it will need the support and cooperation of the people who share their land with elephants. KWS will be installing fences in areas where Parks and Reserves adjoin agricultural land to reduce the level of crop damage caused by elephants and initiating revenue sharing in areas where local communities agree to allow elephants and other wildlife to use their land. Fencing has already begun in the worst affected areas of Laikipia, Shimba Hills and Tsavo. The fencing programme for the next five years can be found in Annex 6 of the KWS Report.

The boundaries of many of the protected areas do not encompass the full geographical range of elephant populations and in some cases migration corridors or buffer zones will need to be acquired if the population is to remain viable in ecological, genetic and demographic terms. Progress has already been made in Amboseli–Kilimanjaro and Shimba Hills–Mailuganji.

Tourism is Kenya's largest earner of foreign currency. Some 700,000 tourists visit Kenya each year earning the country up to U.S. \$420 million annually. In selecting which populations will be the focus of conservation efforts, the relationship between elephants and tourism must be considered. Secure, relaxed populations of elephants have the potential to stimulate tourism, while poaching and the associated security risk to visitors can have a very negative effect on tourism.

To encourage the industry, Kenya Wildlife Service must be able to provide effective protection for its wildlife and security for tourists visiting wildlife areas. To this end, the populations of Tsavo, Meru, Mathews/Ndotos Ranges, Tana River, Lamu and Mt Elgon will require effective intelligence and protection.

Many of Kenya's most popular protected areas are crowded with visitors and in some Parks this situation has already led to a decline in viewer satisfaction. For the future expansion and diversification of tourism, the Elephant Programme will focus conservation efforts on some of the less visited elephant populations such as the Mathews Range, Marsabit, Nasolot/South Turkana and the Mau.

At present half of Kenya's tourists come only for beach holidays and, therefore, contribute little or no revenue toward KWS. To encourage these tourists to visit wildlife areas, KWS intends to initiate several conservation projects along the coastal strip. The elephants of Shimba Hills, Tsavo and Arabuko/Sokoke will be a principal component of this conservation initiative. In addition, the elephants utilising Manda Island and those of Boni and Dodori will receive increased protection.

3 LIST OF PRIORITY PROJECTS BY AREA

The following summarises the conservation, management and research requirements that were identified in late 1990 for priority elephant areas. An * indicates that work has already begun; ** indicates that the study has been completed.

Aberdares

Research and management related to reducing crop damage particularly in the area between N. Aberdares and Laikipia;

Ground census in the Forest outside the Park boundaries.

Amboseli

*Continued long-term monitoring of the elephant population in collaboration with Amboseli Elephant Research Project (AERP);

*Non-invasive techniques for monitoring reproductive cycles of female elephants in collaboration with IPR and AERP;

*Initiation of feasibility tests of elephant contraceptive techniques on free-ranging elephants in collaboration with IPR, the German Primate Centre and AERP;

*Establishment of an elephant corridor between Amboseli and Kilimanjaro in cooperation with Tanzania;

Fencing within the Park in selected areas to allow regeneration of trees (to be initiated early 1992);

*An assessment of the proportion of crop damage caused by elephants in the vicinity of the Park;

*A study of the relationship between the Maasai and elephants and an investigation of methods for reestablishing elephant migration routes in an effort to reduce the current "compression" problems in collaboration with AERP;

Continued studies of elephant vocal communication in collaboration with AERP.

Arabuko Sokoke

****Census to be undertaken to estimate the elephant population size, status and migration patterns, and the long-term implications of fencing;**

****Assessment of the potential for tourism and the severity of crop damage.**

Laikipia

In collaboration with WWF, GMF and ZSL:

***Satellite and conventional radio tracking of elephants to monitor movement patterns and crop raiding;**

***Detailed analysis of present and proposed fencing schemes and their effect on general elephant movement patterns, population dynamics and behaviour;**

***Survey of different types of elephant barriers presently in use across the plateau, to establish which method provides the most cost effective barrier to elephants;**

A study of the estimated costs of elephants resulting from crop raiding, damage to fencing and to vegetation and an assessment of the present and future benefits derived from the presence of elephants;

***An examination of the factors influencing present elephant movement patterns in relation to previous presumed migration routes and in the context of land use and poaching pressure.**

Lamu (Boni/Dodori/Manda)

Aerial survey to establish the size, status and location of the remaining remnant population (to be undertaken late 1991)

Maasai Mara

***Continued long-term monitoring, in collaboration with WWF, of the distribution of elephants in relation to vegetation communities, crop damage and poaching;**

Cooperation with Tanzania to control elephant poaching south of the border and thus alleviate the compression problem in the Mara.

Marsabit

Ground census required for forest areas and to establish the age/sex structure of the population as an assessment of past poaching pressure (to be undertaken early 1992);

Aerial census of the entire ecosystem (to be undertaken early 1992);

Crop damage assessment.

Mathews/Ndotos

Unknown forest population requiring census and regular surveillance by elephant watchers and other anti-poaching units (to be initiated late 1991).

Mau

**Unknown forest population requiring ground census and habitat utilisation survey;

*Crop damage assessment.

Meru Complex

**Aerial total count and ground age structure.

Mount Elgon

*Unknown forest population requiring census;

Crop damage assessment.

Mount Kenya

**Crop damage and fencing needs assessment;

**Unknown forest population requiring census.

Nasolot/South Turkana

Unknown population requiring aerial census and age structure survey;

Monitoring needed to establish migration routes between the two Reserves;

Samburu Complex/Kipsing

Long-term monitoring is needed to understand the movement patterns* and ecology of this touristically important sub-population.

Shimba Hills

*A study of the impact of fencing on elephant population dynamics, vegetation and community ecology;

*Censuses to determine the population size, structure, recruitment rate;

*Monitoring of habitat utilisation/feeding ecology;

**Crop damage assessment and fencing requirements;

*Establishment of a corridor between Shimba Hills and the Mailuganji Forest.

Tsavo

Initiation of a long-term study of Tsavo's population to monitor the rate of recovery from the years of poaching;

*Studies of crop raiding and community attitudes pre and post fencing in Bura Mwatate area.

Elephant Conservation Plan

for

Kenya

ANNEXES

1. NAMES AND ADDRESSES OF CONTACTS

2. ACRONYMS USED IN THIS PLAN

3. FINANCING PROPOSAL TO THE EC: ELEPHANT
AND COMMUNITY WILDLIFE PROGRAMMES

October 1991

Kenya Wildlife Service
PO Box 40241, Nairobi
Kenya

ANNEXE 1 NAMES AND ADDRESS OF CONTACTS IN KENYA

Department	Contact Names	Address	Phone	Fax	Telex
Kenya Wildlife Service					
	Dr Richard Leakey, Director	PO Box 40241 Nairobi	[254] (2) 501081 or 501082	[254] (2) 505866	
	Dr Joyce Poole, Elephant Conservation Coordinator		[254] 500904		
Ministry of Environment and Natural Resources					
		Kencom House PO Box 30126 Nairobi	[254] (2) 29261		
Ministry of Tourism and Wildlife					
		Utalii House Uhuru Highway PO Box 30027 Nairobi	[254] (2) 331030		
East African Wildlife Society					
	Nehemiah Arap Rotich, Executive Officer	PO Box 20110 Nairobi	[254] (2) 27047 or 337422	[254] (2) 729612	
Friends of Conservation					
	Helen de Butts	PO Box 74901 Nairobi	[254] (2) 339537	[254] (2) 332878	
Young Conservationists Wildlife Club					
	Fred Kabuta, Chairman	PO Box 22565 Nairobi			

Department	Contact Names	Address	Phone	Fax	Telex
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ANNEXE 2 ACRONYMS USED IN THIS PLAN

AECCG	African Elephant Conservation Coordinating Group
AERP	Amboseli Elephant Research Project
AWF	African Wildlife Foundation
DRSRS	Department of Resource Surveys and Remote Sensing
EC	European Commission
FR	Forest Reserve
IUCN	World Conservation Union
KWS	Kenya Wildlife Service
NP	National Park
NR	National Reserve
ODA	Overseas Development Administration
USAID	US Agency for International Development
USF&WS	US Fish and Wildlife Service
WCI	Wildlife Conservation International
WCMC	World Conservation Monitoring Centre
WCMD	Wildlife Conservation and Management Department
WWF	World Wide Fund for Nature
ZSL	Zoological Society of London

ANNEXE 3 FINANCING PROPOSAL TO THE EC: ELEPHANT AND COMMUNITY WILDLIFE PROGRAMMES

FINANCING PROPOSAL

TITLE OF THE PROGRAMME	PROTECTED AREAS AND WILDLIFE SERVICE (PAWS) PROJECT: <u>ELEPHANT AND COMMUNITY WILDLIFE PROGRAMME</u>
TYPE OF PROGRAMME	(LOME IV) ENVIRONMENT
RECIPIENT STATE	KENYA
AUTHORITY SUBMITTING PROGRAMME	KENYA WILDLIFE SERVICE
REGISTRATION NUMBER OF THE PROGRAMME	
SECTORIAL CLASSIFICATION IN THE ACCOUNTING PLAN	
COMMITMENT PROPOSED AS A GRANT	

Indicative rate of exchange : ECU = \$ 1.14 (August 1991)

ABBREVIATIONS AND ACRONYMS:

AWF	-	African Wildlife Foundation
CITES	-	Convention on International Trade in Endangered Species
EEC	-	European Economic Community
GEF	-	Global Environment Facility
GIS	-	Geographical Information System
HQ	-	Head Quarters
IDA	-	International Development Agency (World Bank)
KFW	-	Kreditanstalt für Wiederaufbau
KWS	-	Kenya Wildlife Service
NGO	-	Non Governmental Organization
ODA	-	Overseas Development Administration
PAWS	-	Protected Areas and Wildlife Service Project
USAID	-	United States Agency for International Development

I. SUMMARY OF PROGRAMME:

- 1.1 EC will take part in a multi-donor project which will establish the Kenya Wildlife Service (KWS) as a sustainable and efficient organization that can manage Kenya's wildlife and protected areas, preserve Kenya's biodiversity, protect important natural resources and support the development of wildlife based tourism.
- 1.2 The EEC contribution will form an integral part of the overall project known as the Protected Areas and Wildlife Service (PAWS) Project, co-ordinated by the World Bank and also financed by other donors, namely ODA, USAID, KFW, Japan, and Netherlands. EEC will assist KWS in both the elephant conservation and community wildlife programmes of this project.
- 1.3 The Elephant Conservation Programme will deal with elephant research and wildlife protection. It will cover monitoring of large mammal populations, core management related research, and scientific training. The wildlife protection will be designed to guard against any resurgence of ivory trading or poaching and reverse the disastrous trend in elephant numbers which recently threatened the existence of the species.
- 1.4 EC's contribution to the Community Wildlife Programme will consist of protecting rural communities, where most urgently needed, with fences or barriers from the adverse affect of wildlife, particularly elephants. By lowering the cost of wildlife to the Communities, it will complement other components of the Community Wildlife programme, that develop the sharing of wildlife and tourism derived revenues with local communities.
- 1.5 The PAWS project cost is estimated at 122 million Ecu (US \$ 140 million) net of taxes and duties. The project is the first time slice of an eight year programme costed at 263 million Ecu (US \$300 million). The EEC contribution to the PAWS project is recommended at million Ecu (ie 6%), over the first three years.
- 1.6 The management and implementation of the programmes will be by KWS.
- 1.7 The main impact of the programme will be to set a completely new standard of wildlife management in Kenya on a sustainable basis, which will safeguard biological diversity, protect endangered species, enhance Kenya's wildlife tourism and improve the balance of payments situation.
- 1.8 The PAWS project, its background, organization, and implementation; financial and market aspects, benefits and risks are all described in the World Bank Appraisal Report which is summarized in the attached Annexes. These describe the community wildlife programme, special conservation programmes including elephants, and an analysis of the revenue prospects.

II. PROGRAMME DEFINITION AND FRAMEWORK:

1. The programme's place in the sector

The Wildlife and Tourism Sector

- 1.1 There has been a major re-thinking of government policy and planning of the wildlife sector over the last two years. Until recently the sector has been plagued by a history of under-funding, and mismanagement. (This followed the amalgamation in 1976 of the well run autonomous National Parks Trust with the Game Department into a single government department, namely the Wildlife Conservation and Management Department).
- 1.2 Nowhere was this more evident than in the disastrous decline of elephants and rhinos in the seventies and eighties through organized poaching. With a deteriorating security situation within the protected areas, the tourism sector itself came under threat.
- 1.3 Tourism is a vital component of the economy which can strengthen Kenya's weak balance of payments situation. Foreign exchange earnings from tourism increased from US\$116 million (132m ECU) in 1977 to US\$418 million (476m ECU) in 1989, making it the leading foreign exchange earner surpassing both coffee and tea, accounting for 37% of the value of total exports and 8% of formal sector employment. It is estimated that more than 50% of all tourist revenues are derived from wildlife viewing.
- 1.4 In addition Kenya possesses rich resources in unspoilt habitats and biological diversity, which are valuable in their own right, and the basis for the wildlife tourist industry. 8% of Kenya's surface is protected in 29 National Park and 26 National Reserves, embracing diverse and spectacular wildlife habitats and scenery, including, forest, wetland, arid land, coastal marine and montane habitats. Large regions outside parks and reserves also retain wildlife.
- 1.5 The administration of Kenya's wildlife has now been re-organized under an independent parastatal, the Kenya Wildlife Service (KWS). A detailed review of policy and planning has produced "A Policy Framework and Development Programme 1991-1996" for the Kenya Wildlife Service, which was co-financed by EEC in collaboration with the World Bank and other donors. This has provided the sound planning basis for donor support.

The PAWS Project

- 1.6 EC will take part in a multi-donor project, the Protected Areas and Wildlife Service (PAWS) which will establish the Kenya Wildlife Service as a sustainable and efficient organization that can manage Kenya's wildlife and protected areas, preserve Kenya's biodiversity, protect important natural resources and support the development of wildlife based tourism. The objectives are the following:

- (i) to reverse the precipitous decline of the country's wildlife and its system of national parks and reserves, the deterioration of which threatens precious biological diversity.
- (ii) to develop the foundation of environmentally sustainable wildlife tourism in Kenya.
- (iii) to bring benefits from wildlife to rural people living in wildlife areas, and to protect them from injury or damage from wildlife.

Relevant Action by EEC and member states

- 1.10 Contributing to the PAWS programme can be seen as an extension of EEC activities in assisting KWS in elephant and community wildlife conservation.
- 1.11 The EEC responded to the elephant poaching crisis in 1989 and committed emergency funds for Elephant Holding Actions and Anti-Poaching Activities in Kenya (Budget 946 and Food Aid Counterpart Funds), played a significant role in preventing the destruction of this species and helped restore security in the parks on which wildlife tourism depended. Only 55 elephants have been recorded as poached in 1990, compared to an estimated 5000 killed annually in the past. Elephant populations are now monitored by a project supported by the EEC (Budget 946). Kenya and EC policies are in agreement on banning the trade in ivory.
- 1.12 Internationally the EC (DG XI) supports the African Elephant Conservation Co-ordinating Group and funds an ongoing African Elephant Survey and Conservation Programme. These two programmes are aimed at developing a comprehensive action plan based on the best available scientific information. In Kenya the DGXI programme supports the national elephant survey and collaborates with KWS's Laikipia elephant radio-tracking research.
- 1.13 The EEC has also been involved in community wildlife aspects of conservation in Kenya and through KWS has funded a programme in the Kenya portion of the world famous Mara-Serengeti ecosystem. This aims to preserve ecological integrity, to improve the tourist experience and to win the support of local people by bringing them benefits from wildlife.
- 1.14 To date specific interest of donor support for PAWS is as follows: From the member states ODA: Institution Building, Management Training, Education and Communications; Netherlands: Wetland and Marine/Coastal Conservation and Management and some aspects of in-service training; KfW: Infrastructure Development specifically Park roads; Italian: Uncommitted on sector, EC: The Elephant Conservation Program including the associated Community Wildlife Programme; other donors USAID: Community Wildlife Programme; Japan: Infrastructure and plant/machinery for the Infrastructure Maintenance Programme, and World Bank through IDA: the balance left over from other donors. Provisional costings of each donor programme appear in Annex 1.

- 1.15 World Bank appraisal took place in June/July 1991 and was joined by the above-mentioned donors including EEC. The appraisal endorsed the Kenya Wildlife Service long term capital investment plans estimated to cost \$300 million, out of which it was agreed to finance a first phase amounting to an estimated \$140 million.
- 1.16 It was agreed by the donors and KWS that a comprehensive Mid-Term Project Review would be held not later than December 31st 1994. Specific performance targets were developed which will be further refined.

2. Programme objectives, scope and location

2.1 The PAWS project (see Annex 1) will provide funding for buildings, roads, technical assistance, equipment, training and some incremental operating costs to achieve the KWS objectives of:

- rehabilitation of park and reserve infrastructure by improving roads, office buildings and staff housing and related maintenance facilities;
- management of wetlands and marine/coastal parks by financing the building of KWS capacity for wetlands management, including elaboration of policy and development of a national Wetlands Master Plan, investments and technical assistance to improve management of marine parks and reserves;
- establishment of a Community Wildlife Programme providing community wildlife extension services, and technical assistance; funds and training, to increase community benefits and to develop local wildlife-related enterprises; fencing to limit animal damage;
- strengthening KWS planning capacity by financing preparation of integrated regional wildlife and park/reserve five-year development plans, including policy studies and socio-economic surveys;
- revitalization of KWS scientific research on terrestrial, marine and wetland ecosystems by improving research facilities, providing expert assistance in selected areas, setting up a coordinating mechanism with other on-going research in Kenya and continuing support for the elephant and rhinoceros special conservation programs and for the Tana River Primate National Reserve Program;
- expansion of the wildlife education programme by improving education facilities in parks and reserves, constructing visitor centres in Nairobi and elsewhere, and developing conservation oriented school curricula;
- maintenance of the effectiveness of the Wildlife Protection Unit, both to control poaching and to ensure tourist security;
- development of KWS institutional capacity through technical assistance and a staff training programme for both management and technical staff.

2.2 Integrated within the PAWS project the EEC will contribute to the KWS Elephant programme within the Special Conservation Programme (Annex 3) and to the fencing component of the Community Wildlife Programme (Annex 4) as follows:

2.3 Elephant Conservation and Management

The KWS elephant programme aims to ensure the long-term survival of biologically and touristically important elephant populations, by strengthening the effectiveness of wildlife protection, and by developing research capabilities, especially with regard to elephant management. It

will serve as a framework for EEC support for the Research Service in general and for wildlife protection.

2.3.1 Research, Monitoring and Training

Research and monitoring will be management oriented and will have the following main components:

- (i) **Research Facility:** EEC will provide a credit facility for KWS for research projects, especially those concerning the elephant priorities. This support may involve direct support for well conceived field projects conducted by KWS, other institutions or individual scientists, in full co-operation with KWS, and may include linkage arrangements with appropriate academic institutions, either in Kenya or in Europe. For terms of disbursement see Annex 2.
- (ii) **Scholarships:** EEC will support bursaries for higher education, and scientific trainees who will be used on several of the above programmes. Scholarships will be designed to provide graduate education opportunities to qualified KWS personnel and to attract talented and motivated individuals into the KWS core scientific team.
- (iii) **Short-term training consultancies:** Highly qualified personnel will teach KWS scientific trainees, in a working environment, provide practical know-how and intellectual stimulation, and at the same time accomplish useful priority research work.
- (iv) **Surveys and Monitoring:** Activities will focus on monitoring the status, trends and distribution of large mammal populations, mainly by aerial and ground surveys. Analysis of the incidence of crop damage incurred in different areas, the cost-effectiveness of different barriers to prevent elephants from gaining access to areas of intensive agriculture, and the effects of restricting elephant migration will also be covered. Computer services will be supplied by EEC to cover the analytic needs including Geographical Information Systems and database applications as appropriate.

2.3.2 Wildlife Protection

- (i) EEC will strengthen the Wildlife Protection Unit by provision of equipment, namely vehicles for field activities, and a coastal launch to patrol the marine parks.
- (ii) Elephant mortality will be monitored, and a database will be built up of elephant poaching incidents, and ivory traders in collaboration with the Wildlife Protection Unit.

2.4 Community Wildlife Programme

The EEC component of this programme aims to protect communities living adjacent to parks and reserves from injury and damage by wildlife, especially elephants, and to improve their relations with KWS. It will largely consist of the erection of wildlife barriers or fences where most urgently needed, built according to the specific needs of each situation. The KWS Fencing Unit will plan and execute a fencing programme and will engage a consultant to assist with planning, budgeting, preparation

of international tenders, supervision of works, preparation of payment vouchers, training of technicians and formation of a maintenance unit including preparation of supply contracts.

A list of fencing priorities is given in Annex 4. Top priorities will be Mt Kenya, Laikipia, the Aberdares, Tsavo, Marsabit and the Shimba Hills, as these are all areas where the conflict between people and wildlife, especially elephants, has reached a flash-point.

2.5 Location

Sixteen areas have been chosen by KWS as the focus for elephant research and management activities over the next five years. These include populations in parks and reserves, some in forest reserves and others on state and private land. The following populations have been selected: Aberdares, Amboseli, Arabuko Sokoke, Laikipia, Lamu (Manda Island, etc), Mara, Marsabit, Mathews/Ndotos Range, Mau, Meru, Mt Elgon, Mt Kenya, Nasolot/South Turkana, Samburu Complex /Kipsing, Shimba Hills and Tsavo, comprising between 75 and 80% of Kenya's total elephant population.

These areas have been selected for a variety of criteria including elephant population size and density, biological diversity, touristic potential, poaching threat, crop damage problems and the likelihood of future management problems.

3. Institutional and socio-cultural aspects

Institution Strengthening

- 3.1 The PAWS project covers substantial training and institutional strengthening activities, much of it funded by ODA. Within the PAWS scope the EEC contribution to Institutional strengthening will be focussed on the fencing unit within the Technical Services, and on the training of a pool of technically well qualified scientists within the Scientific Services.

Socio-cultural aspects

- 3.2 The entire rationale of KWS depends on engendering political and community support throughout the country. The strategy is to bring the benefits of wildlife directly to rural communities through direct sharing of parks and reserve revenues with communities that experience a cost from wildlife. USAID in collaboration with experienced NGO's, will finance the setting up of a Community Development Facility and an Enterprise Development Facility which will generate local development projects under KWS auspices.
- 3.3 Concurrently, it is vital to lower the cost to communities of wildlife conservation particularly from damage to crops and injury to human beings. Action taken to benefit communities by the Community Wildlife Programme, will be negated if the current rates of injury and damage from wildlife continue. EEC will fund the protection of communities through the construction of fences in critical areas. The top priority fencing needs of KWS over the first three years are concerned to a major extent with controlling elephant crop-raiding.

4. Overall programme design

4.1 The Kenya Wildlife will be built into a self-sustained and efficient organization, with support from the PAWS project. By managing Kenya's wildlife and protected areas, it will preserve Kenya's biodiversity, protect important natural resources and support the development of wildlife based tourism, thus helping Kenya's balance of payments situation.

4.2 The EEC contribution will form an integral part of the PAWS project and will support specific elements of the KWS Elephant and Community Wildlife Programmes to accomplish the above, namely:

- (i) A Research Facility
- (ii) Scholarships and Short-term training consultancies.
- (iii) Surveys and Monitoring.
- (iv) Wildlife Protection; equipment and transport.
- (v) Construction of fencing to protect communities adjacent to wildlife areas.

III. PROGRAMME DETAILS:

1. Physical and non-physical details

The following are foreseen for the implementation of the different components of the project:

1.1 Research Facility: EEC will provide a credit facility for KWS for specific research projects or tasks identified as priorities within the elephant programme during the course of the PAWS project (see preliminary list in Annex 3). Funds will be allocated on a yearly basis to KWS, or to independent institutions, NGO's or individuals in full collaboration with KWS. Evaluation will be made annually.

1.2 Scholarships: EEC will support bursaries for higher education, and scientific trainees. (2 PhD's and 3 Msc's).

1.3 Surveys and Monitoring: Funding will mainly cover the cost of monitoring the status and trends of large mammal populations, by aerial and ground surveys, the cost of field teams allocated by the research service to specific tasks (such as analysing the effect of fences erected by the EEC on crop damage, the consequences of restricting elephant migration, and other priorities as they arise), and the cost of computer services.

1.4 Equipment: Fifteen heavy duty 4-wheel drive vehicles will be needed as follows: 5 for research, 5 for the fencing unit, and 5 for the Wildlife Protection Unit. A launch will be needed for the Wildlife Protection Unit for patrolling the marine parks. Equipment will be needed for the fencing units including stocks of spare parts for immediate maintenance.

55

- 1.5 Consultants: KWS will employ a supervisory and training consultant to advise on the fencing programme.

Short term training consultants will also be needed for the research programme, particularly in the field of survey work. The programme will cover the recruitment of these consultants to a cumulative total of 18 man months over three years.

2. Implementation details

Responsibilities

- 2.1 The PAWS project will be implemented by the Kenya Wildlife Service. The EEC funded elephant programme will be managed by the KWS elephant co-ordinator (financed by World Bank). Vehicles and equipment for wildlife protection will be allocated to the Wildlife Protection Unit. The EEC funded component of the Community Wildlife Programme will be co-ordinated by the KWS fencing unit of the technical services.
- 2.1.2 Projects for the research facility will be proposed by KWS, or by universities, outside institutions, or individuals. They will be reviewed, on a case by case basis, and approved by a small committee consisting of at least one representative from KWS, a scientific representative from the EEC, and a representative from an independent conservation organization to be agreed by KWS and EEC (see Annex 2).
- 2.1.3 KWS will assemble a short-list of suitable candidates for advanced scientific training.
- 2.1.4 KWS will draw up an international tender for the construction of the fences.
- 2.1.5 KWS will be responsible for making an environmental impact survey of the proposed fence lines. The scientific service of KWS will be responsible for assessing the detrimental effects of the fence on wildlife communities if any, and KWS will be responsible for ensuring that the construction does not go ahead in a way which would present a conflict with KWS goals for fauna or flora in each area.
- 2.1.6 Surveys in each area will involve negotiations with local communities about exactly where fences should be built, and where possible the community wildlife programme, through KWS extension work, will draw up contractual conditions for local maintenance of the fence. Care will be taken to safeguard legal rights of usage for fenced off areas, where these are not parks and reserves.
- 2.1.7 The appropriate design will be selected from what is already known about fences and how well they are working. An on-going pilot project financed by EEC Food Aid Counterpart Funds will test various prototypes and assist in designing future specifications. Possibilities include stone walls and barriers made from impenetrable hedges.

2.1.8 Emphasis will be given to erecting fences of a strong design sufficient to stand up to wildlife, and especially elephant pressures over many years with a minimum amount of maintenance. The strategy will be to adopt a higher priced rugged design and to save on maintenance, rather than on a cheap light fence which will require high maintenance costs.

2.1.9 KWS will set up a fencing unit capable of following up all aspects of maintenance.

2.2 Accompanying Measures

The EEC will rely on the other components of PAWS and the World Bank to ensure that KWS develops into a viable entity, especially in middle management and financial management. The accompanying measures to be undertaken by the Government and KWS are the following:

- KWS will undertake to ensure sufficient recurrent expenditure during the implementation of the project.
- The government will ensure that sufficient EEC financial resources for the project are reflected in the forward budget and will notify the Commission, when it prepares its annual budget of the amount allocated to the PAWS project.
- Community aid will be direct to KWS and Community financing and tendering procedures will apply in accordance with the relevant articles of the Lomé Convention.
- Community aid will be administered by the Kenya Wildlife Service and will follow KWS procedures for reporting, and accounting as far as possible, where these are consistent with Community financing and tendering in accordance with the relevant articles of the Lomé IV Convention.

2.3 Special Conditions

- The successful implementation of this project depends upon the donors collaborating to provide their inputs in a timely manner agreed in accordance with the financing plan, and adopting agreed donor co-ordination procedures.
- The conditions for donor co-ordination suggested by KWS should be followed as closely as possible where these are not superseded by procedures laid down by the Lomé IV Convention.
- The government is to agree that:
 - (i) KWS should have the freedom to determine staffing levels, and recruit on a contract basis when this is necessary to attract high calibre personnel;

- (ii) All loans and grants including the the EEC funds for KWS will be made available on grant terms in the form of government equity in KWS;
- (iii) KWS will be exempted all import taxes and duties, including VAT;
- (iv) The auditing and reporting system set up under the PAWS project by the Kenya Wildlife Service will be approved;
- (v) A process should be established for determining rational land-use policy that takes multi-sectoral issues into consideration, and that KWS will be represented on issues of land policy, co-ordination and planning;
- (vi) KWS will participate in reviewing environmental assessments for development projects with potential impact on park/reserve development;
- (vii) KWS will be authorized to review and clear all future proposals for the siting or expansion of tourist lodges both within and in the vicinity of protected areas;
- (viii) A high priority will be attached to rehabilitating tourist access roads;
- (ix) Audited annual accounts, financial statements and report, including a separate auditors' opinion on special accounts would be made available to EEC within nine months of the close of each KWS fiscal year;
- (x) KWS will establish a Multilateral Donor Secretariat under the Director's office with responsibility to co-ordinate donor activities and reporting requirements;
- (xiii) a comprehensive mid-term review of the project would be carried jointly by KWS and the donors not later than December 31, 1994.
- (xiv) KWS will meet all recurrent expenditure, not mentioned as part of the EEC commitment.

2.4 Implementation Procedures

The implementation procedure will be according to the general regulations for works, supply, and service contracts financed by the European Development Fund. Works and supply contracts shall be concluded following an open invitation to tender. Contracts for technical assistance will be concluded following restricted invitation to tender. Short term technical assistance contracts for training will be concluded through direct agreement. Direct labour contracts will be drawn up for the research facilities and for the Survey and Monitoring. Scholarships will follow the standard EEC/EDF application procedures.

2.5 Time Schedule
The project will cover a three-year time span from the date of signature of the Financing Agreement.

2.6 Joint Reporting and Evaluation
EEC will be looking for measurable targets geared to the PAWS programme, and will receive the general reports delivered to PAWS including specific reports on the fencing and research programmes financed by EEC.

3. Cost estimate

	Ecu '000s
<u>Elephant Programme</u>	
Research Facility	250
Scholarships	250
Short-term Training Consultancies	180
Surveys and Monitoring (incl. computer services)	225
1 Patrol launch and 4-wheel drive vehicles	550
<u>Community Wildlife Programme</u>	
Fence Construction	5,189
Supervisory Consultant	360
Maintenance Equipment and 4-wheel drive vehicles	165
<u>Contingencies</u>	700
TOTAL	7,869

IV. PROGRAMME ASSESSMENT:

1. Impact

1.1 Impact on Population and Institutions

The PAWS programme will set a completely new standard of wildlife management in Kenya and will build the KWS into a self-sustaining institution. By guaranteeing the future of wildlife the future of people employed in the tourist industry will be secured, and at a local level communities will benefit from revenue sharing schemes and a reduction of costs from wildlife damage to crops.

1.2 Impact on Ecological Balance

The most important sources of biological diversity are found in the protected areas and will be safeguarded by the PAWS project. In particular the status of endangered species will be improved.

1.3 Financial and Economic Impact

By guaranteeing the future resource base on which much of Kenya's tourism is based the PAWS project will contribute to the improvement of Kenya's balance of payments situation.

1.4 Replicability

A window of opportunity exists to establish an exemplary system of wildlife management, which if successful could in turn be adopted by other states in Africa with similar wildlife resources.

2. **Viability**

Financial Viability

The early performance of KWS in generating revenues from parks and reserves has been encouraging. In the first two years, between 1989 and 1990, revenue more than doubled from Kshs 54 million to Kshs 130 million. Continued growth in the wildlife based tourism is anticipated, and the financial projections (Annex 5) suggest that KWS will become largely self sufficient. In an analysis of the medium and long-term financial prospects of KWS World Bank concluded that KWS would be in a position to generate positive net cash flow both during and after the project. Surplus funds will provide a cash reserve to cover capital replacement in later years and can be used as a cushion against any sudden down-turn in tourism. By year seven KWS should be in a position to meet an estimated capital replacement cost of US\$5.6.

V. ANNEXES:

	Page
1. Summary of the Protected Areas and Wildlife Service (PAWS) Project, including organigramme and provisional project costings	2
2. EEC support for KWS Wildlife Research, Monitoring, Training	11
3. Special Conservation Programme - Elephant Conservation and Management	14
4. Community Wildlife Programme including fencing requirements with table and map	19
5. Financial and Market Aspects	29

PROTECTED AREAS AND WILDLIFE SERVICE (PAWS) PROJECT

ANNEXES:

	Page
1. Summary of the Protected Areas and Wildlife Service (PAWS) Project, including organigramme and provisional project costings.	2
2. EEC support for KWS Wildlife Research, Monitoring, Training	11
3. Special Conservation Programme - Elephant Conservation and Management.	14
4. Community Wildlife Programme including fencing requirements with table and map.	19
5. Firancial and Market Aspects.	29

ANNEX I

Summary of the Protected Areas and Wildlife Service Project (PAWS) Project including organigramme and provisional costings (Extracted from World Bank Appraisal Report)

Project Objectives and Strategy

The project's twin objectives are: (i) to reverse the precipitous decline of the country's wildlife and its system of National Parks and Reserves, the deterioration of which threatens nationally and internationally precious biological diversity; and (ii) to further develop a sound foundation for environmentally sustainable wildlife based tourism in Kenya as a major foreign exchange earner. The strategies to achieve these objectives would include (i) strengthening KWS management capacity, research and planning capacity, organization structure and staff skills, (ii) improving KWS's financial position by providing assured access to tourism receipts from Parks and Reserves and by providing support through establishment of a Conservation Endowment Fund, (iii) supporting investments to develop infrastructure, such as roads and tourist facilities, both in currently popular Parks and in other Parks and Reserves with tourism potential, (iv) providing a stake for communities living in wildlife dispersal areas to promote project objectives and improving public awareness of conservation issues, and (v) developing a sound framework for long term development of the wildlife sector and marine parks development, and securing a broad based commitment to such a framework.

Project Features:

Institutional Strengthening and Training. (US\$34.7 million). The implementation of a large multi-faceted project would place substantial demand on KWS' still emerging management capacity. The project would help KWS strengthen its implementation capacity by providing considerable technical assistance resources to: hire skilled personnel; train existing and new personnel, and help in systems development. Since the main objective of the technical assistance is to help KWS build up a long term in-house capability to manage its programmes on a sustainable basis the project will finance about 198 person years (on a declining basis) of local technical contract (LTC) staff. A detailed breakdown of staff positions and financial support by donors is in Project File. KWS has already hired qualified Kenyans in key positions in accordance with LTSC procedures, which allow open recruitment for certain positions on a contractual basis for a fixed term at private sector remuneration levels. In addition, financing would be provided for KWS to hire about 25 person-years equivalent of internationally recruited technical assistance staff as advisors and in line positions to assist with KWS's headquarter functions including its operations and commercial department, technical and financial services and CWP. While some donors will directly manage the technical assistance contracts they intend financing, KWS plans to contract the management responsibility for the rest to an outside agency. The performance evaluation of TSC positions will be incorporated in the project's mid-term review.

In addition to providing technical assistance for key staff the project would finance the acquisition of vehicles and office equipment for KWS headquarters; provision has also been made to establish an effective radio communication link between H.Q. and all field stations. At present KWS headquarter staff are dispersed at more than one location, while the existing office space is shared with the Nairobi National Park staff. The project will, therefore, finance the construction of a modern KWS headquarter building, which would serve as the focal point for all wildlife related visitors to Kenya. Project financing also includes support for procuring office equipment, furniture and supplies and one year of specialist expertise on supervision of architectural design. The shortlisting of architect consultants for the H.Q. complex has already been completed and ICB tender documents are expected to be completed by Board approval.

Under the project staff training (US\$ 3.4 million) would be the main vehicle for building KWS's long term institutional capacity. Accordingly, the project includes financing to support 125 person months of varied training of HQ and field level professional staff. Training programmes comprising both management and technical specialist training will range from short term workshops to post-graduate studies in Kenya and overseas. Project financing is also included to upgrade the physical facilities and provide operating cost support (such as boarding and lodging of participants) for the Naivasha Wildlife and Fisheries Training Institute. The bulk of KWS training programs will be implemented at the Naivasha Training Institute. The projects technical assistance package, therefore, includes funding to hire the Director of the Naivasha Institute, KWS's training co-ordinator and short-term consultants to assist with the design and implementation of the overall training component, including specialist training in areas of CWP, Wetlands development and scientific research. The latter activities would be funded by USAID and the Netherlands government grant financing.

Park and Reserve Infrastructure Development (US\$49.5 million): The project's infrastructure programme would emphasize rehabilitation and maintenance of roads and buildings in the terrestrial parks and reserves. The preliminary road engineering has been carried out by local consultants Kaburu, Okello and partners financed under Japanese Grant financing for Project Preparation and further design work would be financed under the PPF. The preparation of detailed engineering, building construction plans and bidding documents for the first year of the building program to be financed by the PPF would be ready by Board presentation. The first year implementation schedule for the major activities of each infrastructure programme component has been agreed upon; the program for the following four years has been prepared. This programme would be updated annually, with IDA agreement, based on detailed management and investment plans for each Park and Reserve.

- (a) **Road Rehabilitation:** The project would finance the rehabilitation and reconstruction of a limited high priority of roads and tracks. The proposed network is designed in circuits of most trafficked roads and tracks covering all the main flora, fauna and scenic attractions and distributing traffic more evenly in the parks and reserves. About 400 km of primary roads would be rehabilitated within key Parks and Reserves. These roads were built 10 to 20 years ago and carry about 100 to 200 vehicles per day. The key roads would be rehabilitated on pavement width ranging from 6.0m to 5.0m with shoulders of 0.5m. The rehabilitation works will be carried out by private contractors.
- (b) **Routine Road Maintenance:** The proposed KWS road maintenance programme includes small geographically dispersed spot improvements, and simple routine maintenance operations on about 5000 km of tourist and service roads and tracks in the Parks and Reserves. These works would be carried out economically by KWS force account.
- (c) **Improvement of Administrative and Maintenance Facilities:** The proposed building rehabilitation and construction program includes: (1) construction (25,400 sq m) and rehabilitation/maintenance (38,600 sq.m) extension of facilities within parks and reserves, including workshops, offices, guard camps, and staff houses, and; (2) construction of about 10,000 sq meters of KWS' headquarters in Nairobi, including an education centre, auditorium, and live animal centre. Workshops would constitute maintenance centers which will procure, service and repair road and building equipment and tools. The list of equipment and

tools were agreed upon during appraisal. All construction and major rehabilitation would be carried out by contractors, supervised by KWS's consultants; major overhaul, reconditioning and calibration of equipment would be carried out by private workshops; while routine maintenance of facilities and servicing and maintenance of equipment would be carried out by KWS force account.

Wetlands and Coastal/Marine Zones (U.S. \$__ million). This component is designed to help KWS build its capacity to guide environmentally sound management of all of Kenya's wetlands (including carrying out an environmental impact assessment of proposed wetlands development projects). It would also aim at generating an information base on wetlands to form the basis for planning and policy making. The project would include technical assistance, training and related operational support for elaboration of a national wetlands policy, development of a national-level wetlands Master Plan and site-specific management plans for several high-priority wetlands areas. At least one site-specific plan would be implemented with assistance from project resources. Specific activities to be financed under the wetlands component include: an inventory of Kenya's wetlands and a detailed assessment of their functions and values, technical assistance and training to build a core of expertise on wetlands within KWS, educational and outreach programs to raise government and public awareness of the importance of and threats to wetlands, and exploring options for alternative wetlands development approaches.

In view of the serious environmental degradation of marine parks and reserves a major effort is planned under the proposed project, to improve the functioning of such parks and particularly to improve KWS's enforcement capabilities. Priority investments would include the purchase of motor boats, radio equipment, vehicles and improvements in marine headquarters and staff housing. Furthermore, technical assistance would support development and implementation of: (i) management plans which integrate the conservation of protected areas into the management of coastal zones as a whole, and (ii) a training program to ensure long-term capability of KWS in managing marine environments. A special sub-component focusing on mapping and management of mangroves will be developed in co-operation with an existing FAO initiative.

Community Wildlife Programme (US\$ 14.0 million). The primary aim of the Community Wildlife Programme (CWP) is to support the long-term conservation of wildlife and the integrity of parks and reserves by building co-operation and partnership with communities living in adjacent areas. This will be accomplished through a combination of decreasing wildlife impacts on communities and increasing economic benefits. Community benefits will be in the form of direct sharing of park/reserve revenues, small-scale community development, and financial and technical assistance to enable local individuals and communities to capture economic benefits from wildlife. Due to limited KWS capacity and experience, the CWP will begin on a limited scale and grow over time. KWS has developed criteria, described, for determining priority areas for revenue sharing and investment in conservation and community development. The initial emphasis is on wildlife dispersal areas which represent essential ecological extensions of key parks and reserves.

The assistance under the project for CWP is an integral part of the proposed US\$ 7.0 million USAID Conservation of Biodiverse Areas (COBRA) project aimed at increasing socio-economic benefits, from sustainable conservation and management of wildlife, by communities living adjacent to Kenya's parks and reserves. Under the proposed project financing would be provided for technical assistance, and short- and long-term training to help KWS establish and operate an effective Community Wildlife Service (CWS). Material support for CWS would include vehicles and their operating and maintenance costs, and communications and other equipment. Project financed infrastructure would

include the rehabilitation and construction of CWP station offices, while the project's technical assistance component would include long-term contracts to fill key CWS support positions at Headquarters and short-term consultancies to assist KWS in specific activities such as policy and legislation development and evaluating wildlife utilization options. An extensive training programme, to be carried out in close cooperation with experienced NGOs, would be put in place to: (i) create a corp of Community Wildlife Wardens and Wildlife Extension Wardens and related technical experts; (ii) provide general orientation/awareness building on the principles of community conservation for all KWS staff and for interacting agencies and organizations; and (iii) provide community-level training to build awareness of the potential of wildlife resources and local capability to identify, develop and manage wildlife-related enterprises.

In addition to funding the establishment and operation of the CWS, the project would provide initial financing for a "Community Development Facility" (CDF), which would include a technical assistance component and a fund. While a detailed description of the CDF and criteria for its use is available in the COBRA document, it is essentially meant to assist communities identify and carry out small-scale development activities which are judged to be compatible with and supportive of conservation objectives. The CDF technical assistance resources will fund contracts with NGOs which will help communities organize and position themselves to take advantage of wildlife management and utilization opportunities. The CDF will be supported by a US\$1.0 million USAID grant and a matching IDA contribution.

The PAWS project would also finance construction and maintenance of approximately 800 km of fencing in areas of greatest community/wildlife conflict. Most, if not all of the fencing programme, during the initial years of project implementation would be in those areas where elephant damage to crops and property are particularly acute. Prior to erection of any section of fence KWS would, however, assess its potential impact on wildlife populations and would negotiate an agreement with the communities as to their respective responsibilities for fence maintenance. These agreements would be sent for ex-ante review and approval by EEC which would co-finance the bulk of the KWS fencing programme with IDA providing nominal funding (about US\$ 0.3 million) for this activity, to cover the shortfalls in the EEC fencing program assistance.

National Park and Reserve Planning (US\$2.9 million): The project would finance the establishment and operations of the Wildlife Policy and Planning Unit (WPPU). The Policy and Planning Unit would provide project management and technical expertise for the planning, and would carry out policy analysis and formulation work on issues of special significance to the sector, such as wildlife utilization, capacity of parks/reserves for tourism, and land use planning. A three-tiered set of plans would be a central part of KWS's management and decision-making. At the most fundamental level, a system-wide plan for all parks and reserves in Kenya would express key policies and the direction of intended changes in the protected areas system. Individual five-year management plans for each park, reserve and other wildlife area would set specific objectives and give detailed guidance for management of all programmes. Annual implementation plans for each area would translate the five-year plans into annual work programs and budgets.

Project consultant resources would help support development of the above mentioned plans and policy work. In the initial years the latter would include work on developing a strategy for wildlife related tourism, and reviewing the KWS pricing policies etc. In addition, the project includes financing for the purchase of word and data processing equipment, WPPU vehicles and their operating costs, professional and technical training, specialized technical assistance, and the salary of the Assistant Director, Planning. KWS has already engaged consultants to help prepare planning procedures and draft management plans for Amboseli and Aberdares National Parks. Since these plans would be the basis for project activities in these Parks for the first year of the

project. Drafts of the plans were reviewed at appraisal, and would be finalized before Board presentation.

Research and Special Conservation Programmes (US\$9.5 million): KWS intends to rebuild its research capabilities to a high level of competence, developing a comprehensive Kenya Wildlife Research Strategy focused on management problems. The PAWS project would provide funds for equipping and operating the significantly expanded Scientific Services Department. It would support the construction of laboratory and office research facilities at the Nairobi headquarters (including the live animal facility) and field stations in seven parks and reserves. The major research stations at Tsavo East National Park and Masai Mara National Reserve would be rehabilitated and provision has been made for laboratory equipment, computers, as well as equipment and materials for the existing library. Staff mobility would be ensured by financing the purchase of vehicles and supporting operating costs for both the H.Q. and field staff. The project also would finance essential technical assistance, including the salary of the Deputy Director, Scientific Services, and a general fund for research activities. Short term technical assistance funding would be for carrying out particular research activities, and training for Kenyan students overseas and in Kenyan Universities.

The project would support the ongoing KWS Elephant and Rhinoceros conservation programmes, which are described in detail in Annex 9. Under the Elephant Conservation Programme the project would finance expenditures to carry out monitoring surveys, establishment of an elephant research facility, technical assistance and training, purchase of vehicles and associated spares, and operating costs including the salary of an Elephant Programme Co-ordinator.

The elephant research facility is primarily aimed to meet expenditures for carrying out special research activities, surveys and one time studies. KWS intends to establish overseas training arrangements with leading universities to train its staff in areas related to elephant management and research aspects.

Under the Rhino Conservation Program the project would help protect the black and the white rhinoceros in Kenya by funding all costs related to the protection of viable breeding populations of black rhinoceros in sanctuaries and establishing a breeding population of white rhinoceros in the Lake Nakuru National Park. Financing would also be provided for translocating about 90 rhinos over the project period; purchasing vehicles, and surveillance equipment; and meeting operating costs including salaries and allowances.

The proposed project will provide the implementation umbrella for the Tana River Biodiversity Project (TRBP) being considered for funding under the Global Environment Facility (GEF). The Tana River Primate Reserve, which is the location for the proposed GEF project, is known for its biological significance a diverse and specialized flora and fauna, including two endemic endangered primate species. These rare resources are under immediate threat because its relative inaccessibility limits its potential for economically viable tourism development. In the absence of separate GEF funding the precious biodiversity resources at Tana River are unlikely to survive over the next five years. The GEF project would provide the initial investment (estimated approximately US\$ 6.0 million) needed to upgrade the Reserve infrastructure and facilities, address the needs of agricultural communities currently occupying and using the reserve unsustainably, and develop and implement a management plan. Following this initial investment, the long-term management of the Tana River Reserve would be undertaken as with any other National Reserve, based on an agreement to be reached between KWS and the County Council.

Wildlife Education and Visitor Services (US\$7.9 million): The project would assist KWS in developing an education and visitor services programme to build

public support within Kenya, raise environmental consciousness in supporting wildlife conservation, and to enhance visitor satisfaction. The education and visitor services programme thus includes financing for: (i) the purchase of vehicles, office equipment, incremental operating costs to support the Wildlife Education Service operations and technical assistance to help build up the division; (ii) operating visitor information facilities at parks, with two large centres in Nairobi and Mombasa, and smaller facilities in other parks – the Nairobi visitor centre is planned to be part of the KWS headquarters complex; (iii) establishing and operating field study centres for residential courses for school groups and adults at five parks, and co-operating with NGOs in operating other existing centers; (iv) providing guided walks and other programmes at parks and reserves; and (v) promoting increased use of wildlife education materials in Kenya's primary school system. The latter activity would be based on the experience acquired by NGOs in the production of conservation oriented books and training of trainers. Activities to be financed would include: (i) production and distribution of wildlife conservation textbooks; (ii) training of teachers; and (iii) support for wildlife conservation activities to be undertaken by schools (e.g. visits to protected areas).

Wildlife Protection and Tourist Security Programme (US\$8.2 million): Under the project the Wildlife Protection Unit (WPU) would be supplied with adequate transport and communication and surveillance equipment to allow it to build up a reliable intelligence network to pre-empt poaching incidents and violent attacks on tourists. The specific activities to be financed are: the construction of and furnishings for mobile field bases, mainly in Tsavo, Meru, Lamu and Mount Elgon which have been identified as the high risk areas; the rehabilitation and expansion of the training camp in Manyani (a small training camp constructed under WTP); the purchase of vehicles and the purchase of patrol boats for the marine parks. To enhance tourist security and anti-poaching activity in the parks, ODA has provided financing for equipping Tsavo East and West with an efficient telecommunication system. This system would be expanded to other parks, and financing has been included in the Project for this purpose.

Organization and Management

Overview: KWS is still a nascent organization with a broad conservation oriented mandate but inherited weaknesses including overstaffing, insufficient skills, impoverished assets, an unclear reporting structure and internal processes, and a work culture which is still not fully compatible with the KWS's business development plan. The organization does, however, have major assets: it has considerable policy and legal support to manage its tasks; it currently has a strong core management team; and most of all it can draw on the groundswell of international and domestic goodwill and tangible support for its activities. With the institutional development support provided under the proposed project, KWS would have the capacity to implement a project of the nature and size of the PAWS Project.

Nevertheless, to minimize institutional risks it is planned to reduce the implementation burden on KWS by: (i) building on existing KWS programmes of training, technical assistance and operational procedures; (ii) tapping into the private sector contracting industry and NGOs, in implementing key project components such as the Community Wildlife Programme, education services and research; and (iii) decentralizing KWS management and establishing a flexible annual planning process based on solid monitoring and evaluation. A diagrammatic overview of the KWS target organization structure is given in the accompanying organization chart. This organization is consistent with KWS's status and with the requirements of the (amended) Wildlife Act.

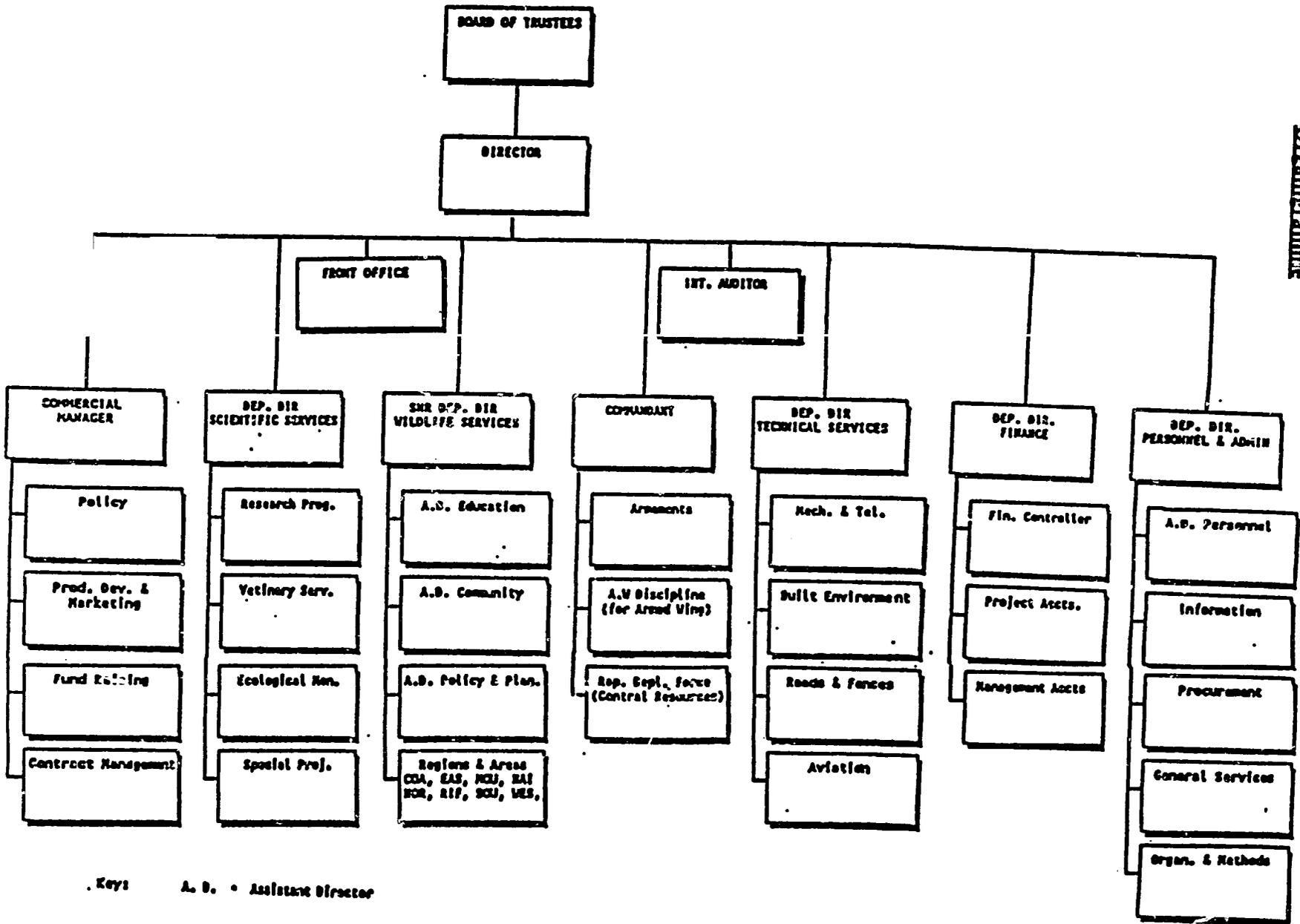
Policy Direction: The overall policy and implementation direction for KWS would be given by its Board of Trustees. The KWS Board comprises representatives of key Government agencies, and the private sector as well as other groups related to Wildlife. The Director of KWS who is the chairman of the KWS Board enjoys a wide span of

control with a relatively close involvement in day-to-day implementation details. It is expected that with the ongoing and proposed strengthening of KWS's management team the Director will devote most of his time to formulating strategy, monitoring overall project progress and interacting closely with KWS national and international conservation related constituencies. The KWS's core management team, comprising the heads of all divisions, would function as a Management Board with the addition of one or two non-executive directors. This Board will basically review: (i) past and ongoing operations and draw lessons; (ii) proposed annual plans, and will make adjustments as and when required.

Management and Staffing: The present management structure at head office is flexible and revolves around the weekly executive meetings to discuss implementation issues and strategy. At park warden level the structure is at present unchanged from the parks and game dichotomy inherited from WCMD. This would, however, be changed gradually to reflect KWS' decision to treat the Warden's office, inside the parks/reserves, as the focal point of all wildlife related activities, including community wildlife activities, infrastructure development and planning, etc.

The KWS organization provides for a management team comprising five heads of division (Deputy Directors) and a Director's small front office team. The appointment of the senior deputy director operations, financial controller and heads of CWP, technical services, and commercial operation would be a condition of project effectiveness. In addition all foreign advisors, financed by bilateral donors, will also function within the regular KWS management structure.

Current KWS staffing levels (3200 staff) represent almost a 30% decrease over 1989 levels when KWS was established. Following the staff rationalization measures, KWS is attempting to build up a highly qualified and experienced cadre of professionals. The staff development strategy rests on two measures, namely: recruiting qualified and experienced Kenyans for key positions at market salary rates, and providing adequate career prospects to its regular staff. Training, however, is the cornerstone of the KWS's staff development strategy, and under the project substantial technical assistance resources are being provided to help build up KWS staff skills at all levels.



Keys A. D. • Assistant Director

6

104

ANNEX 2

EEC support for KWS Wildlife Research, Monitoring, Training:

Background

KWS holds research and monitoring to be essential for sound planning and management. The principle objectives of KWS's wildlife research programme are:

- To provide sound information and advice on wildlife and the whole range of environmental factors affecting wildlife, so as to help KWS achieve its conservation and management objectives effectively and efficiently;
- contribute to and promote an increased basic understanding of wildlife, natural communities and human interactions with wildlife in Kenya;
- help expand and strengthen Kenyan expertise in wildlife research and management through training and scientific exchange;
- establish and maintain high standards of quality in research and the direct application of research findings to wildlife conservation and management strategies.

Priority will be given to management oriented research, but good basic research will also be encouraged. The primary responsibility of the research section will be to obtain and evaluate facts about wildlife for use in making decisions in planning and solving problems in management.

KWS Research Policy

In many cases other institutions and individuals already have the expertise, facilities and equipment required to undertake the monitoring and research that KWS requires. KWS will collaborate with and sub-contract to other NGOs, research institutions and individuals, projects needed in order to implement key programs with rapidity. While KWS will play a central role in guiding wildlife research it will avoid duplicating personnel and equipment. KWS intends to encourage foreign wildlife scientists to undertake research in Kenya in collaboration with Kenyan scientists. Collaboration and co-operation will be the key operating principles.

Elephants as a focus

Elephants have been accorded a high priority by KWS for research and monitoring since they create special challenges for planning and management, namely:

- They are particularly vulnerable to the illegal trade in ivory, and were severely endangered until the ivory trade ban.
- They have a potential for ecological influence on other species, especially in diversifying habitats, dispersing seeds, and when compressed within parks and reserves in causing woodland damage.
- They can be a major cause of friction with surrounding human populations, especially since they are one of the wildlife species causing major crop damage.
- They are major tourist attractions, and have a high economic potential for their viewing value.

- They have a high symbolic value as a rallying point for KWS policies and international support, and have been used to focus support internationally for KWS's endeavours.
- Their status can be easily monitored as an indicator of how well KWS policies are working with respect to Wildlife Protection.

KWS and the donors of the Appraisal Mission recognized that elephant and rhino conservation warranted special recognition, and that their conservation would be focused in distinct programmes under the Scientific Service, which in the light of previous and ongoing EEC activities provides a useful framework for EEC support.

EEC's role

It was agreed by KWS and the donors that EEC would take a lead role in supporting the KWS elephant conservation programme and its financing would span several KWS management units to accommodate research and monitoring, scientific training, wildlife protection and fencing.

With regard to the scientific aspects EEC will provide:

1. A Research Facility
Research Facility: EEC will provide a credit facility for KWS for research projects, especially those concerning the elephant priorities. This support may involve direct support for well-conceived field projects conducted by KWS, other institutions or individual scientists, in full co-operation with KWS and/or linkage arrangements with appropriate academic institutions, either in Kenya or in Europe.
2. Scholarships
EC will support bursaries for higher education, and scientific trainees will be used on several of the above programmes. Scholarships will be designed to attract talented and motivated individuals into the KWS core scientific team.
3. Short-term training consultancies
Highly qualified personnel will teach KWS scientific trainees, in a working environment, to expose them to stimulating intellectual and practical experience, to transfer know-how and at the same time to accomplish useful priority research work.
4. Surveys and Monitoring
Activities will focus on monitoring the status and trends of large mammal populations, by aerial and ground surveys. Analysis of the incidence of crop damage incurred in different areas, the cost-effectiveness of different barriers to prevent elephants from gaining access to areas of intensive agriculture, and the effects of restricting elephant migration.
5. Equipment
Five four-wheel drive vehicles for the elephant programme.

Administration of the EEC Research Facility

Administration of the research facility, scholarships and short-term consultancies provided by EEC will be governed by a small committee consisting of at least one representative from KWS, a scientific representative from the EEC, and a representative from an independent conservation organization to be agreed by KWS and EEC. Projects for the research facility will be proposed by KWS, or by universities, outside institutions, or individuals. They will be reviewed, on a case by case basis, and approved by the small committee.



Projects are expected to be drawn from the fields outlined in annex 3 which summarizes the KWS Elephant Programme, and may include topics from elephant biology, such as studies of habitat interactions, population dynamics, genetics, behaviour, communication, reproductive physiology, contraception. It may also cover the organization of information on elephants by Geographical Information System computer techniques, the building up of elephant literature, ivory trade data storage and analysis, and analysis of elephant poaching

ANNEX 3

Special Conservation Programme - Elephant Conservation and Management

Introduction:

1. In recent years Kenya's wildlife resources have suffered a steady deterioration which has been exemplified by the dramatic reduction of the country's elephant population. By 1988 the poaching of elephants had escalated to such an extent that negative international press began to threaten the tourist industry. In response to this situation, in early 1989 the Government took a series of steps to stop the poaching and to rehabilitate the wildlife sector.
2. The elephant is deserving of special attention during the stage when the Kenya Government is redefining its wildlife policies for a number of reasons. As a large distinct mammal, the elephant can be successfully used to engender financial support for many of Kenya's Parks and Reserves. Elephants have the potential to modify the habitats in which they live and thus, clear management policies for elephants are essential for the future integrity of the ecosystems they inhabit. Further, by providing protection and sound management for elephants, Kenya will be able to secure the overall biodiversity of its priority wildlife areas and, in so doing, secure the country's highly profitable tourist industry. Finally, in some parts of the country elephants are the focus of severe crop damage complaints so that protecting people and their property from injury or damage by wildlife is, therefore, one of KWS stated objectives. For all of these reasons the elephant is Kenya's single most important wild animal species.

Ivory Poaching and the Last Two Decades:

3. Over the last two decades, poaching and loss of habitat have caused the decline, extermination and compression of elephant populations throughout eastern Africa. A number of factors have contributed to the reduction of elephant populations in the region including a large illegal ivory trade, widespread poverty, civilian disruption, lack of arms control, lawlessness and land-use conflicts between humans and elephants. Kenya has been no exception to the pattern. Over the last 15 years ivory poaching reduced the country's elephant population from some 130,000 individuals in 1973 to an estimated 16,000 by 1989. Some reduction in elephant population is inevitable given human population growth and land-use conflicts. However, the primary cause of the declines through the 1970s and 1980s can be attributed to the illegal trade in ivory. In many areas, including within some Parks and Reserves, pressure from poaching has either eliminated entire elephant populations or reduced population densities to levels that are no longer viable.
4. Tsavo, Kenya's largest National Park provides a typical example of the history of Kenya's elephants over the last two decades. The Tsavo elephant population, after increasing in the 1960s to over 40,000 elephants, crashed in two phases: in 1971 drought and starvation killed about 7,000 elephants, and in 1975 and 1976 poaching for ivory killed large additional numbers. The population continued to decline through the 1980s due to another upsurge of poaching which intensified during 1988. By mid-1989 groups of Somali poachers, armed with automatic rifles, had reduced the population to around 6,000 elephants.

Current Status and Distribution:

5. In mid 1989, the rate of killing of elephants in Kenya began to decline sharply. The dramatic change in events can be attributed to several factors including: increased effectiveness of anti-poaching operations and intelligence gathering; global awareness of the plight of the elephant; and the international ban on the ivory trade. The results of the

successful campaign against poaching can already be seen in the field: fresh carcasses are rarely found and elephants are being sighted in places they have avoided for many years. For the first time in almost two decades it is likely that Kenya has an increasing elephant population. However, elephants are long-lived, intelligent and highly social animals and it will take several decades for many of the country's heavily poached populations to return to a normal age/sex and social structure.

6. 29 of Kenya's Parks and Reserves still contain elephants. In many of these areas, particularly those in the northeastern portion of the country, populations have been reduced by poachers to only a few isolated groups and may no longer be viable. However, several Parks and Reserves and their surrounding ecosystems still contain viable populations that survived the poaching years through protection provided by forest cover (e.g. Aberdares, Mt. Kenya), tourism (e.g. Mara, Amboseli) or co-operation from local people (e.g. Shimba Hills). While forest cover has often provided elephants with protection from poachers, very little is known about the true status of these populations as a consequence of the low visibility. Frequently these same elephants are in serious conflict with the intensive agriculture that typically surrounds forests areas. Some forest populations are known to have fared less well due to their geographical position which allowed easy access by sophisticated gangs of poachers (e.g. Marsabit, and Mt. Elgon). Based on information provided by the Wardens and other sources, Table 1 lists the Parks and Reserves that still contain elephants and the estimated population size that utilizes the protected area and surrounding ecosystem.

7. In addition, there are still many areas in the country where elephants exist outside the Park and Reserve system. The largest of these populations are in Laikipia District and in the forests of Aberdare, Mt. Kenya, the Mau, the Mathews Range, Mt. Elgon, Maralal and the Nguruman. In the north of the country there are many areas that are visited infrequently by small, highly migratory animals which move back and forth across Kenya's borders with Somalia, Ethiopia, Sudan and Uganda. Table 2 lists the areas outside Parks and Reserves where sizeable numbers of elephants are known to exist.

8. The total number of elephants currently believed to occur in each District (both inside and outside Parks and Reserves) has been estimated by each District Warden. These estimates are presented in Table 3 and give a range for the entire country of between 11,985 and 26,550 elephants. Based on the data currently available, it is likely that Kenya's elephant population lies around 20,000 individuals.

OBJECTIVES OF THE ELEPHANT CONSERVATION PROGRAMME:

9. The objectives of the KWS Elephant Programme are:
- to ensure the long-term survival of biologically and touristically important elephant populations;
 - strengthen the effectiveness of wildlife protection including strengthening the ivory trade ban;
 - develop KWS research capabilities, especially with regard to elephant management;
 - protect communities living adjacent to parks and reserves from injury and damage by wildlife, especially elephants by assisting the Community Wildlife Service (CWS) to implement its fencing programme;
10. To protect population of elephants in Kenya in the long-term will require a broadly integrated approach to conservation. The elephant programme would focus on:

- (a) establishing effective intelligence and anti-poaching operations to control poaching and illegal trading in ivory;
- (b) undertaking required monitoring and research activities; and
- (c) taking steps to reduce conflicts between elephants and human settlements.

11. Based on the strategy outlined above, sixteen areas have been chosen as the focus for elephant conservation and management efforts over the next five years. These include populations in National Parks and Reserves, some in Forest reserves and others on State and private land. The following populations have been selected: Aberdares, Amboseli, Arabuko Sokoke, Laikipia, Lamu (Manda Island, etc.), Mara, Marsabit, Mathews/Ndotos Range, Mau, Meru, Mt. Elgon, Mt. Kenya, Nasolot/South Turkana, Samburu Complex/Kipsigis, Shimba Hills and Tsavo, comprising between 75% and 80% of Kenya's total elephant population. These areas have been selected on the basis of a combination of factors including population size, present or future touristic potential, poaching threat and/or strategic location for pre-emptive security measures, biological diversity of the area, crop damage problems and the likelihood of future management problems.

Establishing Effective Intelligence and Anti-poaching

12. While the ivory trade ban and public awareness campaigns in consumer nations have reduced the demand for ivory and therefore the incentive to kill elephants, poaching will undoubtedly continue at some level during the investment period. For this reason, well-equipped, highly trained anti-poaching forces will still be required. To pre-empt poaching incidents, intelligence gathering will become an increasingly important component of the strategy. Anti-poaching requirements for elephants would be very closely co-ordinated with the overall wildlife protection needs of KWS, both in terms of the actual location of bases and outposts and the number of men needed in each area. KWS's anti-poaching forces are currently being retrained and restructured into three separate units. The field force unit would be based permanently in particular parks and reserves that require special attention (e.g. Tsavo, Meru, Elgon). The strike Force would be trained and equipped as a mobile unit which will be responsible for coping with security problems that arise outside protected areas. The special operations force would be developed as a small highly-trained and well equipped unit.

13. While efficient anti-poaching forces will be needed for the next five years, the long-term aim is for intelligence gathering to play an increasing role within the overall security strategy. The elephant programme would work closely with the Wildlife Protection Unit to build up a database on ivory traders; and co-ordination between KWS, the Wildlife Departments of neighbouring countries and the Regional TRAFFIC Office.

14. Monitoring and Research Activities: KWS's elephant monitoring and research programme will be primarily management oriented. Activities will focus on: monitoring the status and trends of elephant populations; finding solutions to elephant management problems in Parks and Reserves and providing recommendations for conservation and management action; and assessing economic losses due to elephant crop damage as part of estimating fencing needs.

15. Aerial and ground surveys will form a large part of KWS elephant research programme. Inventories of the country's elephant populations, particularly those in Parks and Reserves, will be needed in the first few years to establish data from which to measure the success of anti-poaching efforts and the effectiveness of future management

actions. Many of these surveys will be included in KWS' overall monitoring programme which will be undertaken during the next five years by the KWS Research Programme and the Department of Resource Surveys and Remote Sensing (DRSRS). While DRSRS has agreed to collect data on elephant distribution and abundance within the context of their country-wide surveys, KWS will want to undertake its own more detailed total counts of elephant populations in many areas.

16. In addition, ground surveys will be required to estimate the number of elephants in forests and to assess the age/sex structure of populations. The forest populations of Arabuko Sokoke, Mt. Elgon, the Mau, the Mathews Range, Marsabit, Mt. Kenya and the Nguruman Hills will require ground censuses within the first two years of the investment period. Populations that have either been heavily poached (e.g. Tsavo, Meru) or those that KWS expects to fence (e.g. Shimba) will require age/sex structure surveys so that the population growth rate and dynamics can be monitored effectively. During the first year, two-man teams will be trained to carry out these surveys.

17. The populations of Amboseli, Maasai Mara, Samburu Complex, Shimba Hills, Tsavo East and West will require more detailed long-term monitoring due to their importance for tourism and the particular management problems that each faces. A full-time researcher will be stationed in each of these Parks and their elephant related research activities will be co-ordinated by the KWS Elephant Programme. Where possible these projects will be integrated with overall KWS's monitoring programme. The populations of Amboseli and Maasai Mara are already being closely monitored by AWF and WWF projects, respectively, and KWS will establish close links with them. Long-term projects in Shimba Hills and Tsavo should be initiated by the second year of the project.

18. The KWS Elephant Programme will also collaborate closely with outside individuals and institutions involved in both applied and basic research on elephants. The following describes the main topics that will be investigated during the project:

- Elephant Contraception: The KWS Elephant Programme is initiating research to look into the feasibility of regulating compressed or fenced elephant populations through contraceptive methods. KWS will be collaborating with the Institute of Primate Research, the German Primate Centre and others on this study.
- Population Dynamics: KWS will be using its survey teams to collect field data on the age/sex structure of populations. These data will be used to model the recovery rate of poached populations, to predict the effects of fencing on population growth rates and to determine which age groups to target in the elephant contraception programme.
- Forest Census Techniques: The Elephant Programme will be collaborating with other organizations and individuals in developing new techniques for censusing elephants in forests.
- Ivory trade Monitoring: The Elephant Programme, with Security, will build up a database for intelligence relating to the illegal trafficking of ivory and ensure that relevant information is provided to the Regional TRAFFIC Office. Monitoring the trade itself may also be undertaken, involving information on volumes of ivory, networks and routes, pricing structures and impacts on populations.
- Genetics: KWS will be collaborating with NMK and/or other individuals on studies of the genetic structure of different elephant populations as required for management strategies and forensic work-ups.

- **Elephant Behaviour and Communication:** The Elephant Programme will be collaborating with the Amboseli Elephant Project on elephant vocal communication and behaviour studies. Kenya has a lead in elephant behaviour research based on the long-term Amboseli studies of individually known elephants over the last two decades.
- **Elephant-Habitat related studies:** In areas where elephants are compressed, due to poaching, fencing studies will be initiated to monitor the effect of elephants on the habitat. This information will be an important component for management decisions.

Fence related studies

KWS will monitor the effects of fencing. Wardens and the Community Wildlife Service will collect data under the guidance of the Scientific Services. Research will also be conducted on the cost-effectiveness of different elephant barriers (an initial experimental fence funded by EEC Food Aid Counterpart Funds has already been approved for immediate construction).

ANNEX 4

Community Conservation and Wildlife Management (including fencing needs of KWS)

Background

The long-term prospects of Kenya's wildlife and its protected areas are seriously threatened by resistance and hostility on the part of communities living around parks and reserves and in other wildlife areas. This hostility arises from a number of factors, including wildlife damage to crops, livestock and property; threats to personal safety; competition with wildlife for grazing and water; and in some cases resentment that establishment of protected areas alienated land which local communities felt was rightfully theirs. The result is increasing encroachment on the land and resources of protected areas. In addition, wildlife areas are often considered to be "unused" space into which agricultural, industrial and urban development should expand to meet the needs of the rapidly growing human population. Such development is, however, generally incompatible with wildlife, destroying essential habitats and interfering with migrations. It also increases community/wildlife conflicts by bringing people and their property into closer contact with wildlife populations. In many areas which are rich in wildlife, conventional development can irreversibly preclude development of wildlife-based enterprises which have the potential to be a more viable and sustainable form of land use, even on purely economic grounds.

The increasing pressures on wildlife areas cannot be countered solely by force or legal sanction. Mechanisms must be found to reduce the costs which individuals and communities bear as a consequence of the continued presence of wildlife and, if possible, to enable them to derive significant economic benefits from it. Kenya was in fact a pioneer in attempting to generate community support for wildlife conservation. Community-oriented initiatives were established almost 20 years ago in Amboseli and Masai Mara. Both areas were placed under local (District) level ownership and management, with revenues from tourism going to the District Councils, and a number of facilities were provided for people living adjacent to the Reserves themselves. In the case of Amboseli, there was an extensively negotiated arrangement under which the local Maasai agreed to stop watering and grazing their cattle inside the reserve and the Government provided an external stem among other facilities as well as various rights and direct cash benefits. Unfortunately, the Government failed to meet many of its commitments, the local Maasai felt poorly represented by the District government, and the resulting disputes continue to the present time. In Masai Mara the arrangement has apparently been more satisfactory to the local community, but Reserve revenues have not been adequately re-invested to maintain the resource. Furthermore, in both cases there was little direct connection between wildlife conservation and benefits received by the communities, so that they had no real incentive to continue to support conservation once the facilities were in place.

In another effort to reduce community/wildlife conflict, the GOK instituted a policy of paying cash compensation to farmers for wildlife damage, but the system was widely abused and irregularly implemented and has been discontinued, leaving farmers and pastoralists highly resentful of continuing, uncompensated losses. This resentment is sometimes expressed through killing animals and destroying wildlife habitat.

KWS recognizes that these isolated and inadequately implemented initiatives must be replaced by a strong, long-term community outreach program to stimulate community co-operation and involvement in wildlife conservation. To meet this need, KWS is initiating a Community Wildlife Programme (CWP), to be implemented by a new Community Wildlife Service (CWS). The CWP will be central to achieving all five of

the objectives articulated in the KWS 1991-96 policy framework and development programme:

- (1) to conserve wildlife areas that are significant components of Kenya's protected areas;
- (2) to protect wildlife and natural resources from damage by industrial, agricultural and other activities;
- (3) to conserve and use wildlife in areas where it can be a component of an economically viable land use system;
- (4) to increase economic and other benefits from wildlife, particularly for people in areas supporting wildlife; and
- (5) to protect people and their property from damage caused by wildlife.

Principles and Strategy

KWS's strategy with respect to community extension will vary depending on the area:

- (1) In the immediate vicinity of national parks and reserves, KWS's strategy is to ensure the long-term survival of the protected areas and their wildlife populations by building community support and preserving critical wildlife dispersal areas.
- (2) In wildlife-rich areas not associated with parks and reserves, KWS will not assume direct responsibility for wildlife management, but will encourage and assist (private and communal) landowners to develop commercial enterprises involving sustainable management of the wildlife either alone or in combination with other compatible forms of land uses (e.g. extensive livestock management).
- (3) In non-protected areas which are relatively poor in wildlife resources, or where for other reasons wildlife utilization is not a sound economic option, KWS will not seek to impose it as a land use and there will be minimal CWP activity.

National Parks and Reserves are areas which have been designated to be preserved in a natural state as a national heritage. They are managed by KWS on behalf of the citizens of the country at large rather than for the direct benefit of local communities. KWS's objective in community extension around protected areas is to improve relations and gain the support of adjacent communities by decreasing wildlife-related costs and increasing the benefits accruing to them. The CWP will give highest priority to private, communal or trust lands which are adjacent to national parks and reserves and are critical to the integrity of the area's wildlife populations or ecosystem (e.g. seasonal wildlife dispersal areas). The CWS will focus on working directly with the people living in important wildlife areas rather than any specific level of local government or organization.

The majority of Kenya's wildlife is actually found outside protected areas, much of it in arid and semi-arid regions where it represents an important potential economic resource for people who often have limited economic opportunities. KWS does not, and will not, have the capacity to manage directly wildlife populations and habitat outside protected areas. Instead, its strategy will be to encourage and empower landowners to become actively involved in wildlife conservation and management on

their lands. KWS will confirm the wildlife use rights of landowners and provide technical assistance, training and funds (see below) to help them identify and take advantage of commercial opportunities in wildlife utilization.

Approaches to Wildlife Utilisation

The prospects and options for successful wildlife utilization in any given area depend on a variety of factors such as the variety and density of wildlife present, other aesthetic features, accessibility, security conditions, etc. While the main emphasis will be on non-consumptive utilization of wildlife, i.e. viewing tourism, KWS will also examine the viability of allowing consumptive use of wildlife under its oversight. In 1977-78 the GOK imposed a complete ban on hunting and on the sale of wildlife products. The ban was established to put an end to a disastrous situation of virtually uncontrolled hunting which seriously threatened a number of commercially valuable species, and they have been relatively successful in ending serious poaching except in the case of elephants and rhinoceros. Over the past two years, however, KWS has demonstrated its ability to arrest poaching even of these high-value species, generating confidence in the agency's improved enforcement capacity. KWS management also recognizes the importance of providing alternative sources of wildlife-based income for landowners who may not be able to attract tourism and are thus currently faced with only the costs and none of the benefits of maintaining wildlife on their lands.

KWS will, therefore, begin to permit carefully planned consumptive utilization of selected species, on a pilot basis and under close control and monitoring. The strategy is ultimately to develop a largely self-regulating user group with strong professional associations to minimize the need for KWS involvement in this aspect. Initially permits will be granted by the KWS Director on a case-by-case basis following careful review of the wildlife population in question and the proposer's management plan and capability to implement that plan. Any adoption of consumptive utilization on a larger scale, however, must be preceded by better definition of policies and establishment of appropriate legislation and regulatory instruments addressing all aspects from harvesting, to processing, to sale of products.

Programme Elements

Because much of Kenya's important wildlife habitat is found in communally held lands, the issue of community organization is central both to providing community benefits and to empowering and assisting landholders to manage and utilize wildlife. The CWP will promote and assist the organization of "Wildlife Management Units," at the community level, to serve as the focus for KWS interaction with and assistance to communities. The geographic and social boundaries of WMUs must be carefully drawn, as they must be small enough to function efficiently and be truly representative of their membership, yet large enough to encompass ecologically viable wildlife populations.

The project will support the establishment and implementation of the CWP through policy and human resource development and actual extension activities. At the policy level senior advisors will help KWS ensure an enabling environment for CWP activities, including a clear and "user-friendly" regulatory framework for private and community wildlife utilization as well as effective mechanisms for co-operation with other GOK agencies and with NGOs.

The fundamental aims of the CWP in the field are establishing and maintaining an effective dialogue with local communities to promote mutual understanding and defuse hostility. The CWP field extension activities will involve four main elements to achieve these aims: (i) problem animal control, (ii) revenue sharing, (iii) selected small-scale development assistance and (iv) local income generation. The first element aims to

decrease the direct costs of wildlife depredations on crops, livestock, property and people. The others aim to achieve a more equitable distribution of the substantial economic benefits which the nation derives from tourism in the parks and reserves by increasing the proportion going to communities in wildlife areas.

Problem animal control involves fencing of park and reserve boundaries in areas where it is essential to prevent wildlife from leaving the protected areas and moving onto cultivated or settled lands ("hard-edged parks"). A major expansion of the existing fencing programme is one of the most pressing demands of communities living adjacent to protected areas. Prior to erection of any fence, however, KWS will evaluate its potential ecological impact to ensure that it does not interfere with essential wildlife movements. KWS will also negotiate and come to an agreement with the communities as to their respective responsibilities for fence maintenance. Different types of physical and vegetative barriers and electric fencing will be used, depending on practical considerations such as the types of animals involved and maintenance requirements, and research will be carried out to identify the most cost-effective solutions. KWS will also use direct intervention when needed, stationing PAC rangers permanently in the field with the resources and capability to respond quickly to citizen complaints. In collaboration with extension work done by the Community Wildlife Programme the KWS fencing unit will implement details of the proposed fencing program on the following guidelines:

- Contractual conditions for the fencing company will include responsibility for fence maintenance for a defined period, and training KWS staff and local people in fence maintenance. Some local people will be employed in fence construction.
- Where communities accept responsibility for fence maintenance contractual conditions may be drawn up for a local team, answerable to the local community. KWS may well agree to contribute to the payments due to such a team, which might be a local company or a group organized by the local Chief. In most cases, there would be some formal mechanism for supervision by the community.
- Commitments by KWS to be responsible for certain aspects of maintenance, probably the provision of some equipment, technical back-up and supervision. The technical back-up will probably comprise a local staff member with technical training in fence maintenance plus a mobile Headquarters team with more specialist expertise, to solve problems beyond the capability of the local personnel.

Revenue sharing involves direct payment of a portion of KWS's receipts from park entrance fees to communities living adjacent to selected protected areas. This does not represent a gift, but rather part of KWS's contribution to a partnership with the community. To share in the benefits from protected areas and wildlife, these communities must tolerate the presence of wildlife on their land and manage the land in a way that is compatible with wildlife needs. These responsibilities will be specified and agreed in negotiations between the KWS and the community, subject to normal District approval. Carrying out negotiations, monitoring implementation of the agreements and overseeing the revenue sharing process will be a major responsibility of the CWS. The means for distributing or using proceeds from revenue sharing will be agreed by the beneficiaries and KWS prior to disbursement of the funds, with the aim of ensuring accountability and equitability. Depending on local preference and circumstances, funds may be distributed directly or used to support community development projects or activities which will not have a negative impact on the wildlife or the ecological integrity of the protected area.

Revenue sharing is regarded as an important mechanism to achieve specific conservation objectives. KWS has indicated it will allocate approximately 25% of its total annual gate receipts overall, but has not yet specified any geographical distribution. However, because it represents in effect a payment for use of land as supplemental wildlife habitat, revenue sharing will be primarily in areas where wildlife must be permitted to move regularly onto private or communal lands outside protected areas. Some revenue sharing might be carried out in the vicinity of "hard-edged parks" if KWS judges it essential in order to build and maintain good relations with the local community. KWS has developed general principles and criteria for revenue sharing (Appendix 1), but these must be clarified, publicized and closely adhered to in order to maintain KWS's credibility and avoid giving the impression of arbitrariness or favoritism.

Community Development Facility (CDF): In addition to revenue sharing, KWS will establish the CDF to support community projects and activities in line with the objectives of building support for conservation and promoting positive attitudes toward wildlife. The facility will provide both technical assistance and grant funds. The technical assistance may be in the form of short-term consultancies or contracts with NGOs, community groups and other agencies. It will be used to assist communities to organize and to build institutional and technical capacity to capture benefits from wildlife, for example by developing small businesses or by negotiating better contracts with the private sector (e.g. for siting tourist lodges on their land or for providing them with goods and services). Community groups will also be able to apply to the CDF for small grants to support projects which KWS judges to be compatible with its conservation objectives. Although not necessarily directly related to wildlife management, projects or activities supported by the CDF would be clearly linked to the communities' continuing compliance with conservation requirements, as specified in formal agreements to be reached with KWS in advance. Use of CDF funds will also be linked with local government institutions, in accordance with the GOK District Focus on Rural Development. The KWS field staff will participate in District Council meetings and other local forums to facilitate this linkage.

Enterprise Development Facility (EDF): In addition to the CDF, KWS will establish the EDF specifically to promote the development of wildlife-based, income-earning enterprises at the local level. Both individuals and community groups will be eligible for assistance as long as the enterprise will yield local economic benefits. The EDF will support technical assistance to the communities and individuals in areas of preparing feasibility studies, market analysis, legal advice, environmental and social impact assessments, managerial assistance, business and management training, etc. It will also provide small, start-up loans for commercial enterprises which have difficulty in attracting investment because they are regarded as risky. However, the main thrust of the EDF is to assist community groups or individuals from wildlife areas to gain access to existing sources of financing. The administration of the EDF remains to be specified, but funds will likely be deposited with a commercial bank, with lending decisions made by a panel on which KWS is represented, and a loan officer recruited to monitor loans. Criteria for project selection would include factors such as compatibility with wildlife conservation, equitability of distribution of benefits, financial viability and long-term sustainability, overall size of the grant requested (possibly setting a maximum), implementation capability and matching contributions (in cash or in kind) from the individuals or community group proposing the project, etc.

Organization and Implementation

In the past, management of Parks and Reserves in Kenya was administratively separated from the District Offices and District Wardens responsible for management of wildlife outside protected areas (mostly limited to problem animal control). Under the new KWS organizational structure the two functions will be fully integrated. While a KWS Headquarters Unit is being established to provide overall programme guidance,

92

development and training, the CWS field staff will fall together with the Parks and Reserves field staff under the Senior Deputy Director for Wildlife Services. The basic administrative unit will be a geographical area, which may or may not include one or more parks or reserves. The Area Warden will supervise both Parks and Reserves staff and CWS staff. Where community relations represent an important park management issue, Park Wardens will have CWS personnel on their staff to ensure community involvement in development and implementation of management plans.

The CWS will comprise:

- A Headquarters Unit which will set policy and provide overall guidance, training, co-ordination and specialized technical expertise to support field staff;
- Wildlife Extension Wardens (WEW), representing the front line of KWS interactions with the communities, often in close co-operation with local conservation/development NGO's.
- Community Wildlife Wardens (CWW) who will be primarily responsible for refining and implementing the CWP in the field, either directly (in the case of small programmes) or supervising the WEWs. CWWs may be based at a Park Headquarters or at a separate Community Wildlife Office depending upon geographic and programme needs. In some cases, where relations between communities and national parks and reserves are of primary importance, WEW's will be based at Park Headquarters and report directly to Park Wardens, whose job descriptions will include a major emphasis on community interactions.
- Problem Animal Control Rangers and fencing technicians to help protect community assets from wildlife degradation (in some cases, PAC will be done by Park Rangers instead of specific PAC rangers within CWS).
- Administrative and support staff as needed.

The CWS represents, in effect, a wildlife extension service, with extension defined as the process of changing community attitudes and stimulating community involvement in conservation and utilization of wildlife. Like any extension programme, it involves both technical and community outreach aspects. KWS strategy is, to the extent possible, to pursue the outreach aspect by working with and through the extension networks of other organizations, rather than building its own substantial extension staff (limiting CWWs and WEWs to a total of about 60-70 nationwide). For example, KWS would work with other government agencies and NGOs to promote the role of wildlife as a renewable natural resource and economic asset for development. KWS would similarly encourage others, particularly NGOs, to take the primary role in working with communities to organize Wildlife Management Units for wildlife utilization.

Staff Development

The community conservation approach which will be embodied in the CWS represents a departure from the traditional activities and responsibilities of KWS and its predecessors, and will require staff with different skills and attitudes. KWS will meet this need through limited recruitment and a far-reaching training programme. New staff recruited from non-wildlife sectors (e.g. sociologists, marketing or business specialists) will require some basic training in wildlife ecology and management, while new and existing KWS staff coming from a wildlife background will require complementary training in sociology, basic business management, etc. The CWS-related training programme will include:

- (1) general orientation/awareness building for all KWS staff to educate them about the community conservation approach in general;
- (2) basic community relations training for all KWS staff whose duties include interaction with communities;
- (3) ongoing, largely on-the-job specialized training for CWWs and WEWs in community conservation/extension (includes "internships" with community conservation projects and regular workshops for CWWs and WEWs from different regions to learn new skills and exchange experiences);
- (4) train-the-trainer courses to enable KWS to develop a self-sustaining community conservation programme;
- (5) medium-term (1-2 years) technical training and internships in specific areas including wildlife utilization, community relations, business and management skills, etc.;
- (6) long-term (3-4 years), professional level training in a variety of specialized areas needed for higher level positions to steer and manage the CWP in the future;
- (7) community level training to develop skills in wildlife management, business management, etc. (some of this aspect to be funded under CDF and EDF).

The CWS Headquarters Unit will include a CWS Training Co-ordinator who will work closely with the overall KWS Training Coordinator to develop a detailed training programme for CWS (indicative training needs are listed in Table I). The training programme would rely heavily upon locally based conservation and development NGOs at all levels, but particularly at the field level where selected CWS staff will join ongoing NGO projects for a period of time to learn new skills and approaches to apply at their postings.

Reducing Conflicts Between Elephants and Human Populations: In many areas of the country elephants are causing unacceptable levels of damage to human property (e.g. Mt. Kenya Aberdares, Laikipia, Tsavo and Shimba Hills). Recent estimates identified some 1,500 km of fencing needed to prevent crop damage by elephants, and the most important areas would be brought under the fencing program in the first five years of the project. It is anticipated that about 500 km of fences would require urgent attention. Table I lists the fencing needed on a priority basis.

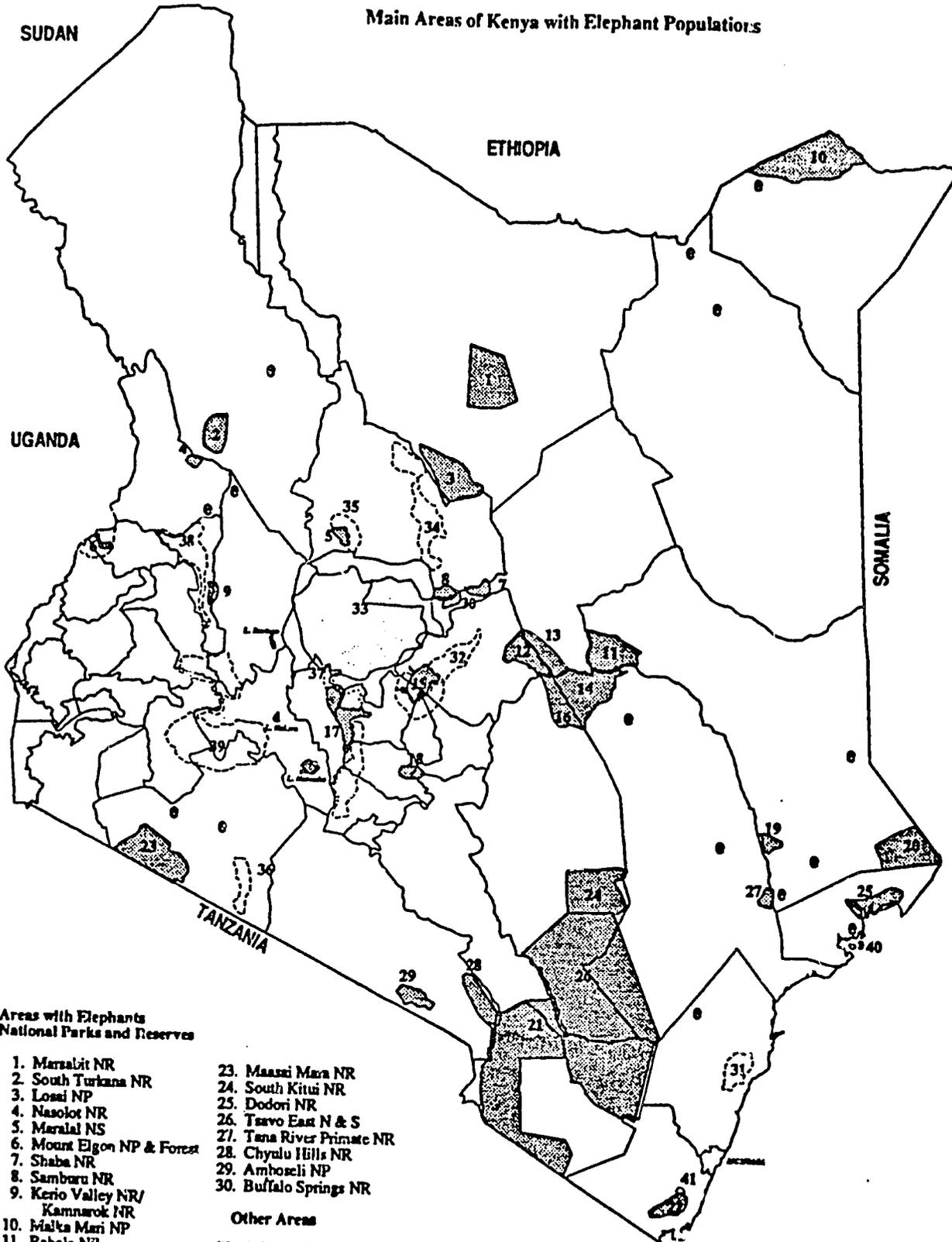
The main conflict areas would be identified and negotiations would be held with local communities about exactly where fences should be built. Different types of barriers, i.e. electric stone wall, or high tensile, will be built according to the specific needs of each situation.

The implementation of the fencing programme would be the responsibility of the Fencing Unit in KWS. The Fencing Unit will plan and execute the fencing programme and will engage consultants as necessary to assist with budgeting and technical problems of construction. Much experience will be gained by KWS in the construction of the most urgently needed fences in this first phase. The fencing unit, working in close consultation with the consultants, the community wildlife programme and the research service, will be responsible for surveys in each area that will lead to specifications of barrier design, plans for the maintenance system, and contractual conditions for the fencing company. Where possible the community wildlife programme, through their extension work, will draw up contractual conditions for local maintenance of the fence.

TABLE I**Fencing Requirements of KWS**

Location	Length km	% of needs
Elephant (>50 % of damage) and other wildlife:		
Mt. Kenya NP and adjacent Forest Reserve	322	15%
Aberdares NP and adjacent Forest Reserve	185	8%
Laikipia	173	8%
Shimba Hills NR, corridor and Forest Reserve	120	5%
Imenti Forests	50	2%
Meru NP	45	2%
Marsabit NP and NR	35	2%
Ngare Ndare Forest	33	1%
Amboseli NP	25	1%
Mwea NR	20	1%
Sub-total	1 008	45%
Elephants (<50 % of damage) and other wildlife:		
Mt. Elgon NP and adjacent Forest Reserve	218	10%
Maralal District	200	9%
South-west Mau area	187	8%
Chyulu Hills	85	4%
Ruma NP	80	4%
Cherengani Hills	75	3%
Tsavo West NP (Taita Taveta area)	60	3%
Narok District	60	3%
Tsavo East NP (Voi area)	55	2%
Kerio Valley NR	30	1%
Kamnarok NR	26	1%
Masai Mara NR (Siria Escarpment)	25	1%
South Turkana NR	20	1%
Nasolot NR	10	0%
Isiolo Irrigation area	10	0%
Sub-total	1 141	51%
No elephants, only other wildlife:		
Kakamega NP	30	1%
Oi Doiyo Sabuk NP	20	1%
Nairobi rhino sanctuary	11	0%
Lake Bogoria	8	0%
Sub-total	69	3%
Grand total	2 218	

Main Areas of Kenya with Elephant Populations



Areas with Elephants National Parks and Reserves

- | | |
|------------------------------------|--|
| 1. Marsabit NR | 23. Maasai Mara NR |
| 2. South Turkana NR | 24. South Kitui NR |
| 3. Losai NP | 25. Dodori NR |
| 4. Nasolot NR | 26. Tsavo East N & S |
| 5. Maralal NS | 27. Tana River Primate NR |
| 6. Mount Elgon NP & Forest | 28. Chyulu Hills NR |
| 7. Shaba NR | 29. Amboseli NP |
| 8. Samburu NR | 30. Buffalo Springs NR |
| 9. Kerio Valley NR/
Karnarok NR | |
| 10. Malva Mari NP | Other Areas |
| 11. Rabole NR | 31. Arituko/Sokoke Forest |
| 12. Meru NP | 32. Nyamheri & Imenti Forests |
| 13. Bisanadi NR | 33. Laikipia, Mukogodo, Ngare Ndare, Kipsing |
| 14. Kora NP | 34. Mathews/Idotos Range |
| 15. Mount Kenya NP & Forest | 35. Laikipia Forests/Karisa Hills |
| 16. North Kitui NR | 36. Nguruman and Loita Hills |
| 17. Aberdare NP & Forest | 37. Rumunni and Marmaret Forest |
| 18. Mwaa NR | 38. Cherangani Hills |
| 19. Aravale NR | 39. Olpusunuru/Trans Mara/S.W. Mau/Olenguruone |
| 20. Horo NR | 40. Malindi Island & Mainland |
| 21. Tsavo West NP | 41. Muliganji Forest |
| 22. Shimba Hills NR | |

NPR

Forest

Other areas where elephants have been sighted



Data compiled by Forest Parks (1990)
 Maps prepared by Peter Richardson

Kenya Wildlife Service in collaboration with IUCN African Elephant Programme & IFAW

ANNEX 5 Financial and Market Aspects

Financial Strategy: While KWS is striving to change its financial orientation from that of a government department to one of a largely autonomous quasi-commercial parastatal organization, because of the nature of its operations it is not expected to be fully profitable in the near or medium term. As a leading conservation agency KWS is expected to undertake several investments with a long-term gestation, and with little or no revenue earning prospects, so that it will need a degree of financial support from the government and the international donor community, which has a stake in helping preserve Kenya's rich biodiversity. Nevertheless, KWS is committed to strengthen substantially its financial position and since its inception, it has made concerted efforts in this direction. For example, in 1990 KWS commissioned Price Waterhouse to review its financial operations including its fee collection and general accounting systems. Moreover, a recent revenue study was carried out by Bellhouse Mwangi Ernst and Young to identify ways of diversifying into new income sources. While the recommendations of the Reviews are being implemented, the proposed project would assist in deepening the ongoing work.

The KWS commercial programme that will allow it to strengthen substantially its financial position includes measures to:

- strengthen its revenue base by expanding its existing revenue sources and developing new sources;
- develop the capacity to withstand tourism revenue fluctuations by diversifying its revenue sources and accumulating cash reserves in good years;
- establish at all levels of the organization the capability to manage financial operations efficiently.

A. KWS Current Financial Situation

An accurate picture of the institution's historic financial performance is not available since revenues generated in the course of WCMD's activities accrued directly to the government, and in the past no independent accounts were prepared. Available information shows that from 1980 to 1982, WCMD's expenditure against recurrent costs averaged KSh 94 million; from 1988 to 1990 it was KSh 145 million per year - a substantial drop in real terms. During the same period WCMD's capital development budget dropped from KSh 99 million to KSh 15 million per year. In 1991-92 this figure was further reduced to KSh 4.3 million. In sum, the Government's financial support for the management and conservation of wildlife in Kenya had been declining over the past decade. The creation of KWS as a parastatal changed the financial status of wildlife management in Kenya as it was authorized to retain all revenue generated through its operations and to receive a government subvention to cover part of its operating costs.

Preliminary accounts are available for the first full year of KWS'S operations from July 1990 to June 1991. There has been a dramatic improvement in revenue, which more than doubled from KSh 78 million in 1989/90 to KSh 165 million in 1990/91. This was due to a combination of price increases - in 1990 KWS raised the price of entry into a park or reserve for a foreign tourist from KSh 80 (US\$3.50) to KSh 220 (US\$8) - and improved collection systems. This tourism revenue and a continued Government subvention has allowed KWS to substantially increase the funds available for carrying out routine operations; its expenditure on this account increased from KSh 80 million in

1989/90 to KSh 260 million in 1990/91. However, KWS is still not in a position to allocate funds for its badly needed capital expenditure.

B. Market and Revenue Prospects

The Tourism Market: Kenya offers the tourists a unique combination of wildlife safaris, beach holidays, and exposure to varied cultures. During the 1980s the number of tourists visiting Kenya increased at an average rate of 8 percent per year. While of the total number of tourist bed-nights spent in Kenya, approximately 11 percent, are spent in lodges in National Parks and Reserves, wildlife tourism accounts for more of Kenya's tourism than this figure would suggest. The visits to parks and reserves are nearly always undertaken in conjunction with visits to Nairobi and/or the coast, and surveys have established that wildlife tourism features as a major attraction for visitors to Kenya. Wildlife tourists to Kenya are mainly composed of visitors from USA (25 percent), Germany (15 percent), UK (14 percent), and other Europeans (30 percent). Foreign tourism takes place all year round, but there is a low season from April to June. Local tourism is currently low; in 1989 local visitors comprised only 30% of the total number of Park and Reserve visitors. Under the project, while local residents will be encouraged to visit the parks and reserves, the revenue base will continue to depend largely upon the international tourism market since fees for local tourists will be kept low.

With proper management, Kenya's wildlife and other natural resources should ensure a continued high demand for tourism in the country thereby generating revenue from entry fees, royalties, lodge fees, etc. While KWS is developing a strategy to harness this demand in order to strengthen its financial position it means to ensure that tourism does not unduly degrade the environment. A detailed tourism development strategy will be developed as part of the projects technical assistance to KWS and MOTW. The initial KWS measures to support an environmentally sound tourism strategy include efforts at increasing: (i) the number of high quality tourist opportunities by, for example, providing concessions for the use of special areas; (ii) the attractions in less utilized areas by diversifying the range of activities that can be undertaken; (iii) generally the range of goods and services on sale to tourists. An important area of concentration will be the existing pool of tourists to Kenya, particularly the large number visiting the coast, since they represent a major market opportunity for KWS. While the latter will be attracted to visit the Marine and coastal parks/reserves, there would be a readiness to capture the potential tourist trade from South Africa.

C. Existing and Potential Revenues

Currently, park and reserve entrance fees account for approximately 90 percent of KWS's revenue. In order to reduce its vulnerability to fluctuations in tourism, however, KWS is developing a number of alternative sources, but entrance fees will continue to be the main contributor for a number of years. At the current charge of KSh 220, entrance fees on average comprise less than 4 percent of the cost of a tourist's wildlife safari to Kenya. A recent KWS revenue study suggested that the price could be raised to US\$20 without significantly affecting tourism numbers. This is comparable with prices in Tanzania and Botswana which are US\$15 and US\$20 respectively but significantly higher than those in South Africa and Zimbabwe. While KWS has embarked on a program of price increases, further studies are planned within the project, to determine the demand impact of alternative pricing strategies and the advantages of a differential pricing system (para 3.12).

A secondary but increasingly important source of existing income is lease charges for lodges and hotels, which is expected to represent 5 percent of KWS's total annual revenue by 1995. The existing leases payable to KWS are extremely low and do not reflect the market value to hoteliers of operating in wildlife areas. Moreover, since rents were generally negotiated in Kenya shillings some years ago their real values have eroded drastically. The situation had been further exacerbated by WCMD's inability or lack of commitment to collect lodge rents. To address these issues, KWS commissioned a legal review of lodge leases and has started to re-negotiate the existing leases on the basis of a rental rate of 12.5 percent of lodging income net of taxes. It is estimated that these new leases and improved collection could result in increasing existing lodge rents from US\$0.2 million in 1990 to US\$1.3 million per annum by 1995. However, since further work is required to re-negotiate leases and to address the related legal issues, the KWS commercial and legal departments are initiating a lease review, on a priority basis.

In addition to increasing income from existing sources, KWS plans to tap significant revenue from potential sources. Accordingly, the project would support KWS establish and operate a commercial department which will develop and implement a marketing strategy using private marketing consultants as necessary. Some of the initiatives already identified by KWS for revenue generation include:

- (i) expanding the range of services provided and exploiting unutilized areas such as the montane parks. Additional considerations include: licensing and charging fees to concessions, charging camping fees in controlled areas in parks and reserves, offering new services and products and instituting an optional "green fee" for selected services.
- (ii) promotion of other sources including corporate sponsorship, joint marketing ventures with private businesses and soliciting contributions from Kenya's wildlife supporters. KWS has already used corporate sponsorship to support some specific projects. Further sponsorship could be sought for providing vehicles, plant, and other products at reduced prices; funding construction of specific education or conservation facilities; licensing use of the KWS logo on products; or sponsoring joint conservation activities with KWS.

D. KWS's Financial Viability

In assessing KWS's medium and long-term financial prospects its capacity both to cover operating costs and withstand fluctuations in tourism revenue has been analysed. The analysis takes into account KWS's current financial commitment as well as those associated with the investments under the proposed project. A base case scenario was prepared to assess KWS's financial prospects following the proposed capital investment programme over the next five years. As shown in Table 1 Annex 10, under the base case scenario, KWS would be in a position to generate a positive net cash flow both during and after the project. Surplus funds would provide a cash reserve to cover capital replacement in later years and to be used in the event of a temporary downturn in tourism revenue. The capital replacement fund has been estimated on the basis of the annual depreciation on the existing and proposed stock of vehicle, plant, machinery and equipment. By year seven KWS would be in a position to meet an estimated capital replacement cost of US\$5.6 million per year, which would be adequate for its annual outlay to meet this expenditure. The cash reserves in the replacement fund during the preceding years could serve as security against a downturn in tourism so that by 1995 KWS could withstand a lowering of its revenue by 25 percent over two years.

The KWS' revenue projections, for the base case, assume a conservative increase in tourist visits to the parks and reserves of 3 percent per annum between 1990 and 1995, and constant thereafter. At the same time the adult non-resident entrance fee is expected to increase from US\$8 to US\$14 in 1992 and to US\$20 by the end of the project in constant 1991 prices. However, revenue collection is assumed to improve from 80 percent in 1989 to 95 percent by 1993. KWS has already taken several initiatives to increase its collection rates and further assistance for this is provided under the project. Though the income from lodge leases would be a small proportion of total revenues, it is assumed that, by 1995, 75 percent of lodge leases would have been re-negotiated. New sources of revenue are assumed to increase only gradually and to account for 25 percent of KWS's revenue only in the later years of the project. Conservative estimates suggest that direct contributions from tourists and corporate sponsorship would provide US\$8 million by 1995.

KWS's operating expenses, as shown in Annex 10 Table 3, include existing financial commitments and the incremental operation and maintenance expenses resulting from the five year investment project. KWS's expenses also include a contribution to capital costs which would primarily cover the taxes and duties incurred on locally purchased capital goods. Furthermore, in accordance with KWS's stated policy on CWP, it would distribute part of its entrance fee funds to local communities. This shared revenue is calculated on the basis of 25 percent being redistributed in 1991 and thereafter a moderate increase each year.

Government and Donors' Contributions: The donors would provide for all investment costs net of taxes and duties and a decreasing proportion of incremental operating expenses. Assurance will be sought at negotiations that GOK would pass the IDA credit resources to KWS on grant terms as equity and continue to provide a subvention for the next three years on a declining basis - the amounts of the subvention are detailed in Annex 10, Table 2. During appraisal the Government confirmed that KWS will be exempt from import taxes and duties. An assurance would be sought on this aspect during negotiations.

Sensitivity Analysis: In order to test the robustness of the base case, sensitivity analysis has been carried out on the critical factors affecting KWS's viability. The most important of these are: growth in tourist numbers, price increases, and the development of new sources of revenue. Therefore, sensitivity analysis has been carried out for the following three scenarios: (i) the number of visits increases by 1 percent per annum rather than 3 percent, (ii) a price for adult non-residents is fixed at the equivalent of US\$15 rather than increasing to US\$20, and (iii) new sources are only 50 percent of base case projections. In all three cases, KWS would be in a position to meet its operating expenses after the completion of the project but not fully cover the proposed contributions to a capital replacement fund. During the project, the lower level of new sources revenue would not jeopardize KWS's ability to meet its financial commitment. However, the lower increases in the numbers of visits and prices would both result in negative cash flows. Similarly the Government's failure to provide a subvention during the first three years would result in cash flow problems.

The likelihood of the financial risks discussed above are, however, minimal since the base case assumptions are quite conservative: (i) a 3 percent annual increase in visitor numbers is considered moderate given past increase of 8 percent per annum in total tourist visits to Kenya, (ii) substantial price increases have already been agreed between KWS and the tourism industry, and the adult non-resident entrance fee would be increased to at least KSh 450 (about US\$15) in December 1991 with increases in subsequent years, (iii) the Government has made a commitment to provide funds in the budget for 1991/92, and (iv) KWS is taking concrete measures to increase its revenues, including the establishment of a commercial department, and streamlining its existing collection systems. While the KWS revenue projections including sensitivity analysis are quite robust, there is a degree of uncertainty surrounding KWS's cash flow

projections, as these are largely dependant on unpredictable tourist revenues. It is, therefore, important that the donor support for KWS's operating and maintenance costs and the small government budget support acts as a cushion to help KWS build reserves during the "good tourism years". Furthermore during negotiations agreement will be sought. GOK, KWS and IDA will review annually KWS's pricing levels which are projected in 1991 constant US dollar terms to be as follows: December 1991: US\$ 8; July 1992: US\$ 14 and increasing as a target to US\$ 20 by 1996.

E. Sustainability and Conservation Financing

Cost recovery would not be the first criterion for KWS's Programme activities since most expenditures would generate large externalities for the country or, in some cases for the rest of the world as well. Specifically, KWS's conservation activities - such as operation of protected areas that are environmentally but not financially justified, and some education, research, and community wildlife efforts - have a long gestation period and a sustained effort is required to reap the benefits. It is important that conservation activities not be subjected to either the risks of uncertain government budget support, nor unpredictable tourism revenues. To generate guaranteed future financial resource flows KWS is seeking, therefore, to establish a Wildlife Conservation Trust Fund (WCTF). Such conservation-oriented Funds have been successfully set up in Costa Rica, Madagascar, Bolivia, and more recently in Bhutan and Belize.

The proposed Kenya WCTF would be structured to represent the diverse interests of a variety of stakeholders. These include donors, government agencies responsible for protected area management and international NGOs. Since IDA participation in the WCTF is essential to ensure the contributions of donors and NGOs, an IDA contribution of US\$2.00 million has been included under the proposed project; of this US\$1.5 million will be IDA contribution to the Fund's Capital and US\$0.5 million will meet the fees and other related costs to manage the Fund. The IDA capital contribution would be matched by GOK. Other bilateral donors and conservation NGOs have indicated a strong interest in making capital contributions to the WCTF.

The WCTF would be managed independently of KWS by professional investment managers overseas and in Kenya. It is proposed to be set up as a long-term endowment, and the annual interest would be used to fund a variety of conservation programmes including:

- establishment and management of protected area networks which are commercially unviable in the medium-term but which are essential to conserve habitats, ecosystems and landscapes which support diverse flora and fauna;
- community based programmes reaching beyond traditional conservation activities inside park and reserve boundaries to address the needs of local communities living outside the boundaries;
- special efforts to conserve biodiversity and support international conservation initiatives;
- wildlife conservation and environmental education programmes in schools, and public awareness campaigns.

For its funding activities to be monitorable KWS would develop a cost centre approach to identify parts of its operations which are non-commercial. The details of the trust fund concept are being developed by KWS using PPF resources. The proposals are expected to include *inter alia*: (i) cost projections for WCTF activities; (ii) estimates of the size of WCTF; (iii) definition of foreign exchange needs; and (iv) investment financing criteria.