

Review of Conservation Impacts of the PAWS Project

(Final Document)

Kenya

**Prepared on behalf of
The World Bank**

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List of Abbreviations and Acronyms

ABO	Area Biodiversity Officer of KWS
AW	Area Warden
AWF	African Wildlife Foundation
BD	Biodiversity Department of KWS
CITES	Convention on Trade in Endangered Species
CID	Central Intelligence Division
CIDA	Canadian International Development Agency
COBRA	Conservation of Biodiverse Resource Areas
CWP	Community Wildlife Program
DFID	Department for International Development
DRSRS	Department of Resource Surveys and Remote Sensing
EEC	European Economic Community
EIA	Environmental Impact Assessment
EU	European Union
FD	Forestry Department
GEF	Global Environment Facility
GO	Government Office
GOK	Government of Kenya
GTZ	Gesellschaft fuer technische Zusammenarbeit
HQ	Headquarters
ICR	Implementation Completeness Review Team
IDA	International Development Organization
IUCN	International Union of Nature Conservation
KAHC	Kenya Association of Hotel-keepers and Caterers
KATO	Kenya Association of Tour Operators
KfW	Kreditanstalt fuer Wiederaufbau
KIE	Kenya Institute of Education
KTB	Kenya Tourism Board
KTDC	Kenya Tourist Development Corporation
KWS	Kenya Wildlife Service
MIS	Management Information System
MOTW	Ministry of Tourism and Wildlife
MOU	Memorandum of Understanding
MP	Management Plan
MPW	Ministry of Public Works
MTR	Midterm Review
NEAP	National Environmental Action Plan
NGO	Non-governmental Organization
NMK	National Museum of Kenya
NES	National Environmental Secretariat
NP	National Park
NR	National Reserve
NSW	Nairobi Safari Walk

ODA	Overseas Development Organization
PAS	Protected Area System
PAWS	Protected Areas Wildlife Services
pers.comm.	personal communication
PPF	Project Preparation Facility
PP	Partnership Program
PRT	Project Review Team
RBC	Regional Biodiversity Coordinator of KWS
RPD	Research and Planning Department of KWS
SAR	Staff Appraisal Report of the World Bank
USAID	American International Development Agency
WCK	Wildlife Clubs of Kenya
WCMD	Wildlife Conservation and Management Department
WWF	Worldwide Fund for Nature

EXECUTIVE SUMMARY

The Protected Areas and Wildlife Services Project

1 In 1992 The World Bank provided a loan of US \$60.5 million at standard terms with a 40-year maturity to the Government of Kenya (GOK) for the benefit of the Kenya Wildlife Service (KWS) through what was termed the Protected Areas and Wildlife Services or PAWS project. Co-financing of approximately US \$60 million was provided through a joint effort of the EEC, Japan, KfW, Netherlands, ODA and USAID.

2 The PAWS project was intended to be the first phase of a ten-year wildlife sector development program. During this phase, the main project objectives are to halt the decline of the country's wildlife and its system of national parks and reserves, and to further develop a sound foundation for an environmentally sustainable wildlife-based tourism in Kenya. At the same time, the project would help develop a comprehensive policy framework for a second phase project in the sector. To achieve these goals, the implementation of PAWS started in July 1992. Phase 1 of the project was scheduled to end in June 1997 but has been extended to September 1998.

3 The PAWS project experienced major upheavals and changes after the initial 'growing pains' which were expected for a project of this magnitude. Earlier reviews provided good quality background information on the project through the SAR document (World Bank 1992) the case study report, prepared by Bensted-Smith on behalf of IUCN/CNPPA (1993), the mid-term review by Butynski et al. the Position Paper No.1 (1995) and the corresponding Aide Memoires prepared by The World Bank (1995 and 1996).

PAWS Project Review

4 TAESCO Consultants (the Project Review Team-PRT) was commissioned May 25 to July 15, 1998 by The World Bank to undertake a review of PAWS in achieving its objectives relating to conservation of wildlife and protected areas, based on its observable impacts in the field. The PRT was requested to implement the task through field visits to a representative sample of PA's and other sites of project activity, interviews with KWS management and staff and with a range of other stakeholders and sources, and a comprehensive literature review. The ToR for the PRT did not include a financial analysis of the PAWS project or KWS or an assessment of the efficiency of procurement procedures and accounting. Also, the Consultants were requested to not include the KWS Partnership Program as implemented with the assistance of USAID and/or activities outside protected areas as related to the COBRA project.

5 The principle working relationship of the PRT was with The Kenya Wildlife Service (KWS). Background information on the PAWS project and its impacts on KWS was assembled through extensive interviews with key individuals from all levels in KWS Headquarters and the field and a comprehensive literature review. Contacts and discussions

with key stakeholders in the sectors of wildlife management/conservation, tourism, training and environmental education, and GOK institutions provided useful background on the PAWS project, its impacts on biodiversity conservation inside and outside of protected areas, KWS' performance, inter-institutional cooperation, and donor involvement. Kenya Landowner Wildlife Forum and Group Ranches provided a good insight into past and current developments with respect to land use issues, wildlife/human conflicts, land and wildlife conflict resolutions, partnership programs, endangered species and systems management and socio-political issues as they relate to PAWS and KWS. The work conducted in KWS' Nairobi Headquarters was augmented with field visits to six of the eight ecological regions of KWS with focus on six major groups of selected protected areas both with and without PAWS funding.

Results

6 Legislation and Policy PAWS has had a definite positive impact on the development of proposed legislation and policies. Development of policy and legislation has proceeded to the point where a draft Wildlife Bill awaits further action by the Government of Kenya.

7 Institutional Capacity PAWS contributed significantly to a major restructuring of KWS including both Headquarters reorganization and Regional decentralization. Technical Services Contracts made a major contribution towards institutional capacity building. Devolution of authority to the Regional Director level has not yet been completed. In addition, some apparent inadequacies remain in the organizational structure.

8 Staff Training The PRT rates the overall results of the PAWS-funded staff training program as high. While an objective assessment has not yet been conducted to support this assessment, it is based on the level of knowledge exhibited by staff interviewed.

9 Park Infrastructure Development PAWS' contribution to the organization and the PAS in terms of infrastructure development is outstanding. With a sound infrastructure in place, but insufficient funds to cover recurrent costs, the sustainability of the PAWS capital investment is jeopardized. Most vehicles and road maintenance equipment purchased at the onset of PAWS need to be replaced, but no funds are available. The failure by KWS to set up a PAWS requested depreciation account for equipment replacement is held responsible for this shortcoming (A.Kiss, pers. comm. August 98).eort).

10 Veterinary Services Unit This unit of KWS has achieved the major goals established by the SAR document as a direct result of PAWS funding. The unit has developed and trained a core staff of veterinarians and key support staff that provides key support to other KWS programs.

11 Environmental Impact Assessment Unit The EIA unit now appears to be fully operational and capable of directing and coordinating an effective EIA review for KWS projects.

12 National Park and Reserve Planning PAWS' goal to build up an efficient Planning Section, mostly for the production of area management plans, failed because the Planning Section as part of the former Research and Planning Division (RPD) was dissolved after the 1996 restructuring. However some components such as the new Sections for Wetlands, Environmental Impact Assessments and Biodiversity Policy Planning are very productive, with a sound understanding of their respective functions. Corporate Planning and KWS Policy Development has been transferred to the Director's Office with reasonable success.

13 Research and Monitoring Program The Biodiversity Department has now developed a staff of well-trained biologists that are capable of conducting the applied research and monitoring for conservation management needs. However, the development of a research strategy as well as improved management of information are required.

14 Environmental Education, Communication and Public Awareness The impacts of PAWS on the education sector in KWS are difficult to assess since the former Education Section was abandoned during the restructuring process. In general, formal and informal education has been quite successful for the Wetlands and Partnership Programs which developed their own educational programs. Mandates for PA visitor education have been given to the Departments of Safari Walk and Tourism but educational opportunities should be developed further.

15 Tourism Program Conditions for PA visitors improved dramatically under PAWS by funding much needed infrastructure development. Under PAWS, the new Tourism Department of KWS was established. The department shows strong leadership and has highly qualified and motivated personnel and a well-defined strategic plan. The gradual shift from KWS ' notorious "soldier" mentality to a more customer-oriented attitude is noteworthy

16 Wildlife Protection and Tourist Security Program PAWS is credited for the extraordinarily successful Security Department of KWS. The Department was trained, equipped and supported in all its activities under PAWS. Poaching within the PAS seems to be under control, elephant and rhino populations as indicator species are increasing, and tourism-related banditry in parks and reserve has practically been eliminated. The Security Department seems to be one of the most stable and successful Departments of KWS.

Summary Conclusions

17 Overall, the achievements of PAWS and the performance of KWS are remarkable considering the initial absence of proper institutional and policy framework within KWS, the absence of a detailed development plan with clearly identified priorities and the adverse conditions in the country. With the support of PAWS, KWS has reached a stage where it could be an effective organization if sustainable financing for the most basic recurring costs were available. The new focus of KWS on the program areas of tourism, partnership and biodiversity conservation is fully supported by the PRT. Although the Partnership Program has not been assessed in this evaluation, it seems to have assisted in preparing a basis for cooperation between landowners in dispersal areas and KWS. The new approach to biodiversity conservation through the MVCA is wholly endorsed by the PRT. It

is apparent that without support from landowners and stakeholders outside the PA's, parks and reserves will become increasingly isolated and will not be able to safeguard ecosystem survival in Kenya.

1.0 INTRODUCTION

Terms of Reference (ToR)

1 TAESCO Consultants was commissioned by The World Bank to undertake a review of the success of the Protected Areas Wildlife Services project in achieving its objectives relating to conservation of wildlife and protected areas, based on its observable impacts in the field. The consultants were requested to implement the task through field visits to a representative sample of PAs and other sites of project activity, interviews with KWS management and staff and with a range of other stakeholders and sources, and a comprehensive literature review. This work will form part of the PAWS project Implementation Completion Review to take place in September 1998 on termination of the PAWS project. TAESCO Consultants provided the services of Dr. Goetz Schuerholz, Dr. Ken Raedeke and Raymond Demarchi, the team responsible for this assessment.

2 The specific ToR for this assignment are summarized as follows:

- Compare the current status of wildlife populations in Kenya and the ecological health/condition of the National Parks and Reserves, with the situation prior to the project and the expected 'without project' scenario.
- Compare KWS' current capacity and performance in relation to PA management, including planning and monitoring with the situation prior to PAWS and the expected 'without project' scenario.
- Assess the positive and negative impacts of institutional restructuring/decentralization on capacity and performance in the field and make recommendations accordingly.
- Evaluate the impacts (positive and negative) of infrastructure construction, reconstruction and rehabilitation supported under the project, with respect to the quality of management and utilization (e.g. tourist access) of the PAs and with respect to the ecological quality of the PAs.
- Assess the effectiveness of environmental impact assessments and associated environmental mitigation plans relating to the infrastructure component.
- Review KWS' research and veterinary activities and assess their impact on achievement of conservation objectives.
- Compare KWS' current educational and visitor services with those existing prior to the project and those expected under the 'without project' scenario and evaluate the impact of these services on conservation objectives.

- Review national and KWS policies with respect to wildlife conservation and PA and assess KWS' institutional structure/capacity and the appropriateness of its strategies and programs in relation to implementing these policies.
- Assess the sustainability of gains/improvements achieved with respect to physical, human/resource/capacity and financial aspects.

3 The ToR for the Project Review Team (PRT) do not include a financial analysis of the PAWS project or KWS and an assessment of the efficiency of procurement procedures and accounting. The Consultants were requested to not include the KWS Partnership Program as implemented with the assistance of USAID and/or activities outside protected areas as related to the COBRA project.

Study Approach

4 The principle working relationship of the Review Team was with The Kenya Wildlife Service (KWS). Background information on the PAWS project and its impacts on KWS was assembled through extensive interviews with key individuals from all levels in KWS Headquarters and the field (see Annex 1 for a list of contacts), and a comprehensive literature review. Contacts and discussions with key stakeholders in the sectors of wildlife management/conservation, tourism, training and environmental education, and GOK institutions provided useful background on the PAWS project, its impacts on biodiversity conservation inside and outside of protected areas, KWS' performance, inter-institutional cooperation, and donor involvement.

5 Meetings with representatives from NGOs such as WWF, KATO, Pastoralist Forum, Kenya Landowner Wildlife Forum and Group Ranches provided a good insight into past and current developments with respect to land use issues, wildlife/human conflicts, land and wildlife conflict resolutions, partnership programs, endangered species and systems management and socio/political issues as they relate to PAWS and KWS.

6 The work in Nairobi was supported through field visits to six of the eight ecological regions of KWS with focus on six major groups of selected protected areas:

- KWS-managed areas as recipients of large contributions through the PAWS project (Tsavo East, Tsavo West and Amboseli National Parks);
- KWS-managed areas with moderate PAWS support (Aberdares and Lake Nakuru National Parks);
- KWS-managed marine protected areas (Malindi, Watamu and Mombasa Marine National Parks);

- Areas co-managed under the MOU with the Forest Department without PAWS input (Arabuko Sokoke) and with PAWS input (Shimba Hills);
- Protected Areas managed by County Councils (Masai Mara, Buffalo Springs and Samburu);
- Wildlife Sanctuaries managed by County Councils (Kimana Sanctuary).

7 In most areas visited, PAWS support activities (where applicable), area and region-specific problems and other matters pertinent to KWS and PAWS were brainstormed with key KWS personnel from the region and the specific area. In each area with PAWS support, the sites receiving the support (i.e. new and enhanced roads, staff housing, gates, workshops, visitor centers, quarries etc.) were visited and problems/impacts discussed with KWS personnel *ad loco*. In areas without PAWS support, infrastructure and management installations were assessed and compared to areas with high PAWS support. The field visits provided an opportunity to compare the conservation status and management and visitor related infrastructure between KWS and County Council-operated protected areas. Regional brainstorming covered all PAWS-supported programs, civil works, tourism, biodiversity, research and monitoring, partnership, organizational structure, and impacts of regionalization on the operations. A special effort was made to visit the PAWS-supported Naivasha Wildlife Training Institute (NWTI) where PAWS impacts and the future of the institute were discussed.

8 In meetings with donor representatives from organizations participating in the PAWS project, discussions were directed to past, current and future donor involvement with KWS, PAWS achievements and shortcomings, and PAWS impacts on KWS in general. Meetings were held with three PAWS-related evaluation teams operating at the same time in Nairobi for the evaluation of: (a) the Dutch-sponsored Wetlands Project, (b) DFID-sponsored activities, and (c) the indirectly PAWS-related World Bank-sponsored Forest Management Project.

9 Many of the graphs, maps and tables incorporated into this report were prepared for the Project Review Team by Headquarters personnel. The preliminary findings of this report were presented to KWS key personnel and discussed at the end of the mission. The same presentation was given to persons related to the PAWS project of KfW in Germany.

Acknowledgments

10 The Project Review Team would like to thank KWS Headquarters and KWS field personnel for outstanding logistic support and for liberally sharing information pertinent to the PAWS project. The Team is particularly grateful to all field personnel who made their time available on weekends. Thanks are extended to the GIS Team of KWS for map preparation and to the offices of Ms. Thiong'o and Ms. Gituku for tireless assistance in procurement of literature and arrangements for field visits.

11 The team is grateful to Dr. Western, the Director of KWS, for making his staff available for this evaluation under adverse circumstances. Gratitude is expressed to donor representatives and the numerous stakeholders who readily shared information with team members. Thanks are given to Dr. B. Zech for professional guidance through the Dutch-sponsored wetlands project.

12 Special thanks are given to WWF Germany and WWF Nairobi Office for negotiating this contract with The World Bank and gratitude is expressed to KfW for financing the evaluation mission.

2.0 BACKGROUND

1 In 1992 The World Bank agreed to provide a loan of US \$60.5 million at standard terms with a 40-year maturity to the Government of Kenya (GOK) for the benefit of the Kenyan Wildlife Service (KWS). The project is the first phase of a ten-year wildlife sector development program. During this phase, the main project objectives are to halt the decline of the country's wildlife and its system of national parks and reserves, and to further develop a sound foundation for an environmentally sustainable wildlife-based tourism in Kenya. At the same time, the project would help develop a comprehensive policy framework for a second phase project in the sector (Staff Appraisal Report (SAR), World Bank 1992). To achieve these goals, co-financing of approximately US \$60 million was provided through a joint effort of the EEC, Japan, KfW, Netherlands, ODA and USAID.

2 The project, to become known as 'PAWS' (Protected Areas and Wildlife Service), included investments for the following main components:

- development of KWS institutional capacity;
- rehabilitation and enhancement of park and reserve infrastructure;
- establishment of a Community Wildlife Program;
- strengthening KWS planning capacity;
- revitalization of KWS scientific research and monitoring;
- expansion of the wildlife education program;
- maintenance of an effective Wildlife Protection Unit.

3 The PAWS project implementation started in July 1992. Phase 1 of the project was scheduled to end in June 1997 but has been extended to September 1998. Good quality background information on the project is provided through the SAR document (World Bank 1992) and the case study report, prepared by Bensted-Smith on behalf of IUCN/CNPPA (1993). The project has been very dynamic throughout its implementation, experiencing major upheavals and changes after the initial 'growing pains' which were expected for a project of this magnitude. An excellent assessment of PAWS' progress was provided for the mid-term review by Butynski et al. in the Position Paper No.1 (1995) and the corresponding Aide Memoires prepared by The World Bank (1995 and 1996).

Original PAWS Project Summary

4 As described in The World Bank Staff Appraisal Report (SAR), the PAWS project would finance institutional strengthening, training, civil works, vehicles, equipment, and some incremental operating costs over a five-year implementation period. The project comprises the following main program components:

- **Development of KWS’ institutional capacity** through material support, technical assistance, and substantial staff training program for management and technical staff.
- **Rehabilitation of park and reserve infrastructure** by improving roads, office buildings, and staff housing and related maintenance facilities.
- **Establishment of a Community Wildlife Program** by providing community wildlife extension services, technical assistance, funds, and training to increase community benefits and to develop local wildlife-related enterprises, as well as fencing to limit animal damage.
- **Expansion of the wildlife education program** by improving education facilities in parks and reserves, constructing visitor centers in Nairobi and elsewhere, and developing conservation-oriented school curricula.
- **Strengthening of KWS’ planning capacity** by financing the preparation of integrated five-year development plans for regional wildlife parks and reserves, including land use plans, policy studies, and socioeconomic surveys; and preparation of a national wetlands master plan and technical assistance to improve management of marine parks and reserves.
- **Revitalization of KWS’ scientific research** on terrestrial, marine and wetland ecosystems by improving research facilities, providing expert assistance in selected areas, setting up coordinating mechanisms with other ongoing research in Kenya, and providing continuing support for special conservation programs for elephants and rhinoceros, and for the GEF-funded Tana River Primate National Reserve Program.
- **Maintenance of the effectiveness of the Wildlife Protection Unit** by financing vehicles and facilities.

5 The SAR document defined the project features and project costs for each of the major program areas listed above. The specific program features are summarized in Table 1.

Table 1. PAWS program features proposed for KWS

INSTITUTIONAL DEVELOPMENT (\$29.0 MILLION)
Management Strengthening (\$23.4 million)
• Finance 148 person-years of technical services contract staff
• Finance hiring of 33 person-years of international consultants
• Finance development and execution of a phased staff reduction plan
• Finance purchase of vehicles and office equipment for KWS headquarters

<ul style="list-style-type: none"> • Finance establishment of an effective radio communications system
<ul style="list-style-type: none"> • Finance construction of 2,100 square meters of administrative facilities with equipment and furniture
<p>Training (\$5.6 million)</p>
<ul style="list-style-type: none"> • Finance 2,000 person-months of training for professional staff
<ul style="list-style-type: none"> • Finance the upgrade of training facilities at NWTI
<ul style="list-style-type: none"> • Finance training of the Wildlife Protection Unit at Manyani
<ul style="list-style-type: none"> • Pay salaries of the director of NWTI, KWS's training coordinator, and short-term consultants
<p>PARK INFRASTRUCTURE DEVELOPMENT (\$50.6 million)</p>
<p>Roads</p>
<ul style="list-style-type: none"> • Road rehabilitation of 475 km of primary road in parks and reserves
<ul style="list-style-type: none"> • Routine road maintenance on 5,000 km of roads and tracks in parks and reserves
<p>Improve administrative and maintenance facilities</p>
<ul style="list-style-type: none"> • Construction of 50,000 square meters of facilities within parks and reserve
<ul style="list-style-type: none"> • Rehabilitation/maintenance of about 70,000 square meters of facilities within parks and reserves
<p>Marine Parks</p>
<ul style="list-style-type: none"> • Purchase motor boats, radio equipment, and vehicles
<ul style="list-style-type: none"> • Improvements in marine park headquarters and staff housing
<ul style="list-style-type: none"> • Technical assistance for development and implementation of management plans
<ul style="list-style-type: none"> • Training program
<p>WILDLIFE SERVICES (\$26.0 MILLION)</p>
<p>Community Wildlife Program (\$16.1 million)</p>
<ul style="list-style-type: none"> • Finance technical assistance
<ul style="list-style-type: none"> • Finance short and long-term training of KWS staff <ul style="list-style-type: none"> • community wildlife wardens • wildlife extension wardens • related technical experts
<ul style="list-style-type: none"> • Purchase vehicles and operating and maintenance costs
<ul style="list-style-type: none"> • Purchase communications and other equipment
<ul style="list-style-type: none"> • Finance a Community Development Facility

Wildlife Education and Visitor Services (\$6.9 million)
<ul style="list-style-type: none"> • Purchase of vehicles and office equipment and operating costs
<ul style="list-style-type: none"> • Finance operation of visitor facilities at parks
<ul style="list-style-type: none"> • Set up and operate field study centers for residential courses for school groups and adults at four parks
<ul style="list-style-type: none"> • Promotion of increased use of wildlife education materials in primary schools
National Park and Reserve Planning (\$3.0 million)
<ul style="list-style-type: none"> • Finance a Wildlife Policy and Planning Unit
<ul style="list-style-type: none"> • Finance the purchase of: <ul style="list-style-type: none"> • data processing equipment • vehicles • professional and technical training • special technical assistance • salary of the assistant director
<ul style="list-style-type: none"> • Finance formulation of national wetlands policy through <ul style="list-style-type: none"> • financing technical assistance • providing operational support • financing training
SCIENTIFIC SERVICES (\$9.7 million)
Research and Special Conservation Programs (\$7.9 million)
<ul style="list-style-type: none"> • Provide funds for equipping and operating research department
<ul style="list-style-type: none"> • Refurbish Tsavo East NP and Masai Mara Reserve field stations
<ul style="list-style-type: none"> • Purchase vehicles and supporting operating costs for research staff
<ul style="list-style-type: none"> • Finance technical assistance
<ul style="list-style-type: none"> • Finance salary of deputy director
<ul style="list-style-type: none"> • Finance staff training
<ul style="list-style-type: none"> • Support on-going KWS elephant and rhinoceros programs <ul style="list-style-type: none"> • finance monitoring surveys • establish a research fund • finance technical assistance and training • finance vehicles, maintenance, and operating costs • finance salary of program coordinator
<ul style="list-style-type: none"> • fund all costs related to establishment of a breeding population of white rhino at Lake Nakuru NP
<ul style="list-style-type: none"> • finance rhino relocation vehicles, surveillance equipment and operating costs including salaries and allowances

Veterinary Services (\$1.8 million)
<ul style="list-style-type: none"> • Formal training for KWS veterinary staff
<ul style="list-style-type: none"> • Establish and operate a small diagnostic laboratory
RESERVE DEVELOPMENT (\$2.5 million)
Rehabilitate the reserve infrastructure and other services in three reserves - Masai Mara, Samburu, and Buffalo Springs
<ul style="list-style-type: none"> • Finance civil works
<ul style="list-style-type: none"> • Finance management strengthening
<ul style="list-style-type: none"> • Purchase vehicles and equipment
WILDLIFE PROTECTION AND TOURIST SECURITY PROGRAM (\$6.3 million)
Supply the Protection Unit with transport and communication and surveillance equipment
<ul style="list-style-type: none"> • Purchase vehicles and patrol boats
<ul style="list-style-type: none"> • Finance construction and furnishing of mobile field bases in Tsavo, Meru, Lamu, and Mount Elgon
<ul style="list-style-type: none"> • Finance telecommunication systems in Tsavo East and West

6 In addition to these general project features, the SAR document further defined performance indicators or detailed program elements for some of the programs. SAR Annex 2 provides the detailed elements for the training program. SAR Annex 3 provides the priorities for PAWS funded KWS research. SAR Annex 4 defines the program elements for infrastructure development. SAR Annex 7 provides the key performance indicators for the PAWS funded Scientific Services Department activities. These descriptions of proposed program elements summarized from the SAR document will be used as the performance evaluation indicators in this review.

General Constraints

7 During the mid-term review it became apparent that the financial forecasts with respect to revenue to be generated by KWS and the ambitious goal for the parastatal organization to reach financial self-sustainability within the five years PAWS Phase 1 were much too optimistic and could not be met for several reasons. On the one hand, the unforeseen dramatic decline in the tourism industry resulting in increasing losses in the major source of revenue for KWS; on the other hand, the too-wide a mandate of KWS and the lack of financial support by the GOK, which widened the gap between operational costs and income exponentially. Despite efforts by KWS to halt the alarming erosion of funds through staff reduction, re-organization and other austerity measures, KWS will not be able to sustain itself without support by GOK, continuous donor support, a substantial endowment fund and/ or a drastic reduction of its mandate in order to sustainably finance its operations.

8 Other shortcomings recognized for the PAWS project are:

- KWS did not have the legal and/or institutional framework structure, nor the capacity of personnel, for such an overwhelming amount of funds provided through PAWS.
- The availability of seemingly unlimited funding during the first few years of the project created a culture within KWS which did not realize that investments can be very costly and that operational costs are growing in proportion to the investment.
- The five-year time frame set for Phase 1 of the project was unrealistic for the expenditure of such large amount of money available. The results are: poorly planned and coordinated infrastructure development and equipment purchase, some unfinished project activities, disenchanted KWS staff and general donor frustration.
- The PAWS project was much too ambitious; the terms were too vague and insufficiently priority oriented. Too many project elements were donor- and fund-driven, rather than guided by process and priorities.
- Despite the intentions of a combined donor effort, the project seemed to have lacked productive donor cooperation in the field.
- The availability of large amounts of money and liberal spending created false expectations in the recipients and KWS personnel in general. Again, this is the result of too short a timeframe for too much money.

3.0 ASSESSMENT OF PAWS' IMPACT ON KWS

3.1 Policy and Legal Framework

Background

1 The Kenya Wildlife Service (KWS) was created as a parastatal under the Wildlife Amendment Act in January 1990 out of the Wildlife Conservation and Management Department (WCMD) in the Ministry of Tourism and Wildlife (MTW). The action was undertaken in response to a crisis in the 1980's caused by uncontrolled poaching, particularly of elephants and rhinoceros, threats to tourist and resident security, loss of critical wildlife habitats and failed community programs. Because of the urgency of the situation there was not sufficient time to reform the outdated legislation and policies of the WCMD, which dated to 1977 and 1975 respectively. Thus, KWS was created with a minimum of new legislation.

2 The need for legislative and policy reform was re-emphasized in the Midterm Review (Aide Memoire, 1996) and particularly in light of the revised and expanded goals of KWS, including the reorientation of the KWS and the expansion of its goals and objectives from one focused on parks and wildlife management to an agency directed towards biodiversity conservation; tourism development and partnerships with communities required new legislation and revised policies. New laws and regulations were needed to enable the organization to enter into revenue-sharing agreements with local communities, to protect endangered species and habitats and to reintroduce trophy hunting. Registration of Wildlife Use Associations, the need for a national land use policy, and the need for complementarity with the Environmental Management Bill were singled out in the Midterm Review for specific attention.

3 Recognizing some inherent weaknesses, the Staff Appraisal Report (SAR) (1992) makes the following references in regards to what was termed, "*Weak Sector Management Capacity*":

"Deficient Sector Policy Framework: Sustainable development of the wildlife sector requires resolution of several inter-linked policy issues related to Kenya's natural resource management. However, responsibility for addressing most of these issues lies outside KWS. For example, the Forest Act covers wildlife conservation in nature reserves, while the Land Control Act regulates the use of agricultural land. Similarly the Ministry of Arid and Semi-Arid Lands is empowered to initiate development projects, including land use schemes, that may impinge on the future development of the wildlife sector. At the same time, the Attorney General's office has been drafting (and may soon present to Parliament) an Environmental Management Bill which addresses many aspects critical to KWS' mandate and activities and may be in conflict with the Wildlife Act."

4 As stated in SAR (1992), “The successful implementation of the PAWS program depends critically on a high level of *political commitment and policy focus*.” Considerable emphasis was placed by PAWS on developing the legal and policy framework necessary to provide the foundation for the expanded role of the Kenya Wildlife Service particularly from 1995-96 onward. This initiative began with the report, *A Policy Framework and Development Programme 1991-1996* (i.e. the “Zebra Book”) and was emphasized in SAR (1992), the 1996 Aide Memoire and the COBRA Assessment (1998).

PAWS Goals and Objectives

5 PAWS contributed towards legislative and policy reform out of the US \$23.4 million allocated to Management Strengthening. The objective of the PAWS project was to ensure the creation of a new Wildlife Bill and the development of attendant policies both internally by staff, including a professional lawyer, and externally through hiring of consultants. PAWS also intended that KWS create a Wildlife Policy and Planning Unit.

Impact of PAWS on Policy and Legal Framework

6 With the direct support of PAWS, KWS commissioned several concurrent studies to examine issues and to determine areas where new legislation and policy direction were required. KWS undertook a process of completing a legal study leading to a review and proposed revisions of the 1989 Wildlife Amendment Act. A legislation needs analysis revealed a number of key aspects where revisions and additions to the existing Act were required. Briefly, these included (a) wildlife use rights, (b) conservation of marine ecosystems, (c) sentencing and penalty levels for wildlife related offenses, (d) wildlife product marketing, (e) endangered species conservation and (f) problem animal management. A more comprehensive list showing where legislative reform is required is shown below.

7 Aspects of the Kenya Wildlife Legislation (1977 and 1989) that necessitated Legislative Reform:

- To consolidate the wildlife law into one comprehensive Act of Parliament.
- To update the Wildlife Act generally to take into account the changes in policy and wildlife management approaches since the last policy statement of 1975 (i.e. Sessional Paper No. 3 of 1975).
- To include such key aspects of wildlife management as management through Community participation and establishment and legal registration of wildlife based associations and organizations.

- To provide for a more practical method of compensation for losses, injuries and death occasioned by wildlife transgressions especially now that benefits and responsibilities were being devolved to the communities.
- To provide for clearer provisions: a) regarding the functions of KWS, b) the functions of its Board of Trustees (vis-à-vis management), c) composition of the Board d) the ownership of wildlife and e) definition of the terminology utilized in the wildlife legislation and the sector generally.
- To reduce bureaucratic aspects of the existing wildlife legislation by moving away from Government/Ministerial approvals of actions or decisions taken and implemented with regard to wildlife management matters.
- To streamline the Penalties Section and particularly enhance custodial jail sentences for serious cases, to provide for minimum sentences that can be imposed by courts of law and to correct for inflation by rationalizing the outdated monetary penalties set in 1976.

8 Interagency Policy Integration - Under its expanded mandate, KWS must interact with other agencies and organizations that influence its mandate. These include biological resources under the jurisdiction of other agencies and owners, the land and resource users, and the tourists who provide much of the country's foreign revenue.

9 The DFID Project Memorandum (1998) Report provides a comprehensive overview of the legislative and policy requirements for the expanded KWS focus. The memorandum describes the need for KWS to develop additional MOUs with other agencies and organizations with whom it regularly has dealings. This includes other government agencies, non-governmental agencies, private sector organizations and donor organizations. Overlap and conflicts in jurisdiction between agencies necessitate formal agreements to minimize conflicts and optimize resource management and protection opportunities. To date, KWS has entered into 12 such formal agreements, including four with other government agencies for the protection of biological resources and eight with County Councils for the management of various national reserves (see below).

10 Interagency Agreements via Memoranda of Understanding for cooperation between Kenya Wildlife Service and other Kenyan Federal and Local Government Agencies:

- Forestry Department for the joint management of selected indigenous forests.
- Department of Resources Surveys and Remote Sensing for biodiversity inventory.
- Coast Development Authority for the protection and management of marine resources.
- Forestry Department and the National Museums of Kenya for the management of selected indigenous forests.
- Forestry Department and Nandi County Council for management of Bonje Hill Forest.
- County Council of Mwingi for the management of Mwingi National Reserve.

- Mbere County Council for the management of Mwea National Reserve.
- County Council of Pokot for the Management of Nasalot National Reserve.
- County of Turkana for the management of South Turkana National Reserve.
- County Council of Keiyo for the management of Rimoi National Reserve.
- County council of Laikipia for the management of Kierimon National Reserve.
- Transmara and Narok County Councils to provide security for Maasi-Mara National Reserve.

11 Wildlife Bill and Policy - The Legal Framework study was conducted concomitantly with three other major policy issue studies, namely: Wildlife Utilization (i.e., Partnerships); Land Use Planning and Policies; and Tourism Strategies and Pricing. A draft Wildlife Bill was released for discussion and revisions were made to the policy as a result of extensive public consultation. Despite divisions in the interests of some factions, compromises were made that apparently did not dilute the spirit and intent of the original draft. Both the draft Wildlife Bill and the Wildlife Policy have been approved by the Board of Trustees and the (former) Minister of Tourism and Wildlife and submitted to the Attorney General's office for finalization prior to passage into law.

12 Environmental Management Bill - The GOK has been developing a national Environmental Management Act (EMA) and KWS was directed by PAWS to pursue measures to be fully involved in the development of the Bill in order to ensure compatibility with the Wildlife Bill. KWS' Legal Officers were provided an opportunity and commented on the draft EMA. The EMA has been submitted to the Attorney General and is still under preparation. In addition, KWS undertook to develop Environmental Impact Assessment (EIA) Guidelines and Administrative Procedures. These were finalized and released in June 1998.

13 National Land Use and Wetlands Policy - Both the 1992 SAR document and the 1996 Midterm Review highlighted the need for a national land use policy, the importance of marine resources and wetlands, and the lack of regulations with respect to their protection and proper management. Subsequently, the Netherlands Wetlands Conservation and Training Program undertook an intensive project to improve the conservation and management of Kenya's wetland and marine resources. An integral part of this program was to promote the development of a national wetlands policy as part of the proposed national land use policy. A Land Laws Review Task Force has been established in the Minister of Lands Office and is currently ongoing. It is charged with the consolidation of all land laws and a review of the rationalization of land use policies.

14 Registration of Private Wildlife Use Associations - One specific problem noted in the Midterm Review (1996) was that while a central tenet of KWS policy is to encourage the development of landowner-based wildlife associations and user groups, many of the pilot organizations apparently experienced obstacles and long delays in becoming registered. KWS was requested to review existing legal procedures and to develop new regulations if required in order to facilitate registration of private wildlife use associations. A commissioned study analyzed the rationalization of various legal statutes

impacting the wildlife sector. Two workshops were held with landowners and other stakeholders, and proceedings were published. The relevant legal aspects of the Societies Act and the Companies Act were integrated into the Wildlife Bill in order to facilitate registration of wildlife use associations.

Policy and Legal Framework Achievements

15 The specific targets of the PAWS program and the degree of achievements are summarized in Table 2.

Table 2. Achievement of intervention objectives in the program of Legislative and Policy reform.

Target	Achievement	Comment
Completion of legal study; prepare and submit Wildlife Bill; prepare Wildlife Policy Document	High to very high	Draft Wildlife Bill and Wildlife Policy approved by Board of Trustees and Minister of Tourism and Wildlife and submitted to AG's and Cabinet respectively and awaiting action.
KWS should develop a plan to ensure effective consultation on the draft wildlife policy with other stakeholders	High to very high	Revisions made to Draft Wildlife Bill as a result of extensive consultations.
KWS and MTW should pursue measures to be fully involved in the development of the Environmental Management Act (EMA) and ensure compatibility between these legal instruments.	High to very high	EMA in draft form at Attorney General's and is still under preparation. KWS' Environmental Impact Assessment (EIA) Guidelines and Administrative Procedures released June 1998.

(a) KWS should clarify the relative benefits and disadvantages of the Societies Act and the Companies Act and any other available mechanisms for registration of wildlife associations; and (b) KWS and MTW should collaborate to identify and resolve obstacles to pending registrations.	High to very high.	The legalities of the two acts regarding the registration of wildlife associations were integrated into the Wildlife Bill. A commissioned study also analyzed the rationalization of various legal statuses impacting on the wildlife sector.
Prepare draft guidelines for community wildlife groups' collaboration with private sector.	High	Workshops were held with landowners and other stakeholders, and proceedings were published. Key elements were incorporated into the Wildlife Bill.
GOK should establish a high-level land use policy Task Force, probably under Office of the President. The policy should include wetlands as well as other vital resources including indigenous forests	Moderate (not within KWS mandate)	A Land Laws Review Task Force has been established in the Minister of Lands Office and is ongoing.
KWS should develop formal agreements and memoranda of understanding with other government agencies and organizations, which influence KWS' resource management and protection mandate.	Moderate to high	KWS has entered into at least 12 agreements with other government agencies and organizations, including the Forestry Department, for management and protection of indigenous forests.
KWS should establish a Wildlife Policy and Planning Unit.	Moderate	KWS hired a lawyer and maintained a legal office. Policy development is administered from the Director's office.

Summary Observations

16 PAWS has had a definite positive impact on the development of proposed legislation and policies. Development of policy and legislation has proceeded to the point where a draft Wildlife Bill awaits further action by the Government of Kenya. As the Wildlife Bill is now in the hands of the government, the next steps to be taken appear to be beyond the control of the Kenya Wildlife Service. However, new legislation is essential to enable KWS to fulfill its mandate. Despite all the recent effort that has gone into creating new legislation and policy, KWS is forced to continue operating under outdated and inadequate laws.

17 Many criticisms directed at KWS by individuals both within and outside of KWS and in the popular press stem from the fact that enabling legislation is not in place to overcome problems such as lack of stakeholder representation on the Board of Trustees, lack of revenue sharing or the difficulty of increasing base funding through the reintroduction of trophy hunting. Progressive, enabling legislation provides more flexibility and greater opportunity than outdated legislation. There has been considerable public discussion and expectations surrounding the development of the Wildlife Bill. However, more than a full year has passed since the Bill and the attendant Wildlife Policy statement were submitted to the Government. The PRT team recommends that efforts be made by KWS and the donors to impress upon the GOK the importance of passing a new Wildlife Act.

3.2 Institutional Capacity

Background

1 Organizational Structure and Staffing - The SAR (1992) recognized some inherent weaknesses in the Kenya Wildlife Service:

“KWS, created in January, 1989, under the Wildlife Conservation and Management Act as a wholly government-owned parastatal... is constrained by some major inherited weaknesses. Its organizational deficiencies include: (a) weak linkages between implementation units, (b) absence of medium and long-term corporate planning and of a system linking planning, budgeting, and management information, (c) low awareness of institutional objectives, especially among lower-level staff, and (d) a lack of commercial orientation in its operations. KWS management is committed to improving performance in these areas with project support.”

2 Despite these noted shortcomings, assumptions were made at the onset of the PAWS project regarding the organizational structure, which subsequently proved to be overly optimistic. SAR (1992) made the following three observations: (a) “KWS... has considerable autonomy in day-to-day management, awarding of contracts, and hiring of staff.” (b) “KWS enjoys adequate legal and financial support to achieve its operational goals...”. (c) “KWS’ newly developed organization and management structure represents an improvement over the organization of WCMD and appears to meet KWS’ immediate

and medium-term requirements.” However, these assumptions were erroneous and misleading, as history has shown. In fact, as reported by Kibera and Aosa (1995), KWS had inherited a highly centralized headquarters-dominated management structure, which was neither efficient nor economical. In addition, as shown later, its legal base proved to be inadequate for its soon-to-be expanded mandate.

3 As stated in the SAR (1992): “The two major areas of concern for KWS in the area of human resource development are overstaffing and lack of trained staff.” Many of the staff were untrained, since the Wildlife Management and Conservation Department had paid little attention to training or career development. The lack of training, coupled with low salaries and benefits, led to the erosion of staff skills. KWS, inherited some 5000 staff from the former WMCD, fully 95 percent of whom were in the lowest five, mostly unskilled grades. Prior to PAWS, KWS attempted to reduce its overall staff by 1,600 people on July 1, 1991. The Government subsequently asked KWS to reconsider its decision and to prepare a phased staff reduction program, which would include the discharge of those nearing the age of retirement, disciplinary cases, and redundancy packages for the remaining excess staff, estimated at 600 persons.

PAWS Goals and Objectives

4 PAWS invested some US \$23.4 million in the program of Management Strengthening. Several basic studies were required to provide the analysis required for reorganizing and strengthening the organization. PAWS-funded consultant contracts included (a) the Organizational Development and Human Resources Management Report (covered in this section), (b) development of a substantial staff training program (covered in the Staff Training section) and (c) the Legal, Policy, Wildlife Utilization, Land Use and Tourism/Pricing studies (covered in the Legal and Policy Framework Section). Capacity building financed by PAWS included major restructuring of the organization at both headquarters and in the regions.

5 Salary Scales - In recognition of the wide disparities in salary levels, KWS commissioned Price Waterhouse Consultants to develop a rationalized pay scale for all position grades from the Executive Director to Ranger Recruit.

6 Technical Services Funding - The main objective of the technical services contract (TSC) funding was to help KWS build its capability to manage its programs on a sustainable basis. The project financed about 148 person-years of technical services contracts plus 33 person-year equivalents of international consultants to “...assist with KWS headquarters functions and to ...strengthen the Ministry’s organizational structure and its policy formulation capacity” (SAR, 1992).

Impact of PAWS

7 Technical Services Contract (TSC) Staff Funded by PAWS - The PAWS project assisted KWS in strengthening its management capacity by providing funds to hire skilled personnel, train existing and new personnel, and develop management systems, including reorganization of headquarters functions and decentralization of regional operations. The main objective of the technical services funding was to help KWS build its capability to manage its programs on a sustainable basis. The 148 person-years of technical services contracts and some 33 person-year equivalents of international consultants were provided. The project included some much-required TSC staff resources to strengthen the Ministry's organizational structure and its policy formulation capacity. Many of the key headquarters positions were funded through the TSC staff program. Examples include: The Director, Chief Engineer Roads, Chief Pilot, Legal Advisor, AD Human Resources, Chief Internal Auditor, Donor Liaison Officer, Head of Communications, Training Coordinator, AD Tourism and Wetlands Coordinator. Technical Assistance was provided to the Technical Services Department by establishing a Sub-Directorate of Technical Services and field level implementation capacity at the Regional, Area, Station and Reserve levels to facilitate major rehabilitation of roads and infrastructure. Despite criticisms concerning selection and hiring procedures, salaries, special training and performance, the TSC program was essential to KWS' capacity building program. A summary of the history of the TSC staff program is shown in Table 3.

Table 3. PAWS Supported Technical Services Contract Staff Program and Level of Donor Funding from 92/93 to 97/98.

Year	ODA	%	IDA	%	USAID	%	Total
92/93			29	100	7	80	36
93/94			28	100	7	80	35
94/95	4	90	31	100	9	80	44
95/96	4	90	31	100	8	60	43
96/97	6	70	27	100	6	40	39
97/98	1	40	6	100	5	40	12

8 Staffing Levels - As shown in Table 4, staff levels were reduced at both headquarters and in the regions from 4050 in 1993 to 2979 in 1998. The highest proportion of reduction occurred at headquarters, where the number of staff was reduced by 50 percent from 812 in 1993 to 417 in 1998. In the first phase of institutional restructuring, numerous positions were regionalized and many staff were deployed into Area Offices. Those people who were not required or refused to transfer were retrenched.

9 Because of financial constraints, a second phase of retrenchment was being instituted during the time of this review. Information provided by the Human Resources and Administration Department revealed a further reduction of some 48 positions in Headquarters and 245 positions in regions, leaving the organization with a total of 2686 staff. This represents a 33 percent reduction over a five-year period and does not include the pre-PAWS staff reductions. By focusing on redundant positions and under-skilled staff, KWS has pursued a goal of reducing its relative overall operating costs while significantly increasing the agency's efficiency.

Table 4. Past, current and projected Kenya Wildlife Service staffing levels 1993-1998.

Date	HQs Total	REGION								Region Total	Grand Total
		Cent. Rift	Southern	Mountain	Eastern	Coast	Western	Tsavo	Northern		
1993	812	441	436	319	449	465	399	557	172	3,238	4,050
1994	884	499	394	358	366	486	394	566	171	3,234	4,118
1995	861	425	413	315	410	533	365	490	158	3,109	3,970
1996	923	387	328	338	410	482	339	520	159	2,963	3,886
1997	576	349	327	263	324	439	298	454	141	2,595	3,171
1998	417	338	320	248	372	431	290	425	138	2,562	2,979
08/98 *	369	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,317	2,686

* projected

N/A=not available

10 Salaries - As a parastatal, the KWS has developed a salary structure which reflects the relatively high salaries paid to senior executives in private enterprise and the relatively low salaries paid to technical, security, and administrative support staff in government agencies (Figure 1). The result is a pay structure that is the source of much irritation and concern on the part of the majority of employees of the KWS.

11 Apart from job insecurity as a result of decentralization and retrenchment, a recent staff opinion survey revealed that low salaries were the cause of the greatest concern of staff below the executive level. In recognition of the wide disparities in salary levels, KWS commissioned Price Waterhouse to develop a rationalized pay scale for all position grades from the Executive Director to Ranger Recruit. The consultants conducted a market evaluation and recommended a graduated salary scale which partially reduced the existing large salary gap below the senior executive levels. However, due to insufficient funds to support the revised scale, an executive decision was made to further reduce the numbers of staff and to increase pay levels below the level recommended by the

consultant. The end result is that the main cause of the staff's complaint, the differential between the senior executive and the rest of the organization, remains relatively unchanged.

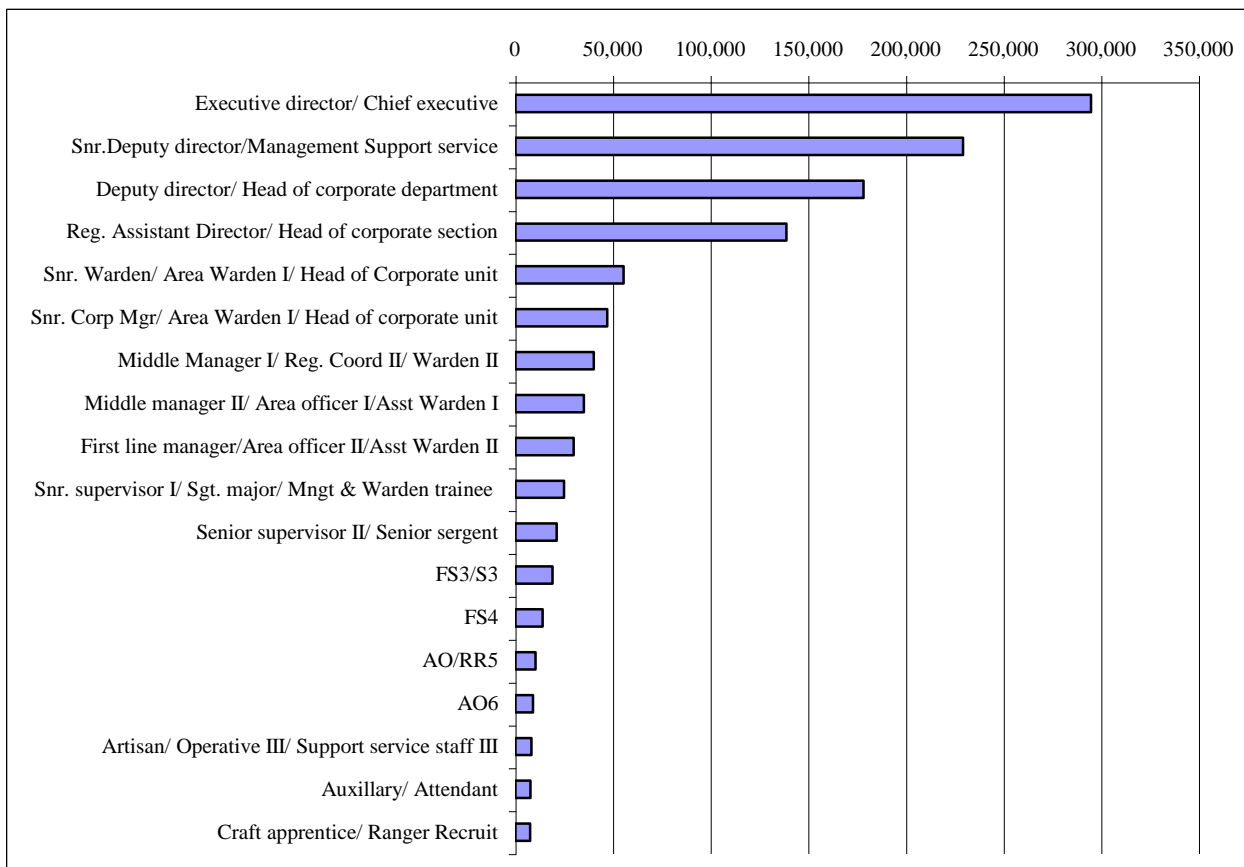


Figure 1. Revised salary structure of KWS. Median monthly salaries in KSH.

12 Organizational Structure - KWS management recognized the inherent institutional and management weaknesses and, following the initiation of the PAWS project, undertook corrective action in order to strengthen its staff development and management capacity. In response to the problems of overstaffing and lack of trained staff, PAWS funded an independent consultant study to match job skills, identify areas of overstaffing, and propose organizational streamlining. The PAWS-funded organizational study by Kibera and Aosa (1995) led in part to a major restructuring program of headquarters and regional restructuring and decentralization.

13 A general examination of the organizational charts of the KWS between 1992 and 1996, before and after reorganization, reveals major changes in the basic structure of KWS (see Annex 2, Figures 2 and 3). In 1996, KWS decentralized its regional operations into eight ecologically based regions and created three new “goal departments” in headquarters (i.e., Biodiversity, Partnerships and Tourism). The historic and current organograms, including one regional example, are shown in Annex 2, while the new

regional structure, including the protected areas administered within each region, is shown in Table 5.

Table 5. Regional Structure of Kenya Wildlife Service as of 1996

Management regions and hqs.	Management areas	National parks and reserves
Western (Kitale Town)	Mt. Elgon Nasalot Nyanza Kakamega	Impala (Kisumu), Mt. Elgon, Nasalot, Ndere Island, Ruma, Saiwa Swamp, South Turkana, Kamega Forest
Northern (Marsabit)	Marsabit/Moyale Sibilo Wajir/Mandera	Central Island, Malkamari, Sibilo, South Island, Losai, Marsabit
Eastern (Isiolo Town)	Meru Park/Bisanadi Kora/Mwingi, Isiolo Meru/Samburu	Meru, Bisandi, Buffalo Springs, Kora, Mwingi, Rahole, Samburu, Shaba
Central Rift (Nakuru Town)	Nakuru Naivasha Mara	Hell's Gate, Lake Nakuru, Mt. Longonot, Kerio Valley, Lake Bogoria, Lake Kamnarok, Maasi Mara
Mountain (Mweiga)	Aberdares Mt. Kenya Mwea Laikipia	Abadare, Mt. Kenya, Mwea
Tsavo (Tsavo East HQS, Voi)	Tsavo East Tsavo West	Tsavo East, Tsavo West, Chyulu Hills, South Kitui
Southern (KWS HQS, Nairobi)	Nairobi Amboseli Ol Donyo Sabuk	Amboseli, Nairobi, Ol Donyo Sabuk, Namanga Forest, Ngong Forest
Coast (Mombasa)	South Coast North Coast Lamu Tana River	Diani/Chale, Kisite, Malindi, Mombasa, Mpunguti, Watamu, Arabuko Sokoke, Arewale, Boni, Dodori, Kiunga, Shimba Hills, Tana River

14 Major restructuring of Headquarters occurred in 1996 and 1997. The seven major Headquarters departments in existence prior to 1996 were reconfigured and increased to eleven, including the Nairobi Safari Walk Department. The basic changes in the Headquarters departments are shown in Table 6.

Table 6. Reorganization of Kenya Wildlife Service Headquarters Departments as of 1996.

Former Department	Current Department
Personnel and Administration	Human Resources and Administration
Finance	Financial Controller
Internal Auditor	Internal Auditor
Technical Services	Technical Services
Commandant (Security)	Security
Wildlife Services	Wildlife Services
Scientific Services ¹	Biodiversity
Commercial Management	Tourism
Community Wildlife Services ²	Partnerships
	Corporate Communication Department
	Nairobi Safari Walk

¹ Veterinary Services Section moved to Wildlife Services Department.

² Community Wildlife Officers were positioned in field offices only.

15 Detailed examination of the existing structure and interviews with KWS Headquarters and Regional staff revealed that at the time of the review, decentralization was not yet fully implemented. While the basic planning and rationalization which has gone into developing an efficient structure has been considerable, the process appears to be currently stalled. For example, a common complaint from the several RADs interviewed was that while they have been given the responsibility of administering the regions, much of the administrative authority remains vested in headquarters.

16 In addition, imbalances are apparent between the Headquarters (HQ) administrative and goal functions (i.e., Biodiversity, Partnerships and Tourism) and those of the Regions. Currently, the most senior position next to the Director, the Senior Deputy Director, is in charge of mainly administrative functions giving more weight to the administrative and support side of the organization. Equally critical to the delivery of programs, the major departments of Tourism, Partnerships and Biodiversity are represented only by committee at the senior executive level, if at all. Security, formerly the main focus of the organization, does not appear to be represented on any of the three senior executive committees.

17 The following is a listing of the standing KWS committees.

Corporate Executive Committee

- Director (Chair. Also represents Biodiversity)
- Senior Deputy Director

- Deputy Director Tourism
- Deputy Director Partnerships
- Regional Assistant Director Coordinator*

*Southern Region RAD acts as Headquarters Coordinator of RADs.

Senior Management Committee

- Director
- Senior Deputy Director
- Deputy Director Tourism
- Deputy Director Partnerships
- Deputy Director Biodiversity
- Regional Assistant Director Coordinator
- Deputy Director Technical Services (Chair)

Change Management Team

- Senior Deputy Director (Chair)
- Director
- Deputy Director Tourism
- Deputy Director Partnerships
- Deputy Director Human Resources and Administration
- Corporate Communications
- Consultant (Price Waterhouse)

18 At present, although the organogram shows the eight RADs reporting to the Deputy Director of Wildlife Services, in actual fact, this does not occur (nor in the opinion of the PRT should it occur). Instead, regions are represented at the senior executive level by the RAD of the Southern Region who is conveniently located adjacent to Nairobi HQs. This position was given the added duties of coordinating the administration of all eight RADs. However, instead of having direct access to the Director's office, this position is required to operate via the Corporate Executive Committee. Also, it is noted that Security which was the main focus of the KWS during the early 1990's when poaching and tourist incidents were of major concern is not represented on any senior Headquarters committees. This is despite the fact that Security, like other major departments has undergone significant changes over the past several years and will continue to play a key role in the future of wildlife protection and management, particularly if and when trophy hunting is reintroduced.

19 An additional problem with the regional structure is that it may be too horizontal for efficient administration. Depending upon the number of Area Wardens, as many as 12 or more senior Regional or Area staff representing up to ten separate functions report to each RAD. This number is considered excessive by most agency standards. The duties

and responsibilities of the Regional Directors are very complex, the level of responsibility appears high and the basic administrative requirements of the day-to-day operations and administration seem onerous. Although the argument was presented that insufficient time has passed to properly test the new structure, the assessment of the PRT suggests that the inefficiencies inherent in the structure of the organization should be addressed sooner rather than later. In the opinion of the PRT, the lack of verticality in the organizational hierarchy will adversely affect its ability to function optimally.

20 The RADs interviewed complained of a lack of devolution of authority, while some HQ executives expressed the opinion that RADs lacked sufficient managerial skills to be granted more authority over fiscal matters. While arguments of both HQ and Regional managers have merit, this difference of opinion should be expected to continue until the organizational structure accommodates regional operations at the senior executive level and the staff training is completed.

21 Organization of Area Offices - Apart from shortcomings in staffing certain positions at the Area level, the Area Office organizational structure appears to have been more carefully developed than the other levels (see Annex 2, Figure 1). Area Biodiversity, Partnership and Tourism Officers report through a matrix system to both the Area Warden and their departmental superior. Although there appears to be some disagreement and confusion amongst professional and technical staff as to whom they do and should report to, the PRT did not find any fault in the basic reporting lines employed in the Area offices. However, while the line of authority between Regions and Areas is clear and should be maintained, the consultative and support role of regional and Headquarters professional support staff is not. The role of Headquarters and regional specialists in directing programs such as Biodiversity, Partnerships, Tourism and Technical Services requires clear guidelines.

22 The policy of maintaining Area Officers for each program in nearly all Area Offices needs to be reexamined in the light of optimizing efficiencies. The placement of professional staff in remote Area offices (e.g. Masai-Mara) with few resources and little communication should be reconsidered. In the opinion of the PRT, such positions would likely better serve the organization as technical support and assistance to the respective Regional Coordinators. Where qualified specialists such as marine or aquatic or terrestrial can divide the regional workload equally, the relationship between the regional and area staff requires rationalization and separate guidelines.

23 Staffing - The efficiency of the organization at any given moment in time depends upon a full complement of staff. Vacancies in key positions can hamper the most efficient of organizations. Because of fiscal restraint, all positions with KWS were frozen as of June 1998, leaving 668 positions vacant. However, by far, the majority of these are lower level, non-managerial positions. Wherever key vacancies exist, they have been filled in an "acting" capacity with the next available staff member in order to help KWS to cope with the current budgetary crisis.

24 Board of Trustees - As a National Parastatal, KWS is overseen by a Board of Trustees (The Board). The Board is composed of seven representatives of the Government of Kenya (GOK) and may also include not more than six other Trustees appointed by the Minister of Natural Resources. The Chairman is appointed by the President, while the Vice-Chairman is elected by the Trustees, and the Director, who is also a presidential appointee, serves as Board Secretary. The KWS is highly politicized; while the Board has authority to make policy decisions within the realm of national policy and law, it is ultimately responsible to the President and not to the legislature, *per se*.

25 While KWS was granted exemption from the State Corporations Act and has considerable autonomy, it must still operate within the constraints imposed by what is largely a government-dominated board. Recommendations to broaden the representation and to de-politicize the Board are contained within the provisions of the Wildlife Bill. As stated in the DFID Project Memorandum (1998), it is envisaged that under the proposed legislative changes being considered by GOK in the Wildlife Bill the Board's powers and independence will be increased. While appointments to the Board will still require ratification from the Minister, all GOK representation and influence will be exercised through the Board. This will end the influence of the various government bodies on routine management decisions. Of equal importance, the proposed legislation would ensure that the composition of the Board would be more representative of the stakeholders. This would ensure increased stakeholder involvement in the establishment of KWS policy and direction.

26 Airwing - As agreed to in the mid-term review, a study was commissioned to determine the future operation of the Airwing. The study detailed the most economical way to operate the 17 aircraft (only half of which are currently operational), including the helicopter under its control. The Airwing recently applied for and received a license for in-house maintenance operations from the Department of Civil Aviation. An application for a charter service license to operate commercially is pending.

27 Staff Planning and Performance Review - During the period of review, steps were taken by the Human Resources and Administration Department to initiate a staff planning and performance review process. Criteria were developed and all staff were to be assessed in July 1998, using their job descriptions as a base. Interviews with staff, their immediate administrative supervisor, the goal department supervisor and a Human Resources Officer were to establish a list of performance criteria against which the employee would be assessed in May 1999.

Achievements

28 The specific targets of the PAWS Institutional Restructuring and Capacity Building Program are summarized in Table 7.

Table 7. Achievement of intervention objectives in the program of organizational restructuring and capacity building.

Target	Achievement	Comment
Regionalization and decentralization of KWS' structure and functions, centered on ecosystem-based management units	Moderate to high	Decentralization well begun but not fully implemented.
Organizing KWS' structure and its programs and activities around three main goals: biodiversity conservation; sustainable tourism development and partnerships	Moderate to high	Reporting lines and respective roles of staff and line functions need to be rationalized and clarified.
The need for a "change management team" (CMT).	High	The CMT remains and has evolved into an effective Corporate Executive Committee (sans Security and Wildlife Services).
Movement toward a unified salary scale.	Low to Moderate	The wide gap between salary levels at the executive level versus the remainder of the organization remains problematic.
Hiring and contracting Technical Services Contract Staff (TSC)	High	Despite criticisms concerning selection and hiring procedures, salaries, special training and performance, the TSC program was essential to KWS' capacity building program.
Regularizing or phasing out TSC staff.	High	Will be essentially completed by Sept. 1998.
Restructure the Airwing	Moderate to high.	A license to conduct in-house maintenance was granted recently. An application for a Commercial License is currently before the Civil Aviation Board.
Reconfigure the Board of Trustees to broaden expertise, provide stakeholder representation and transfer principle authority from the Office of the President to the Minister of Natural Resources.	Moderate	The necessary legislation is embodied within the draft Wildlife Policy that at the time of this review had been awaiting government action for one year.
Institute a staff planning and performance review process.	Moderate	The staff planning and review process has been initiated.

Summary Observations

29 PAWS contributed significantly to a major restructuring of KWS. Headquarters reorganization and Regional decentralization were well under way at the time of this review. However, the process is incomplete and some inadequacies remain. Other evaluations of PAWS have listed deficiencies in institutional coordination as problematic. The COBRA Assessment (1997), for example, noted limited complementarity between Tourism, Partnership and Biodiversity programs. The apparent limited coordination between HQ and the field was also cited as a problem. Such problems are common to most agencies with complex mandates. Solutions are possible, although it does not appear that any previous review team offered any specific advice in this instance. Only relatively minor changes appear to be required to complete the reorganization and decentralization process. Amalgamation of the eleven existing departments into three or four major sections or departments at both headquarters and regions, each with their own senior departmental head would in the opinion of the PRT result in a more efficient , vertically structured staff and line organization.

30 The TSC program was highly successful and was essential to the progress made to date on institutional capacity building. In the opinion of the PRT, with some modifications in the organizational structure as mentioned previously and given adequate funding, the KWS appears to be capable of fulfilling its expanded mandate.

3.3 Staff Training

Background

1 As stated in the previous chapter on Institutional Capacity, KWS had inherited a large cadre of staff from its predecessor, the Wildlife Conservation and Management Department, 95 percent of whom were in the lowest five, mostly unskilled grades. Middle and even senior managers with sufficient skills were few in number. It was apparent that if KWS was to fulfill its mandate, an intensive training program would be required under PAWS.

2 SAR (1992) stated that, among other shortcomings, KWS suffered from a lack of trained staff and noted a "...low awareness of the institutional objectives, especially among lower-level staff." The Staff Appraisal Report also directed PAWS and the KWS towards the, "Development of KWS' institutional capacity through material support, technical assistance, and a substantial staff training program for management and technical staff."

PAWS Goals and Objectives

3 Capacity Building Through Training - Staff training was to be the main vehicle for building KWS' long-term institutional capacity. Accordingly, the PAWS project included financing to support more than 2,000 person-months of training for professional staff at headquarters and in the field. The training programs would range from short-term workshops to post-graduate studies in Kenya and overseas for management and technical specialist training. Project financing was also included to upgrade the physical facilities and provide operating cost support (such as for boarding and lodging participants) for the Naivasha Training Institute (NaTI), where most of the KWS training courses were to be implemented. Training for the Wildlife Protection Unit would take place at the training camp in Manyani, which was to be rehabilitated and expanded under PAWS. The project's technical assistance package also included funding to hire the director of the NaTI, KWS' training coordinator, and short-term consultants to assist with the design and implementation of the training schedule. The project also included support for a study to determine the feasibility of the NaTI becoming self-sustaining.

4 Training Committee and Funding - Training was thus identified as a major component of the PAWS program, especially considering the caliber of personnel employed by KWS and the revised responsibilities foreseen under restructuring the organization. US \$5.6 million was committed to ensure an adequate level of training. With the large number of personnel to be trained, it was necessary to hire a Training Manager and to form a Training Committee with the Regional Assistant Director Coordinator and representation from selected major departments as follows:

- Deputy Director Human Resources and Administration
- Deputy Director Tourism
- Deputy Director Planning
- Deputy Director Biodiversity

5 Training Needs Assessments - A "needs assessment" was required in order to develop a comprehensive staff-training plan. During the period of 1993 to 1996, each department was responsible for identifying training needs for its personnel. Both groups and individuals were encouraged to identify the training they considered would address their specific requirements. Nominations were submitted to the respective department heads in Nairobi for the personnel or groups selected within each department. The nominations were discussed during training committee meetings and selections were made on the courses available during that period. These courses were then forwarded to the World Bank for approval. Most of the training shown in Table 8 was identified in this way. However, with restructuring and the adoption of an expanded mandate and in consideration of the large number of personnel to be trained, it was subsequently found to be necessary to conduct a more comprehensive training needs assessment as well as a detailed staff training plan. While all agencies and staff levels were considered, the focus for training was on Headquarters staff and the Regional Management Team.

Table 8. Kenya Wildlife Service Staff Training Summary 1993-1998.

Course Category	Main Target Agency	Number of Participants	Total Number of Course Days	Total Staff Training Days	Total Cost 1000's Ksh	Percent of Total Costs
Administration	HRA and RMT's	252	99	2,488	2,383	3%
Basic Skills	HRA	136	63	866	1,215	1%
Computer Skills	Various	103	55	669	546	1%
Finance	Finance & RMT's	103	14	500	617	1%
Management	RMT's & Various	734	78	5,549	16,423	20%
Paramilitary	Security/Rangers	47	274	8,700	4,075	5%
Public Relations	Rangers	748	34	3,920	3,812	5%
Security	Security/Rangers	389	247	12,636	8,070	10%
Special	Various	260	(22)*	5,720	43,067	53%
Mechanical	Technical	88	52	1,306	1,048	1%
Totals		2,860	916	42,354	81,256	100%

HRA: Human Resources and Administration

RMT: Regional Management Team

*Average Days Out-of-Country=22

6 The needs assessment was conducted in several ways. Individuals were given their job descriptions and asked to respond to their ability to carry out the listed tasks. The responses were collected and summarized so as to identify which skill gaps were required to be addressed by training. There was also an exercise of individual personnel and group interviews to capture any information that was missing from the initial needs assessment. Department heads responded to the identified needs and then included additional staff who they thought would benefit the organization from training. In addition, individual personnel who believed that they had specific needs that could be addressed by special training would submit a request for training to the head of their department. Applications were appraised on the basis of the relevant needs of the department.

Impact of PAWS' KWS Training Programs

7 **Training Centers** - Most of the group training was undertaken by KWS at either KWS' Naivasha Training Institute or the Manyani Field Training School. Both institutions employ qualified full-time trainers and educators. Some individuals took a "training of trainers" course as well so that they could be called upon to assist in training. Consultants were also contracted to train or to assist in training where KWS did not have the expertise

on staff. Staff members involved in marine work had the benefit of being trained within the Coastal Region at the KWS Coastal Resource Training Center at Malindi.

8 Staff Training - Table 8 summarizes the courses, groups, duration and cost of training. Training was continuing during this review, and by mid-July of 1998, some 2860 staff had enrolled in more than 40 different courses and logged more than 42,000 staff training days. More than 50 percent of the PAWS projects investment in training was expended for special training, including 135 staff enrolled in out-of-country postgraduate degree studies, special education or distance learning, plus an additional 125 staff enrolled in special courses within Kenya. (Table 9).

Table 9. Special staff training sponsored by Kenya Wildlife Service and funded by PAWS 1993-1998.

Type of Training	Number of Staff on Paid Educational Leave	Number Returning to KWS	No. Employed as of June 1998	Percent still Employed
O/C Master of Science	18	18	11	61%
O/C Doctorate	1	0	0	0%
O/C special training*	106	106	74	70%
Local Univ. M.Sc.	4	4	3	75%
Distance Learning M.Sc.	6	6	5	83%

O/C: Out of Country

* Non-degree one week to three month short courses

9 The next highest investment in staff training was Regional Management Team (RMT) training, which began in February 1998 and was still ongoing at the time of this review (Table 10).

Table 10. Regional Management Team Skills Development Program: 1998 Training Schedule*

Course	Duration
Orientation to KWS Regional Management	7 Days
Team Building and Communication	
Management/Administration/Personnel	10 Days
Management	
Finance for Non Financial Mangers	5 Days
Procurement	5 days

10 Approximately 100 regional staff from all eight regions enrolled in 27 days of mainly administrative and management training for a total of 27 days each. Approximately 20 percent of the PAWS educational budget was expended in training the RMT.

11 Ranger training, which focused on public relations, occupied the next highest proportion of the training budget, costing approximately ten percent of the amount spent directly on training.

12 Evaluation of Training - No detailed assessment of the results of training has been attempted by KWS, and the results of staff training to date can only be assessed subjectively. Table 9 shows the number of staff enrolled in out-of-country (O/C) secondary, post-secondary and special training, and the number of local postgraduate and distance learning students supported, as well as the number of trained staff returning to KWS and the number employed as of June 1998. From this it can be seen that some 61 percent of the 18 M.Sc. candidates, 70 percent of the 106 O/C special training candidates and 75 and 83 percent respectively of the four local M. Sc. and six distance learning candidates were still employed by KWS at the time of this review (see Annex 2). These numbers represent an overall loss of nearly one-third of PAWS-sponsored staff. However, these numbers should be considered in light of the retrenchment, which has occurred, and the need to move staff from headquarters to regions.

13 In their assessment, Lavieren et. al. (1998) found that the skills-oriented short training courses were very much appreciated by the staff and were credited with increasing their knowledge and skill levels. They noted that this was particularly the case in the Coastal Region for marine resources personnel who had access to the KWS Coastal Resource Training Center at Malindi.

14 As stated previously, SAR (1992) noted a low level of staff awareness of KWS' goals and objectives. If positive benefits of the training program can be measured by increased staff appreciation and understanding of the agency's overall direction and purpose, the findings of the PRT would assign the achievements of the training program a high rating. All staff interviewed, and particularly those involved in the Partnership and Biodiversity programs seemed to be well-grounded in their understanding of the agency's new mandate and their respective roles in carrying it out.

Achievements of KWS' Training Program

15 The specific targets of the PAWS training program and the degree of achievements are summarized in Table 11.

Table 11. Achievement of intervention objectives in the Training Program.

Target	Achievement	Comment
Hire Director of NaTI, KWS Training Coordinator and short term Consultants	High to very high	All positions filled and contracts completed.
Finance and conduct 2000 person-months of training for professional staff.	High to very high	2000 person-months overly ambitious. Completed more than 42 000 person days of training with 2700 person days for Regional Management in 1998.
Conduct a staff training needs assessment	Moderate	Needs assessment conducted for all cadres but apparently not Security and Rangers.
Train the Wildlife Protection Unit at Manyani	Moderate	Some Rangers trained in Public Relations but more Rangers require broader based training.
Increase staff awareness of the goals and objectives of KWS	High	All staff interviewed well versed in the agency's goals and objectives.
Conduct Training Monitoring and Evaluation	Nil to Low	No ongoing or final training evaluation has been conducted.
Determine feasibility of NaTI becoming self-supporting	High to very high	Both feasibility study and business plan developed.

Summary Observations

16 Special out-of-country postgraduate and advanced training was costly and is likely unnecessary given the availability of professional people in the local job market. The agency also has the option of providing special training for staff at education and training institutions within Kenya.

17 Contrary to the earlier agreement, no ongoing or final training evaluation has been conducted. Such an exercise is essential to objectively assess the quality of the training and its effectiveness in helping to build the organizational capacity of KWS. All staff interviewed were aware of KWS' newly expanded mandate and most, with the possible exception of regional and area Tourism officers, understood their individual roles. The reason for the apparent confusion on the part of Tourism staff interviewed appears to stem from a lack of clear direction regarding the formal role of KWS in the commercial aspects of the Nation's nature tourism industry.

18 There appears to be a sound basis for the Naivasha Training Institute to become a self-supporting, independent training institution. The PRT recommends expanding the mission of the institute towards financial and institutional independence.

19 The PRT rates the overall results of the training program as high. While an objective assessment has not yet been conducted to support this assessment, it is based on the level of knowledge exhibited by interviewed staff. Most staff interviewed and particularly the middle and senior managers clearly understood their respective duties and responsibilities, their awareness of the goals and objectives of the organization and the reasons for the goal oriented basis of the recent reorganization and expansion of the KWS mandate.

3.4 Park Infrastructure Development

Background

1 At the onset of the PAWS project, the infrastructure and buildings in all KWS-operated parks and reserves were in great need of repairs. According to SAR, the poor road conditions in the parks and reserves "...had become an impediment to tourism development and posed a serious threat to the environment and natural wildlife habitats. Some paved and graveled primary roads have significantly deteriorated to the extent that rehabilitation/reconstruction is necessary, while others require urgent resurfacing to avoid premature breakdown. Most tourist and administrative roads and tracks built of gravel and local earth materials have become hazardous water channels during rainy seasons with grossly inadequate or non-existent drainage facilities. Office buildings, staff quarters and workshop facilities have also not been maintained. The lack of spare parts and funds has left workshop and road maintenance equipment idle. The latter is rusting in various

locations in the parks and reserves; only cannibalization keeps a few of them functioning intermittently" (SAR, 1992).

2 Similarly, at the onset of PAWS, the ranger corps and field staff were unable to carry out their duties due to lack of equipment, vehicles and operational funds. It was obvious that at this stage massive outside support was required to assist KWS in its efforts to rebuild and reshape the entire system of protected areas.

PAWS' Contribution to KWS' Infrastructure Development

3 The SAR document reads:

" In view of limited resources (organization, manpower and finance), an eight-year Program has been designed covering the priority needs of KWS in infrastructure development. The Program will concentrate on the maintenance, rehabilitation and reconstruction of a limited high-priority network of roads, tracks, office buildings, staff quarters and workshop facilities."

4 At the onset of PAWS, a complete need assessment for road network and infrastructure enhancement had been implemented with financial and technical assistance of Japan, ODA and USAID. The SAR document specifies the proposed support in great detail. Regarding maintenance centers and vehicle purchase alone, SAR estimates capital costs at US \$48 million. In addition, SAR would provide assistance in the form of equipment and vehicles to security forces to efficiently manage and control visitor traffic in parks and reserves.

Assessment of Impacts of the PAWS-Supported Infrastructure Development

5 A detailed assessment of PAWS' impacts in this sector is difficult to accomplish and goes beyond the scope of work of the Project Review Team. Since most of the infrastructure enhancement measures were carried out in the protected areas, it would have been necessary to investigate each measure *ad loco* in order to qualify impacts. This was not feasible due to time constraints. Instead, impacts are globally discussed, based on field visits to selected areas, spot sampling, discussions with field personnel and other persons familiar with the subject matter, and materials provided by KWS field staff and stakeholders. The findings are cross-checked against updated tables of accomplishments provided by the Technical Services Department for (a) the buildings component, (b) telecommunication, (c) roads, bridges and fences, and (d) the mechanical and aviation update until September 1998 (see Annex 3). September 1998 has been set as deadline for the completion of all construction work. According to the Technical Services Department, all works are on time and presumably can be completed on time.

6 In order to facilitate the interpretation of the investments in the sector of infrastructure development and equipment disbursement, investments are presented graphically, separated by region (Annex 3, Figures 1-8). The maps are self-explaining and do not need to be discussed in detail. Under given circumstances, there is no point in trying to rationalize why some regions received more funding than others and why some areas received more funding for staff housing, road construction or vehicles than others. Suffice it to say that most capital expenditure under PAWS was of great benefit to the protected area network, a fact fully recognized and appreciated by KWS field personnel and stakeholders alike.

7 It is interesting to note that most of the buildings for six out of eight regions were financed by KfW, most of the vehicles were supplied by JAICA, the Telecom network was supplied by ODA, and wildlife fences were financed by the EU (Annex 3).

8 With respect to road infrastructure development financed under PAWS, the following comments are offered. Considering that adverse road and access conditions are the most frequent complaint by visitors to Kenya's protected areas (Kaigua, KATO, pers. comm. June 98), funds invested in road construction, rehabilitation, re-surfacing and upgrading have been spent wisely. The response by KWS personnel and tour operators to road projects financed under PAWS in all KWS operated parks and reserves visited was highly positive. The major tourist roads and tracks visited in KWS-managed areas were in decent condition considering the tremendous impacts of the on-going *el nino* rains; This is indicative of the quality of work going into PAWS-financed road construction and enhancement. Road and track quality in County Council-managed areas compare very unfavorably to KWS-operated parks and reserves. Roads in Masai Mara, Samburu and Buffalo Springs are badly in need of major repairs.

9 The development of new staff housing and rehabilitation of outdated and deteriorating facilities has generally been perceived positively by area staff and personnel. However, in some cases a proper feasibility study prior to project implementation would have been helpful. This applies in particular to sites where potable water and power has to be brought in from long distances and where facilities have been developed in the center of protected areas instead of within support zones (KWS' new policy concept, with focus on Partnership and Tourism programs, recommends developments in support zones rather than inside PAs).

10 The enhancement of workshops and related facilities implemented under PAWS is very positive, although operational funds are currently lacking to maintain expected standards of maintenance programs. This applies in particular to road maintenance vehicles and the fleet used by Area personnel. In Tsavo West, 14 of 20 vehicles are operational; in Tsavo East only 13 out of 28. Most vehicles were provided in 1992 under JAICA and should now be replaced. However, no funds are available for replacement, repairs and/or gasoline.

11 The telecommunication system established under PAWS for the KWS-operated PAs is functioning well and is a great asset to law enforcement and day-to-day operations.

Table 12. Achievement of intervention objectives within the program of Infrastructure Development

Target	Achievement	Comment
Road/air strip Rehabilitation		
Rehabilitation of 475 km of primary roads with pavement	Low	This was the responsibility of the Ministry of Public Works under an MOU
Pave and enhance air strips in selected parks	Medium to High	
Routine road maintenance		
Routine maintenance of 4,000 km of tourist and service roads and tracks and 1,000 km of primary roads	Medium to High	A lot of recent damage as caused by <i>el nino</i> rains
Maintenance of existing fences inside PAs	Medium	Current maintenance program seriously hampered by lack of funds
Improvement of maintenance and administrative facilities		
Construction of approximately 50,000 m ² facilities within parks and reserves	Medium to high	Most construction will be completed by September 1998
Rehabilitation of 70,000 m ² of facilities in parks and reserves	Medium to High	To be completed by September
Maintenance of vehicles and equipment	Medium	Funds lacking for parts and supplies
Marine parks		
Purchase of motorboats, radio equipment and vehicles	High	Part of Wetlands Program
Improvement of HQ and staff housing	High	
Elaboration of management plans	Nil to Low	Presumably high-quality Plan for Mount Kenya was done under this program

Finance construction of 92,100 square m of administration facilities with equipment and furniture (i.e. Nairobi Headquarters)	High	
Training of maintenance personnel	Medium to High	Continuing assistance through JAICO
Upgrade entry gates of priority parks and reserves	Medium to High	
Establish Telecommunication System	High	
Efficiently control traffic in protected areas	Low	Lack of operational funds

Summary Observations

12 In essence, this PAWS component has been very successful, although impacts are difficult to quantify and qualify without assessing each measure on its own merits. Undoubtedly, the program enhanced staff morale and efficiency, greatly enhanced anti-poaching efforts, provided high level of tourist security and increased tourist satisfaction (i.e., upgraded road system).

13 It is difficult to imagine what would have happened to KWS-operated areas without PAWS support. There is no doubt that the ecological status of the ecosystems protected in parks and reserves would have continued to decline in absence of proper control and enforcement. Tourist security presumably would have been negatively affected. Road networks and park facilities would have continued to deteriorate hand-in-hand with staff morale and staff performance.

14 This PAWS project component has made a major contribution to the protection of parks and reserves. The continuation of the many initiatives and programs started under this PAWS effort, however, is currently threatened by the lack of operational funds. Several activities have come to a stand-still; others had to be scaled down. At this point, it is uncertain where funding will be coming from.

3.5 National Park and Reserve Planning

Background

1 A Wildlife Planning Unit was first established with Canadian support under a World Bank project in the 1980s to provide management plans for Kenya's parks and reserves. Subsequently, several management plans were produced, but few were ever implemented. Amongst reasons offered by SAR regarding the poor performance in this

sector are the gradual deterioration of the Planning Unit after international financing stopped, the lack of a participatory approach to planning, lack of planning capacity in the Unit, lack of integrity and morale and, most importantly, lack of commitment to the plans by WCMD.

2 In recognition of the shortcomings of the former WCMD Wildlife Planning Unit, and in recognition of the importance of a well-trained and functioning planning group in the newly formed KWS, the PAWS project focused the proposed intervention for this sector in financing the establishment of a revitalized, well-equipped and well-trained planning entity that would develop park plans that would incorporate concerns of communities in wildlife dispersal areas adjacent to parks and reserves.

3 The new Planning and Policy Division, replacing WCMD's Planning Unit, was put in place shortly after the creation of KWS in 1991 as one of four Divisions under the Wildlife Services Department. The Division reported to the Senior Director of Wildlife Services with overall responsibility for KWS planning functions. According to SAR, the Division should have been responsible for the development of planning methodology and the support of field staff in planning exercises. SAR does not specify the type of planning required to be implemented by the Division. SAR suggests that Area Wardens be responsible for their own plans (not specified whether annual workplans and/or management plans). It further suggests in very global terms that in some PAs support zones would be included and stakeholder participation encouraged and that the Planning Division would also be responsible for cooperative planning with the FD.

4 In his elaborate review of the initial phase of PAWS, Bensted-Smith (1993) reports that "the huge planning tasks facing KWS were undertaken by *ad hoc* teams, drawing mainly on newly created headquarters staff, who had more of the skills required than did the wildlife-trained staff of the Wildlife Planning Unit." According to the same author, the Planning Division continued working on park management plans in relative isolation.

5 Only anecdotal information is available on what happened between 1993 and 1996, at which point the Planning Division was finally abandoned. From discussions with KWS key staff, it seems that after the 1993 assessment by Bensted-Smith, the Planning Division deteriorated rapidly in absence of strong leadership and qualified personnel. The confusion over who was responsible for which plans and the general confusion regarding the different types of planning seem to have led to the final decision on abandoning the division altogether. Prior to being dissolved, the PAWS-supported Research and Planning Division (RPD) consisted, according to Butynski et al. (1995), of five units with responsibilities for the elaboration of area specific management plans, environmental impact assessment, surveying and mapping, monitoring and evaluation and physical planning, supported by GIS, cartographic and statistics units. The same source indicates that while PAWS has enabled RPD to make some progress, especially in the areas of research, monitoring and EIA, it remains far from meeting the overall requirements by KWS.

6 After the 1995-96 restructuring of KWS, only one planning section can be located on the 1998 organizational chart of KWS, incorporated as one of four sections reporting to the Biodiversity Department (i.e., 'Biodiversity Planner'). The functions and responsibilities of this section are not very clear, but seem to concentrate on overall research/monitoring planning and policy issues. This unit is not responsible for the elaboration of area-specific management plans. The PRT was unable to find out who will be responsible for physical planning and production of participatory management plans in the future. Corporate Planning does not occur on the 1998 organizational chart as a separate entity. According to the KWS Director, Corporate Planning at present is a one-person operation in the Director's office.

7 There still seems to be confusion in KWS regarding plans and planning. There are four principle categories of long-term plans that still need to be finalized by KWS: (a) national strategic plans that address the wide mandate of KWS, (b) sector specific strategic plans for the national level, (c) corporate plans, and (d) management plans for protected areas. In contrast to the first three categories, management plans require physical planners with special land use and management planning skills. At present, such planners seem not to exist in KWS. The four basic planning categories provide the long-term view and the basis for the elaboration of the annual workplans. The latter have to be elaborated by each department and each region, which currently is done without much guidance from the much-required framework plans to be produced by Headquarters staff.

PAWS Goals and Objectives

8 The PAWS project intended to finance the establishment and operation of a Wildlife Policy and Planning Unit with technical expertise in park management planning and policy development. The SAR specifies that this unit would produce (a) a system-wide plan for all parks and reserves in Kenya, (b) five-year area-specific management plans, and (c) assist in the preparation of annual workplans for each protection unit. SAR requests - apart from elaboration of area specific management plans- the division's involvement and lead role in the development of land use plans, policy studies, and socioeconomic surveys, the preparation of a national wetlands master plan and technical assistance for the improvement of marine parks and reserves.

Impacts of PAWS

9 After the 1995 restructuring of KWS, the former functions of the Research and Planning Division were split up among different departments. Research, Monitoring and EIA remained in the new Department of Biodiversity which replaced the former RPD. What exactly happened to the different planning responsibilities formerly concentrated within the RPD is not quite clear. As pointed out earlier, Corporate Planning and KWS Policy Development seems now to be the responsibility of the Director's Office; annual

workplans are elaborated by the individual departments and area staff respectively; and area-specific management planning has currently ceased to exist.

10 In the assessment of the PAWS project until 1993, Bensted-Smith (1993) comments on the new workplans of KWS Headquarters as being of high quality and of a significant improvement over past plans as a result of the PAWS project. Bensted-Smith rates the overall planning and monitoring capability of KWS at the time as "fair."

11 According to the Project Memorandum for Phase II of the PAWS project, responsibility for the planning of operational activities within each function of the organization is assumed by the corresponding Deputy Director. Two-year and five-year Corporate and Strategic plans have been produced under the Director's office, mostly on request by the donor community, and rather to satisfy donor demands than for practical purposes and in-house use (DFID, 1998).

12 Sector-specific annual workplans in headquarters and for parks and reserves are produced without prior knowledge of budget allocations, which makes planning and prioritization of activities difficult. Workplans and approved budgets fluctuate widely and are not adjusted to real needs.

13 The PAWS project placed major emphasis on the elaboration of management plans for parks and reserves (i.e., US \$3 million). Shortly before the onset of the PAWS project, KWS produced two sample plans for Aberdares and Amboseli. Both plans were submitted to IDA for review and both were accepted by The World Bank. The Project Review Team evaluated the Amboseli Plan as a sample to be compared to the 10 additional plans reviewed for this evaluation. The Aberdares Plan was not available, nor was any other plan except for the 11 listed below

National Parks

- Mount Kenya
- Nairobi
- Hell's Gate/ Mt.Longonot
- Tsavo West
- Amboseli

Game Reserves

- Kirimon
- Tana River Primate Reserve
- Laikipia
- Shimba Hills
- Nasolot
- South Turkana

14 Undated guidelines for the elaboration of management plans for parks and reserves were located at KWS and reviewed for this project. The guidelines were presumably produced in the 1980s under technical assistance from CIDA. The guidelines follow a widely used structural concept for the elaboration of management plans for national parks. Although some components in the guidelines could be streamlined, in principle, the guidelines are acceptable and meet international standards.

15 The analysis of the 11 management plans shows that the plans follow the structure proposed by the WCMD guidelines; in general, the plans provide sufficient biophysical background on which to base management decisions. However, the plans are not very practical. Some programs such as research and monitoring, read like a wishlist, while others, such as environmental education and visitor services, are too weak or not mentioned at all. The only exception is the management plan for Mt. Kenya, as will be discussed later. Some of the generic problems of the reviewed plans may be highlighted as follows:

- The plans do not provide a vision statement with defined long-term goals; the plans are designed for a five-year period without consideration of long-term targets.
- The Management Plans have a distinct 'blue-print' approach, seemingly without much input from the field; the plans read more like a desk study rather than a practical document produced for managers.
- The plans have been elaborated without stakeholder participation; consequently, no 'ownership' could be developed by field personnel and stakeholders.
- Total number of staff proposed in the plans seems generally too high; staff positions are not adjusted to proposed/expected work volume (i.e., Nairobi National Park: 109 personnel requested for only 11,700 hectares).
- Research and monitoring programs are much too ambitious and unrealistic. Proposed research, such as 'biodiversity inventory' and identification of 'carrying capacity,' which occur in every plan, is much too global and not feasible; several plans ask for the establishment of a museum, laboratory facilities and research equipment, seemingly without justification.
- Proposed infrastructure development frequently resembles a wishlist instead of a well-founded, justified and practical development over time that is adjusted to real needs.
- Some plans request construction of visitor centers and elaborate infrastructure for areas with very low visitor numbers.
- Most plans request substantial investments in vehicles and maintenance equipment (this should be handled on a regional level).
- With respect to training requirements, some plans ask for post-graduate training of staff (i.e., not acceptable), while others do not address this important issue at all. Very little thought is given to ranger training related to the visitor program, environmental education and support zone development.
- The management plans do not provide a realistic breakdown between investment capital and operational costs as related to infrastructure development. None of the

plans provides a long-term forecast of operational costs, nor is the sustainability of proposed development and capital expenditure addressed.

- None of the plans addresses the need for and role of local technical committees to be composed of local stakeholders with required management input.
- The management plans are very repetitive with respect to policies, procedures, rules and regulations, which unnecessarily clutter up the plans. It would be more sensible for KWS to produce a manual for parks and reserves that covers generic procedures, rules and regulations.

16 Ten of Kenya's 27 national parks, 11 of the 29 game reserves and one of six sanctuaries have management plans (see Table 13). This does not match the statistics provided by Butynski et al. (1995) for the MTR (i.e. Butynski figures are too low). The PRT concurs with some of the recommendations of the MTR Team, including the need for long term goals and objectives. Other suggestions by the MTR team lack convincing justification (i.e., area-specific needs for research plans, published journal articles, etc., which are not principle functions of management personnel). The MTR Team used the number of management plans as a performance indicator for the Planning Section without providing a quality assessment of the plans. This may leave the reader with a false impression. If all plans are of the same quality as those evaluated by the PRT, an overall quality assessment would result in a relatively low rating assuming that the plans not reviewed by the PRT have the same shortcomings as the analysed plans.

Table 13. Management plans and staff of protected areas.

Protected Area	Category	Year of Gazettement	Size (km ²)	Number of staff	Management Plan		Period covered	Author
					Yes	No		
Aberdares	National Park	1950	7655.7	99	X		1991-1996	KWS planning unit
Meru	National Park	1950	870			X		
Bisanadi	Game reserve	1979	606		X		1981-1986	WCMD planning unit
Amboseli	National Park	1974	392	73	X		1980-1985	WMCD planning unit
Central island	National Park	1983	5			X		
South island	National Park	1983	39		X		1991-1996	KWS planning unit
Chyulu	National Park	1983	736	183		X		
Tsavo west	National Park	1948	9065			X		
Hells gate	National Park	1984	68	48	X		1985-1990	KWS planning unit
Longonot	National Park	1983	52		X		1995-2000	KWS planning unit
Ruma	National Park	1983	120	83		X		
Ndere island	National Park	1986	42			X		
Kisite Marine	National Park	1978	28	103		X		
Mpunguti Marine	Game reserve	1978	11			X		
Shimba hills	Game reserve	1968	192		X		1983-1997	WCMD planning unit
Kisumu impala	National Park	1992	0.34			X		
Kora	National Park	1989	1787	46		X		
Mwingi	Game reserve	1979	194	66		X		
Lake Nakuru	National Park	1961	188	160	X		1995-2000	KWS planning unit
Malindi marine	National Park	1968	6	111		X		

Protected Area	Category	Year of Gazettement	Size (km2)	Number of staff	Management Plan			Author
					Yes	No	Period covered	
Watamu marine	National Park	1968	10					
Mombasa marine	National Park	1986	10		X		1989-1994	KWS planning unit
Arabuko sokoke	Game reserve	1990	6			X		
Malindi marine	Game reserve	1968	213		X		1982-1987	WCMD planning unit
Watamu marine	Game reserve	1968	5		X			
Malakamari	National Park	1989	876	19		X		
Marsabit	National Park	1967	1564	71		X		
Mt.Elgon	National Park	1968	169	80		X		
Saiwa swamp	National Park	1974	2			X		
Mt.Kenya	National Park	19??	715	46	X		1993-1998	"P.Clarke,KWS planning unit"
Nairobi	National Park	1946	117	136	X			
Ol Donyo Sabuk	National Park	1967	18	34		X		
Sibiloi	National Park	1973	1570	31		X		
Tsavo east	National Park	1948	11859	204	X		1991-1996	KWS planning unit
Arawale	Game reserve	1976	533			X		
Boni	Game reserve	1976	1339	78		X		
Buffalo springs	Game reserve	1985	131		X		1985-1990	WMCD planning unit
Dodori	Game reserve	1978	877			X		
Kakamega	Game reserve	1985	44.7	33	X		1993-1997	KWS planning unit
Kamnarok	Game reserve	1983	87.7		X		1985-1990	WCMD planning unit
Kerio valley	Game reserve	1983	66			X		

Kiunga marine	Game reserve	1979	250			X		
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Protected Area	Category	Year of Gazettement	Size (km2)	Number of staff	Management Plan		Period covered	Author
					Yes	No		
Laikipia	Game reserve	1991	165	37		X		
Lake Bagoria	Game reserve	1974	107			X		
Losai	Game reserve	1976	1806			X		
Masai Mara	Game reserve	1974	1510	104	X		1982-1987	WCMD planning unit
Mombasa marine	Game reserve	1988	200			X		
Mwea	Game reserve	1976	68	36		X		
Nasolot	Game reserve	1979	194	66		X		
Ngai Ndeithia	Game reserve	1976	212			X		
Rahole	Game reserve	1976	1270			X		
South Turkana	Game reserve	1979	1019		X		1992-1997	KWS planning unit
Samburu	Game reserve	1985	165	66	X		1995-2000	KWS planning unit
Shaba	Game reserve	1974	239			X		
South Kitui	Game reserve	1979	1133			X		
Tana river prmate	Game reserve	1976	169	116	X		1993-1997	"S.Taiti, KWS planning unit"
Maralal	Sanctuaries	1988	5			X		
Lewa	Sanctuaries							
Kongoni	Sanctuaries							
Kimana	Sanctuaries							
Sweet waters	Sanctuaries							
Soysambu	Sanctuaries							

17 The lack of ownership in the existing management plans by field personnel became quite apparent during the field visits of the PRT. Except for Amboseli and Nasolot National Parks, most Area Wardens and their staff did not even know about the existence of a management plan for their area, let alone use them for their annual workplans (i.e., applies to 2 out of 16 areas visited). In the absence of management plans with well-structured and designed management programs to be elaborated in a participatory fashion by field personnel and local stakeholders under guidance of a professional physical planner, management personnel of parks and reserves will continue to drown in day-to-day activities.

18 All existing 22 management plans were produced by either the former WCMD Planning Unit or the KWS Planning Unit between 1982 and 1995 (Table 13). Only six plans were produced under the PAWS project after 1992. Judging by the plans reviewed, major input is needed to bring the existing plans up to standard. This can only be achieved with the assistance of an experienced park planner such as the one used for the Mt. Kenya management plan (1993-1998). This plan was prepared with active participation of park personnel and local stakeholders. It provides a clear vision statement and long-term goals, excellent biophysical and socio-cultural/economic background on the area, practical management programs and activity/infrastructure development, and schedules based on a sound needs assessment. PAWS' achievements are summarized in Table 14.

Table 14. Achievement of intervention objectives within Planning Section

Target	Achievement	Comment
Finance Planning Unit:		
Establish six-person Planning and Policy Division	Low	Due to lack of directives and leadership
Produce system-wide plan	Medium	Production of the MVCA
Produce five-year management plans	Nil to Low	Few plans produced under PAWS are practical
Produce annual work plans based on management plans	Low	Definitely not based on management plans and disparities between activities produced and budgets awarded
Purchase of data processing equipment	Unknown	
Purchase vehicles	Unknown	
Finance technical training for planning	Nil to low	There is no trained park planner in KWS
Provide specialized training	Unknown	Not very likely

Pay salary for assistant director for Planning Unit	Unknown	
Build capacity for wetlands management:		
Establish a four-person wetlands section within the Planning Unit	High	Dutch-sponsored Wetlands Project (DSWP)
Develop a wetlands masterplan	Medium to High	DSWP
Provide a marine and coastal advisor	High	DSWP
Post a wetlands specialist at Naivasha Training Institute	High	DSWP
Provide wetlands management training at Naivasha	High	DSWP
Establish information base for wetlands	Medium to High	DSWP
Provide technical assistance to wetlands section	High	DSWP
Train wetlands management personnel	High	DSWP
Produce national wetlands policy	High	DSWP
Produce site-specific management plans for priority wetlands	Medium	DSWP
Conduct inventory of Kenya's Wetlands	Medium	DSWP
Establish educational and outreach wetlands programs	Medium	DSWP

Summary Observations

19 The overall achievements for the Planning and Research Division under the PAWS project are difficult to assess because of the re-distribution of functions after the re-structuring and abandonment of the former Research and Planning Division in 1995-96. In principle, the splitting of planning responsibilities and placing them into the sectors where they belong, was the logical thing to do. However, the physical planning section with responsibilities for the elaboration of management plans has not been re-instated after restructuring; the PRT was unable to determine KWS' intentions in this respect. Existing management plans have to be updated and new ones produced; nobody is currently filling the void and no provisions have been made by KWS to close this gap.

20 Some of the components of the former Research and Planning Division have been highly successful after the re-grouping. The new Sections for wetlands, environmental impact assessments and biodiversity policy planning are very active; they have produced strategic plans, policy papers, MOUs, EIAs and practical workplans.

21 Sector-specific planning with long-term views and clearly defined goals is better in some than in other Departments, mostly depending on leadership quality. The Partnership, Tourism and Biodiversity Departments have produced quality strategic plans with long-term vision and priority schedules but lack the connection to field personnel. At the field level, guidance and directives are very much needed. The current arrangements for Corporate Planning and Corporate policy development under the Director's office seems a sensible solution, as long as sufficient manpower is provided by KWS to implement the on-going task.

3.6 Veterinary Services Unit

Background

1 The Veterinary Services Unit was established as part of the original Wildlife Services Department and was provided \$1.8 million in PAWS funds. The funds were to assist KWS in developing a small, highly mobile veterinary unit with the skills and ecological perspective needed to address the complex threats to the health and diversity of free-ranging wildlife populations throughout Kenya. Project financing was to support formal training for KWS veterinary section staff at world-renowned institutions and to establish a diagnostic laboratory within the headquarters complex.

Assessment of accomplishments

2 The Veterinary Practices Unit appears to have met the major goals of the PAWS program as outlined in SAR. In 1996, the program was fully staffed with seven veterinarians, one laboratory technologist, one animal health technician, and support staff. The staff covered the three program areas of field services, orphanage, and research. The staff were well trained and have been providing essential services to other KWS units, particularly the research and management staff of the Biodiversity Department.

3 The Veterinary Services Unit moved into the Veterinary Center in the Headquarters complex in 1996. The unit was nearly fully equipped in 1997, and includes five offices for veterinary officers, a conference center, a library, a theater, and x-ray room, post-mortem rooms, an operation theater, two veterinary stores, a capture unit workshop, holding and quarantine pens, a wet laboratory, two cold rooms, and other features. In addition, a complete capture/trapping unit has been formed and equipped as part of the central laboratory facility. Two field vehicles were also purchased, along with field capture equipment, camping equipment, and field diagnostic equipment.

4 The Veterinary Unit has had a highly active training program. Under PAWS, three staff members received MSc degrees; one individual was sent to the USA to get a MSc degree. Staff members have also attended short courses and other training sessions out-of-country. The program has provided substantial training to the KWS research staff, and other groups, and continues to provide formal and informal veterinary and animal handling training to groups from other countries in the region.

5 The program has had good linkages with NGOs and other research groups in Kenya and the greater African region.

6 Examples of projects completed by the Veterinary Services Unit are:

- mass capture and translocation of hirola to a sanctuary in Tsavo East NP
- translocation of elephants and rhinos
- capture of a stock-raiding lion that was released for rehabilitation and monitoring
- translocation of stock-raiding wild dogs
- immobilization of elephants and other animals for radio collaring
- verification of rinderpest in eland
- monitoring of distemper in lion, hyena and jackal in the Maasai Mara
- screening for rabies

7 Current problems include lack of operational funding for the staff to undertake field work (e.g., no gas and parts for vehicles), low salaries as compared to neighboring countries, and deteriorating equipment with no funds available for repairs or replacements.

Evaluation of PAWS' Impact

8 The Veterinary Services Unit has made excellent progress with PAWS funding. It is the opinion of senior staff members in the unit and the current program review that such progress would not have been possible without PAWS funding. The program appears to have met all of the Key Performance Indicators as listed in Annex 7 of the SAR document, based on information provided in the MTR and the current review (see Table 15).

Table 15. Summary of performance of the Veterinary Services program of KWS, based on the major items in Annex 7 of the SAR document.

Targets	Achievement	Comments
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Targets	Achievement	Comments
Year 1		
Recruit Chief Veterinarian	High	See MTR
Review staff in respect to program needs	High	See MTR
Review Orphanage management strategy	Unknown	We assume that the target has been met based on MTR
Sponsor graduate veterinary programs	High	See MTR
Draft KWS policies	Unknown	We assume that the target has been met based on MTR
Year 2		
Establish three divisions	High	See MTR
Sponsor 2 graduate veterinary programs	High	See MTR
Finalize wildlife policy protocols	Unknown	We assume that the target has been met based on MTR
Participate in KWS research projects	High	Various projects undertaken and field assistance given
Year 3		
Formalize postgraduate training program	Low	No plans provided for review
Prepare plans for project years 4-8	High	We assume that the target has been met based on MTR
Sponsor veterinary graduate for advanced training	High	
Year 4		
Complete animal orphanage renovation into education facility	Unknown	
Complete overseas veterinary training	High	
Year 5		
Complete assignment of senior veterinarians to 3 divisions	High	

9 Job security was an attraction for staff in the past. Now, institutional instability and administrative policy changes are causing staff to look for, and accept, better offers elsewhere in Kenya or the greater African region. One of the post-graduate students has left KWS after receiving advanced training funded by PAWS. The effective Veterinary Unit may disintegrate unless effective funding and institutional stability is restored.

3.7 Environmental Impact Assessment (EIA) Program

Background

1 The KWS Environmental Impact Assessment Unit was established as an *ad hoc* intra-departmental group in 1993 to help ensure that development options being considered by KWS were environmentally sound and sustainable. Specific duties as defined in the SAR included the assessment of impact of PAWS-funded facilities designed to reduce wildlife damage outside of PAs (e.g., fences and other structures). This mandate was later expanded to cover any PAWS-funded management action (e.g., park infrastructure, roads, etc.), and similar actions by KWS.

2 The MTR noted that the EIA Unit had not produced any EIAs until 1995 because two of the staff had not completed training until 1994. Consultants produced one EIA for KWS in 1993, and one in 1994. In 1993-94, several environmental reconnaissance surveys (ERS) were written by members of the planning staff who were handling EIAs at the time. The MTR also noted that the EIS Unit had not developed the EIA guidelines and procedures manuals that were required to prepare adequate EIA documents.

Assessment of Accomplishments of the EIA Unit

3 The original staff of the EIA Unit consisted of a coordinator, one person in Community Wildlife working on EIAs, and three people in RPD who could be called upon to work on EIAs. In 1997, a formal EIA Unit was created in the Biodiversity Planning Unit as part of the restructured Biodiversity Department. The headquarters unit is now fully staffed and consists of an EIA Coordinator and an EIA Officer.

4 The development of EIA procedures and guidelines was initiated in 1993. A draft set of EIA guidelines and procedures was produced in 1995. In 1996, the *Strategy for Conduct and Use of Environmental Impact Assessment (EIA) in KWS Development Projects* was finalized. The EIA guidelines and procedures manual was finalized in June 1998 and submitted to the KWS director for adoption. The guidelines are to be consistent with the National Environment Action Plan (NEAP) adopted in 1994 and the proposed Environmental Management and Coordination Bill (GOK, 1997).

5 The guidelines explain the steps to be followed in the review and approval of KWS project proposals for development both within and outside of protected areas. The EIA

process outlined in the guidelines includes screening, scoping, baseline studies, impact identification, prediction and assessment, mitigation, monitoring, and environmental auditing. To ensure objectivity, the EIAs for major KWS projects are to be prepared by outside consultants to avoid conflict of interest.

6 Training sessions for KWS staff for implementation of the new EIA procedures and guidelines have been held in November 1997 and June 1998, and annual training sessions are planned.

7 As noted above, the production of EIAs was not initiated until 1995. Since the MTR, KWS staff have prepared 23 EIAs and ERSs, reviewed four external EIAs, and participated in the preparation of four additional EIAs. There are also three EIAs ongoing at this time.

8 The KWS project EIAs are now being submitted for review to project “partners” and donors. The KWS' EIA Unit is also reviewing EIA documents submitted by other government agencies and private developers.

9 At this time, project impacts identified in the EIAs are being monitored by the Biodiversity Department staff (e.g., impacts of fences in Shimba Hills National Reserve). However, EIA impact monitoring is just one of the many work tasks of the ABOs, and project funds are not allocated for these project costs. Hence, there is no assurance that all monitoring that has been specified in the EIAs is being effectively conducted by these staff members who have a wide range of assigned work tasks.

Evaluation of the EIA Unit

10 The MTR noted that the EIA Unit was slow in getting organized and had very low productivity due to poor staffing and training problems. As a result, there was a substantial delay in preparing the necessary EIA guidelines and procedures manuals, and some initial EIAs that were prepared were rejected by donor agencies, and needed to be rewritten. The MTR also noted that several PAWS-funded construction projects that should have been subjected to an EIA process were completed without the benefit of an EIA, or, EIAs were produced in an untimely manner (too early or too late).

11 Since the MTR, the EIA Unit has made substantial progress, and appears to be fully functional and able to meet the expectations articulated in the SAR and the expectations of project donors. However, with regionalization, the headquarters EIA Unit will only supervise and assist the regions in conducting EIAs. It is not clear at this time that the regions have the resources to fully implement the EIA process.

12 In 1995, the consultant that assisted in the preparation of the EIA guidelines and procedures manual noted four major limiting factors that needed to be addressed before KWS could develop an effective EIA capacity:

- the lack of a consistent framework within KWS for project identification and management;
- the lack of a single line of command, authorization and reporting structure for staff involved in EIAs in KWS;
- the lack of accessibility to the appropriate level of information to make EIAs a useful and valid exercise within KWS; and
- the lack of a formal (active) committee to review and approve EIAs within KWS.

13 It is not clear whether these concerns have been resolved to date. The new EIA guidelines and procedures manual addresses all these concerns to some degree; however, sufficient time has not elapsed to see if the appropriate administrative actions will be taken to fully implement the guidelines. An executive directive is needed to direct KWS staff to fully implement the guidelines and fully meet the objectives of the EIA process. The directive that EIAs will be prepared by the regional staff will complicate some of the the issues.

14 A major limitation of the EIA process is that the EIA is an information document rather than a requirement for project approval. That is, the mitigation items identified in an EIA are recommended only, and there is no mechanism to require mitigation of predicted impacts. A mechanism to link project approval and implementation with adequate monitoring of the impacts and implementation of mitigation is apparently still lacking. Monitoring and environmental audits are still a recommended action. Strong executive support will be required to make the EIA process function both as an information process and as a mechanism of ensuring that project impacts are acceptable, minimized, and mitigated to the greatest extent possible.

15 Also, monitoring actual project impacts and mitigation (if implemented) is not included as a project capital cost, and funding is not provided for monitoring activities. Instead, EIA monitoring is delegated to the ABOs as part of their normal work. This diverts staff time for other program tasks.

16 Additional staff training will be required to make project proponents and project implementors aware of the consequences of lack of adequate compliance with environmental assessments. Staff members also need to understand the amount of time and effort that will be required to adequately complete an EIA (e.g., project proponents have requested that EIAs be prepared in less than one week's time). Staff members also need to understand that the EIA process is not intended as a hindrance (a common misperception by project proponents), but rather a means to ensure that the projects proposed and undertaken by KWS are environmentally sound.

3.8 KWS Research and Monitoring Programs

Background

1 Until the late 1970s, Kenya was a leader in terrestrial ecology in Africa, in part because of the excellent research program of the former Kenya National Parks, a smaller program under the Game Department, and other external universities, institutions, and conservation NGOs. Under the WCMD, however, research activities deteriorated, and they had become moribund by the time KWS was established. The research station in Masai Mara National Reserve had been largely abandoned, and the station in Tsavo East National Park was used only by external and NGO-funded researchers. The central research facilities in Nairobi were not used or maintained. The majority of research staff were inactive and demoralized, and scientific information had little influence on the actual management of wildlife, parks, and reserves (SAR, 1992).

2 In the original KWS structure at the start of the PAWS project, the research and monitoring programs were part of the Research and Planning Department (RDP). The RDP was responsible for directing, coordinating and implementing effective wildlife research, ecological surveys and monitoring, environmental impact assessments (EIAs), and veterinary services and research. The RPD was also responsible for using the information it obtained to formulate strategic policies and plans to help ensure the survival of wildlife in Kenya's national parks and national reserves.

3 With the restructuring completed in 1997, the veterinary functions were moved to the Wildlife Services Department, and the RDP was reorganized into the present Biodiversity Department consisting of the Species Conservation Program, Ecosystems Conservation Program, Biodiversity Planning Unit, and the Biodiversity Information Services Unit.

4 The SAR (Annex 3) provided a *KWS Research Priorities and Project Listing* for implementation under PAWS. As noted in the MTR review, many of the projects listed in Annex 3 are very extensive in scope and open-ended, and contrary to the title, there is no prioritization of research efforts. The MTR went on to note that “the research program proposed under PAWS is not focused, nor is it designed to provide comprehensive, clear answers to KWS' most immediate and important biodiversity conservation management questions” (Butynski et al. 1995, page 26).

5 Upon further review, the PRT concluded that the PAWS Annex 3 research project listing was unrealistic in terms of number of projects to be conducted, scope of projects, research funds and facilities available, time available, and desired research capabilities of the organization. Many of the research projects listed would fall into the “pure research” category, which should be beyond the scope of a conservation based research program for a conservation organization such as KWS.

6 It should also be noted that there is a mixture of “research” and “monitoring” in the listing in Annex 3. In addition, the PAWS program mandates monitoring of the success of the program in a systematic way (e.g., status of the biodiversity in Kenya and ecological health of the PAS). For purposes of this review, the research and monitoring

program were then divided into the categories of research, including applied research (monitoring of project impacts), and monitoring of the results of PAWS implementation.

7 With restructuring, the Biodiversity program appropriately changed the focus of the research program. In the *Corporate Plan* (KWS 1997, page 10), it is stated that “pure research will be left to academic institutions and private researchers. KWS will only facilitate the implementation of these research programs and projects, particularly those undertaken in protected areas.” The KWS research focus was changed to applied research, management-related problem-solving, and ecological monitoring. The 1996 Aide Memoire endorsed this change in focus, and requested that KWS produce a draft *Applied Research and Studies Strategy Paper*, which identifies (a) key areas for future applied studies and research, (b) key partners for future research programs, (c) a manpower plan for the next 24 months, (d) strategies for use of research results in management; and (e) identification of areas where pure research would be of interest to KWS but which would be undertaken by national or international scientists.

PAWS Goals and Objectives

8 One of the main objectives of the PAWS project was to assist KWS in rebuilding its research capabilities to a high level and to establish a comprehensive research strategy focused on priority management problems. The SAR directed KWS to build its research capabilities to a high level of competence and to develop a comprehensive wildlife research strategy focused on management problems.

9 PAWS allocated US \$7.9 million for equipping and operating the research program, for rehabilitation of the major research stations at Tsavo East NP and Masai Mara NR, for construction of five new field stations and a new Ololua Wildlife Laboratory, for vehicles and their operating costs, for technical assistance including the salary of the deputy director, and for training Kenyan students abroad and in Kenyan universities.

Biodiversity Research Program Achievements Under PAWS

10 Under PAWS, KWS has succeeded in establishing a core of competent research and management biologists, ecologists, and other trained technicians. The research and monitoring staff have made substantial contributions to the protected areas management programs of KWS.

11 Staffing - The SAR document anticipated a RPD staff at headquarters consisting of a deputy director, and a small headquarters staff of five senior scientists, the Veterinary Services Unit, and two to four special projects scientists working on rhinoceros and elephant conservation. Most research scientists and monitoring staff would be posted at parks, reserves and other field stations. This field staff would consist of 18 research

scientists, 15 technicians, and 6 veterinarians with a support staff consisting of aerial and ground monitoring teams, a marine unit, a wildlife capture unit, and undefined support staff. The veterinarian staff is now part of the Wildlife Services unit, and not the Biodiversity Department (see Section this report on 'Veterinarian Services').

12 Current staffing levels are well below the anticipated levels, partly as a result of restructuring (e.g., move of Veterinary Services to another department) and retrenchment. There are currently 17 positions filled in Headquarters, and 20 in the regions consisting of Regional Biodiversity Coordinators in all eight regions, 5 Area Biodiversity Officers (for 27 areas), and 7 technicians. An additional 10 area Biodiversity Officer positions have been approved, but have not been filled.

13 The BD has not had a full-time director since the restructuring in 1997, and the current director is in an acting capacity. Prior to restructuring, the position was filled on either a very short-term basis or was filled by existing personnel in an acting status.

14 Staff of the Biodiversity Department have been posted to the different regions and areas to work closely with the Regional and Area Managers and other stakeholders as part of the KWS regionalization program. All biodiversity research and planning programs are now to be formulated, implemented, and monitored at the regional and/or area level and are to be integrated with other regional conservation and management programs (KWS 1997).

15 Research Project Status - The biodiversity staff has initiated studies on a wide range of topics throughout Kenya.

- The meta-population rhinoceros research and management program is well received by the international conservation communities, and is providing substantial research and management information useful for this and other species of threatened large mammals.
- With poaching largely under control, the elephant program has concentrated on resolving human-elephant conflicts. The program has addressed a wide range of issues including fencing, contraception, translocation, culling, aversive conditioning, habitat issues, and community programs.
- The research projects have collected substantial information on the distribution, movement patterns, and habitat needs of a variety of species with special conservation concerns.
- The wetlands research program has initiated a wide range of research and monitoring studies focused on the coastal, river and lake systems in Kenya, with substantial collaboration with universities and other institutions. The Wetlands Program also undertook a comprehensive inventory of the country's wetlands. (see Lavieren 1998 for a separate review of this program).

- The department has played an active role in the management of critically endangered species through identification of secure suitable habitat and translocation of animals to provide a secure breeding population (e.g., hirola to Tsavo East National Park).
- The department has initiated monitoring studies to determine the impacts of PAWS-funded activities and management interventions (e.g., fences to reduce elephant damage).
- The department has developed cooperative relationships with other Kenyan institutions, foreign institutions and NGOs, especially regarding work on elephants, rhinos, and other endangered large mammals. Cooperation with NGOs has increased in the last years of PAWS under new leadership.

16 External Research - Over the years, researchers from foreign institutions and NGOs have conducted extensive high-quality research in Kenya, funded by non-Kenyan sources, and have made their findings available to Kenya through a variety of sources, including scientific journals, widely read magazines (e.g., National Geographic), and documentary films. In the MTR, Butynski et al. (1995) noted that in recent years a number of foreign research scientists have taken their research, research funds, research students, training opportunities, and other kinds of support to other African countries, as they have found Kenya a difficult country in which to work.

17 KWS has recognized that one difficulty for a foreign researcher is getting required research approval from the Office of the President, and KWS has proposed that this responsibility be transferred to KWS. However, this has not yet been approved. The KWS has also established an *Elephant Research Trust Fund* and has proposed the formation of a *Biodiversity Conservation Trust Fund* with the specific objective of funding non-KWS researchers to promote research in Kenya. A call for research proposals for the elephant trust fund was issued in spring 1998, with proposals to be funded starting in June 1998.

18 Based on data provided by KWS (see Table 16), the number of external research projects in Kenya has increased in the years since the MTR. From 1991 to 1995 an average of 3.6 research permits were issued per year to foreign researchers. In 1998, KWS reports that 10 permits have been issued so far. KWS has also actively encouraged Kenyan research organizations to take a greater role in conducting research on conservation-related issues.

Table 16. Summary of activities of the KWS Research and Planning (Biodiversity) Department and indicators of its effectiveness (1989-1998). Data provided by KWS (June 1998).

Category	1989	1990	1991	1992	1993	1994	1995	1998
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Staff with Bsc as highest degree	-	-	18	35	35	35	40	8
Staff with Msc as highest degree	2	2	4	5	8	12	17	18
Staff with Phd as highest degree	0	0	1	2	2	2	1	5
Staff receiving certificates/diplomas	3	0	2	0	2	2	0	1
Staff receiving Msc degree	0	0	3	1	7	8	0	5
Staff receiving Phd degree								2
Received Msc under PAWS but left KWS	0	0	1	1	0	2	0	4
Foreign scientists receiving permission to study in KWS areas	-	-	2	6	5	2	3	10
Park and reserve management plans	-	-	2	4	3	2	2	3
Referred journal articles published	?	?	?	?	?	?	?	10

19 Research Stations - The PAWS program identified a number of research stations that were to be rehabilitated and new stations that were to be constructed (see Annex 7 of the SAR document). At some early stage of implementation of PAWS, a research station needs analysis was conducted, and priorities for investment in these stations was revised. A decision was made to reduce the investments in field stations. However, there is no documentation available that describes the results of this review process.

20 The research stations proposed for Aberdares, Lake Nakuru, and one of the marine parks reportedly have been constructed and equipped to varying degrees, while the proposed stations at Amboseli, Shimba Hills, Kora and one marine park have not been constructed (Dr. Waithaka, pers. comm. June 1998).

21 The Tsavo East and Masai Mara Research Stations have not been rehabilitated as proposed. The Tsavo East NP station is still functional and is being used by both KWS regional Biodiversity staff and conservation NGOs for on-going research and monitoring efforts. Researchers working at the station noted a deficiency in climatological monitoring equipment, herbarium cabinets, and specimen storage facilities. The library, which contains a substantial number of valuable research documents and data, was in need of improvements to prevent loss of valuable reference materials to rodents and insects.

22 Butynski et al. (1995) reported that the rehabilitation of the Masai Mara research station was completed. However, during the PRT's visit to the station, the PAWS-funded infrastructure at Masai Mara NR was noted to consist entirely of staff housing for the park rangers, security personnel and one ABO, and one guest house. The actual research station in Masai Mara has been effectively abandoned as a research facility. Part of the station is occupied by security and ranger staff, and one office is occupied by the ABO. The former research labs and other research facilities are largely abandoned and/or empty of any furniture or equipment. The structure is in need of maintenance and repair.

Ecological Monitoring Programs

23 An objective of PAWS was to implement management plans for all parks and reserves, supported by an effective ecological monitoring system. The management plans and associated monitoring was to address both protected areas and dispersal areas, migration corridors and other critical areas outside of the KWS-managed protected areas. An effective ecological monitoring program was considered necessary to evaluate the impacts of KWS activities and the success or failure of KWS programs funded by PAWS.

24 Initial steps to develop an ecological monitoring program were taken in 1992 when the ecological monitoring needs of KWS were discussed during an interagency workshop held at Lake Nakuru NP. The first workshop was followed by an intensive hands-on training program on field sampling techniques. A second workshop was held at KWS Headquarters in 1993 to design a national protected area monitoring program.

25 A report was prepared by consultants (Western and Gichohi, 1993) that summarized the results of the two workshops and included a training manual. The report provided details of the rationale, aims and methods of ecological monitoring, limitation and design criteria, and included a manual of selected field methods. The report also documented on the agreed approach to a national ecological monitoring program, including priority monitoring areas and types of threats to protected areas, institutional capacity for monitoring, and monitoring needs.

26 It is not clear that this monitoring strategy was ever fully implemented. At the time of the mid-term review only 35 percent of the protected areas had ecological monitoring programs. In response to the MTR, KWS agreed to finalize monitoring and evaluation indicators, guidelines and strategy for ecological monitoring by June 30, 1996 (1996 Aide Memoire), and launch systematic ecological monitoring activities in a few high-priority areas by July 1997 (1997 Aide Memoire).

27 An *Ecological Monitoring Programme: Implementation Strategy* (Draft dated Feb. 1998) has been developed by the Biodiversity staff in headquarters to address the agreements in the Aide Memoires. The document deals entirely with implementation of the strategy, and identifies priority areas (e.g., Amboseli, Lake Nakuru, Nairobi, Abodares, Tsavo East and Tsavo West areas), general data needs for animal populations, animal distributions, and vegetation structure and composition. Implementation is to be the responsibility of the Regional Biodiversity Coordinators (RBC). The RBCs are to develop work plan proposals for review and approval by the head of the Ecosystems Program of the Biodiversity Department. The PAWS program is to provide funding where no other funds are available. Proposals were to be submitted by March 15, 1998, and project completed and reports submitted by June 30, 1998. At the time of the ICR, five proposals had been submitted to the Head of Ecosystems Program, but none have been approved or implemented, due in part to lack of funding.

28 There are, however, many on-going activities being conducted by the regional RBCs and ABOs that would qualify as ecological monitoring. For example, in the Tsavo Region, the *1997-1998 Annual Work Plan* includes the following monitoring tasks:

- Establishing population status of Tsavo West elephants
- Climatological data collection
- Biodiversity resources inventories
- Monitoring habitat changes around waterholes
- Establishing population status of hirola

29 The most comprehensive animal population monitoring data have been collected by the DRSRS in their annual aerial surveys of the rangelands throughout Kenya since 1977. Their survey coverage includes many of the national parks and reserves administered by KWS, and provides data on 28 species of wildlife (Said et al., 1997). Additional special surveys for limited areas or particular wildlife populations have been commissioned by KWS and undertaken by DRSRS staff.

30 A field trial of the UNEP Natural Capital Index monitoring system was attempted in six of KWS regions to test this method for ecological monitoring. However, the results were considered to be of little practical application to conservation needs in Kenya and no further monitoring with this method is anticipated (Dr. E. Mwangi, pers. comm., June 1998).

Evaluation of PAWS' Impact on Research and Monitoring Programs

31 At the start of PAWS, the research and monitoring capabilities of KWS were virtually non-existent. The PAWS program has substantially increased these capabilities. A competent, well-trained technical staff is now in place and capable of conducting the type of research and monitoring required by KWS in its conservation management mandate. The research and monitoring efforts of the KWS staff have undoubtedly contributed to the KWS successes in management of its large mammal fauna and management of parks and reserves.

32 As noted above, and in the MTR, the expectations of the PAWS program as outlined in the SAR document were unrealistically high given the small size, training needs, and level of expertise of the staff in the RPD and the subsequent BP. Also, the time-frame allowed for staff development and program initiation was much too short. Training staff in post-graduate degree programs and initiation of an extensive research program simultaneously are inconsistent with each other.

33 The PAWS-directed research program was not clearly linked with conservation management needs. With regionalization, restructuring, and retrenchment, the BP appropriately refocused the research and monitoring program to applied research directly

linked to conservation and management issues. However, a clear research plan has not yet been produced by KWS.

34 Programmatic Planning - The Biodiversity Department has yet to develop a comprehensive strategic framework document for both research and monitoring as requested in the original SAR document, the MTR, and agreed to by KWS in the subsequent Aide Memoires. The existing monitoring and research plans reviewed are still draft, and are vague, lack any defined priorities, and are unrealistic with regards to scope, resources and personnel. The *Corporate Plan* (KWS 1997, Figure 2) and the recent paper on the *Biodiversity Conservation Programmes* (Waithaka, 1998) list development of ecological monitoring system as a priority activity.

35 In the agreements in response to the MTR, KWS was to prepare an *Applied Research and Studies Strategy Paper* (in consultation with partners through a Research Strategy Workshop) by June 30, 1996. This has not been completed to date. The draft proposal for the *Biodiversity Conservation Trust Fund* (Waithaka, 1998) does provide the framework for development of the research strategy, and could be expanded into the specifics of a research plan document.

36 The research and monitoring program documents reviewed often read like a catalogue listing of field investigations of one sort or another, rather than a set of linked, complementary and integrated activities clearly directed at conservation management issues. There is a great potential for lack of coordination in the research program under the regionalization plan where the research and monitoring programs are directed to be “formulated, implemented, and monitored at regional and area level” (KWS 1997, page 10).

37 The PAWS program called for the formation of a Research Review Committee to assist in the development of procedures for evaluation of proposals and for development of the overall research program strategy. This committee was never formed, and the failure to form this committee contributes to the clear lack of focus and low productivity of the KWS research program.

38 The *Annual Work Plans* process does not appear to be fully functional, as several of the work plans reviewed are unrealistic in terms of scope, resources and personnel available to complete the work. The plans reviewed did not include any prioritization of research needs as established by the regional management and biodiversity staff. Also, if the work plans for research and monitoring are to be developed in the regions, a national plan with priorities and clear objectives for research and monitoring is essential to provide guidance to regional staff.

39 Staffing - While many of the staff positions within the Biodiversity Department have been filled, the critical post of Deputy Assistant Director of Biodiversity has been vacant much of the time since implementation of PAWS and since restructuring. Operations are being maintained by the program heads, but a highly qualified and

experienced manager with program development skills is needed to achieve real institutional development. The recently appointed Deputy is still in an acting capacity. Lack of strong leadership with proven managerial skills has greatly hampered the development of the department as an effective unit in KWS. As a result, the department is functioning well below the level required for KWS to meet its basic conservation and management mandates.

40 In the initial years of PAWS, staff training limited the capability of the research program to function effectively. At one time, 9 of 11 staff research personnel were in post-graduate degree programs, and unavailable for work on the general program defined by the PAWS project (Dr. Waithaka, pers. comm., June 1998). The RPD and subsequent BP did not meet their program goals with regard to sponsoring staff for post-graduate degrees. However, due to the relative abundance of highly trained professional biologists available in the local job market, this sponsoring of post-graduate degrees was not entirely necessary. In-service training on special research and management techniques, current issues in conservation, and program skills are more important at this time.

41 Research Projects - KWS' research program has made substantial contributions to the conservation of Kenya's wildlife and management of the protected areas. PAWS funding has been crucial in the development of this capability.

42 As noted above, the initial performance of the research and monitoring program was hampered by the concurrent post-graduate training programs funded by PAWS which resulted in staff being unavailable for project work. However, the department is now staffed with well-trained personnel (see Table 16), and is capable of undertaking the research and monitoring tasks needed by KWS.

43 The productivity of the research program of KWS as measured by scientific publications is low. The KWS data presented in Table 16 reported 10 refereed publications in 1998, and the KWS data in the MTR suggested that refereed journal publications ranged from 0 to 3 per year. However, a review of the listing of actual publications produced by KWS staff, results in much lower publication rates. Of 181 KWS publications from 1990 to 1998 the following tally is made: 6 journal articles, 1 paper in an edited volume, and 2 papers in symposium proceedings. The remainder are unpublished project reports, EIAs, presentations at meetings, and student theses.

44 To date, the overall contribution of the research efforts to conservation management has been compromised due to the lack of an effective information management system. Research results that are in reports that are unavailable to regional managers are not likely to be of any use. A key function of the BD headquarters staff must be to inform regional managers as to the information available, current research topics, and summary of current research results.

45 Research Stations - KWS made a decision to not construct and/or rehabilitate research stations as directed in the SAR document. No documentation is available to

evaluate the rationale for this decision. However, such a decision to modify the PAWS program elements, if based on an objective needs analysis, can be justified. It is the opinion of this review team that heavy investment in fixed stations that do not have clear long-term support creates facilities that are a drain on resources rather than an asset (e.g., research stations without funding or defined mission are white elephants). Investment in vehicles and mobile laboratories and equipment would appear to be more useful for the needs of the KWS program.

46 Monitoring - As yet, there is no systematic ecological monitoring underway, although various monitoring activities are being carried out by KWS staff, other researchers (e.g., conservation NGOs) and collaborating institutions such as the DRSRS. It should also be noted that DRSRS funding for the nationwide aerial survey work conducted from 1977 to the present will be terminated in June 1998. DRSRS will have limited capacity to perform contract aerial surveys for KWS after that time.

47 In the absence of an effective ecological monitoring program, it is not possible for KWS to evaluate the impacts of its activities on the ground, or the success or failure of the programs funded by PAWS. One difficulty is the lack of a clear objective for a monitoring program. However, the expectation that KWS can conduct systematic annual monitoring within the PAs to track annual changes in biodiversity as an indicator of the success of PAWS is unrealistic. Without very thorough and costly, repeated field surveys, the value of systematic, broadscale monitoring would contribute little to improve PAs protection and management.

48 The new MVCA approach (see discussion on the PAS in this report) would appear to be the appropriate focus for future research and monitoring efforts. Monitoring should be directed at evaluating the status of the various lands within the plan area and trends in the status and/or land tenure over time.

49 Information Systems - The development of a management information system (MIS) has not been undertaken. There does not appear to be any coordinated effort for dissemination and archiving the results of research and monitoring studies. The *Corporate Plan* (KWS 1997) again notes that “development and management of applied research data and information at regional and headquarters level for biodiversity conservation planning and management” is a priority program. The existing library in KWS headquarters contains few of the reports that have been prepared by RPD and BD. 50

As noted in the MTR, KWS research reports are scattered throughout KWS on the shelves of individual employees, and copies are not transmitted to the library. Research data are scattered among people in different units, and research reports are difficult to locate and obtain.

51 The PAWS funds allocated for purchase of research journals and reference materials apparently was not used for that purpose, as the KWS library contains few scientific journals from the period covered by PAWS.

52 If the research program is to be effective, the library needs (a) to have improved facilities for long-term storage of research and reference materials, (b) copies of all KWS research and monitoring reports, protected areas management plans, and all similar documents, (c) copies of all external research reports that have been supported by KWS or conducted in KWS managed areas via permits from KWS, and (d) access to the internet for research purposes in lieu of paper copies of technical journals. KWS needs to implement a policy to ensure that items b and c above are met. Items a and d will require additional funds.

Summary Observations

53 The evaluation of the research and monitoring programs, based on the key performance indicators listed in Annex 7 of the SAR document are summarized in Tables 17 and 18.

Table 17. Summary of performance of the Research Program of KWS, based on the major items in Annex 7 of the SAR document.

Targets	Achievement	Comments
Year 1		
Draft research plans for priority areas	Unknown	No documents available for review
Recruit core staff	Moderate	Key staff positions often vacant, especially with reorganization
Sponsor graduate students	Moderate	Target levels not fully achieved, and a high percentage of students trained did not stay with KWS
Coordination with NGOs	Moderate	Minimal involvement of NGOs in first years, but with increased collaboration in last years
Establish research review committee	Nil	Committee not formed
Define research proposal evaluation procedures	Unknown	No document provided for review
Catalogue and archive research reports	Low	Some materials in library
Promote information exchange	Low	
Review design of new field stations	Unknown	No documentation on review; decisions to not rehabilitate stations not documented.
Rehabilitation Tsavo East Research Station	Nil	Station not rehabilitated
Equip research team and facilities	Moderate	MTR has list of substantial equipment purchased, Tsavo Station unequipped
Sponsor consultant for orphanage design review	Unknown	Safari walk program was developed to replace Orphanage

Targets	Achievement	Comments
Year 2		
Finalize priority research plans and initiate	Moderate	Many research project started
Sponsor additional graduate students	Moderate	Full number not sponsored, however need for all students identified is questionable
Adopt research application review procedures	Unknown	No procedures provided for review
Continue staff development	Moderate	Many staff positions filled
Sponsor summer scholarship program	Unknown	
Draft research plans for second priority areas	Unknown	No such documents provided
Evaluate information exchange procedures	Nil	
Finalize field station designs	Unknown	Some stations not built
Ololula Wildlife Lab.	Unknown	Status of station unknown
Year 3		
Complete staff training	Moderate	
Sponsor additional graduate students	Moderate	Full number of students sponsored not achieved, but need is questionable
Sponsor undergraduate	Unknown	
Three-year assessment	Unknown	Not referenced in MTR
Host international conference	Nil	Not completed
Prepare research plans for years 4-8	Low	Research plan in draft and not provided for review
Complete Tsavo Station rehabilitation	Nil	Station not rehabilitated
Complete 5 other research stations	Moderate	Only two stations completed, but need for others is questionable
Begin construction of Kora and second marine station	Nil	Stations not constructed
Year 4		
Sponsor additional graduate student	Unknown	
Sponsor 4 undergraduate students	Unknown	
Complete 2 PhDs	Moderate	One student returned to KWS

Table 17. Continued.

Targets	Achievement	Comments
Formalize agreements with NMK, KARI, KEFRI	Unknown	
Publish wildlife conference proceedings	Nil	Conference not held
Complete Ololula lab	Unknown	
Year 5		
Complete 4 PhDs	Low	Less than full number of PhDs sponsored and returned to KWS, although need is questionable
Complete remaining MScs	Moderate	Not all MSc students sponsored, and some did not stay with KWS
Full implementation of research program, including regional assignments	Low to Moderate	Regions staffed, only 5 areas staffed, and research program status a only moderate level
Complete Kora and marine station	Unknown	

Table 18. Summary of performance of the Monitoring Program of KWS, based on the major items in Annex 7 of the SAR document.

Targets	Achievement	Comments
Year 1		
Recruit Senior Ecologist	Unknown	
Recruit and train staff	Unknown	We assume that staff were recruited and trained, but full documentation is not available
Define baseline monitoring methodologies	Unknown	No documents available to review
Initiate discussions with NMK, DRSRS and others	Unknown	We assume that such actions were taken
Begin baseline monitoring in priority areas	Moderate	
Finalize KWS ecology research plan	Low	Final plan never prepared
Year 2		
Complete staff recruitment and training	Moderate	Although quantitative data on staffing and training levels was not available
Finalize standardized monitoring methodologies	Moderate	Workshop held, but not known if document and methodologies finalized
Implement KWS ecology research program		Mixing of research and monitoring targets in the Annex 7 is confusing

Targets	Achievement	Comments
Year 3		
Complete staff recruitment and training	Moderate	Although quantitative data on staffing and training was not available
Provide 3-years evaluation of impacts of KWS park and community wildlife management	Low	Based on MTR comments, this apparently has not been done on a systematic fashion
Assess impacts of park management over time	Unknown	Unclear if this was done in an informal manner
Evaluate effectiveness of monitoring techniques	Unknown	
Year 4		
Strengthen monitoring in non-priority areas	Unknown	
Year 5		
Full implementation of monitoring programs	Low to moderate	Staff present in all 8 regions, but only 5 areas, and efforts limited by funding and mobility in all areas

54 PAWS has, no doubt, enabled KWS to considerably improve its overall effectiveness and achieve a number of the short-term objectives regarding research and monitoring. However, the research and monitoring programs appear to be lagging in performance and in need of attention. Reasons for this poor performance are:

- These programs were virtually defunct at the start of PAWS and probably had the longest way to go to fulfill their roles in KWS.
- The Biodiversity Department has the most varied and complicated work load in KWS, which requires highly skilled managerial staff, lacking since implementation of PAWS.
- The department never completed much of the work specifically designed and required by PAWS in order to improve its own management, staff development, research and information exchange capabilities.
- Changes in personnel within the program and lack of understanding of the PAWS program have created inefficiencies; and,
- The lack of a full-time department director with strong management skills has severely hampered the development of the programs in the Biodiversity Department.

55 As noted above, and in the MTR, the expectations for this program defined in the SAR document were unrealistic. However, these programs should have made

substantially more progress in meeting their goals. The research and monitoring programs in KWS need to be strengthened, become more effective, and focus on conservation management issues.

3.9 Environmental Education, Communication and Public Awareness

Background

1 In KWS' strategies for the period 1991 to 1996 ("Zebra Book"), environmental education and visitor services was one of the areas singled out for special attention. An Education and Visitor Services (EVS) Program that was to prepare education programs for various target groups was launched in 1990. In support of this EVS Program, WWF, in close collaboration with KWS, initiated a two-year project in 1991 to be implemented by KWS. The total funding was SFR \$310,000. The project was developed in response to the need for institutional strengthening, including staff training of KWS' Education Unit (Njunga, 1996).

2 The WWF/KWS education program encompassed training courses for KWS staff in the development of computer operation skills, communication and visitor handling for gate rangers and the implementation of workshops for school principals and other target groups within the formal education sector. Teacher training for primary school and secondary school education and the preparation of teaching materials were also part of the project. Another focal area was teacher training for the implementation of Conservation Youth Programs. The program was based on a close collaboration between the Naivasha Training Institute (NaTI), KWS and WWF.

3 In an evaluation of the WWF project, Njunga (1996) concluded that the program was generally successful. It was noted that the communication and visitor handling skills course in particular served to change the notorious military (Askari) mentality of the park rangers in handling issues related to visitors and the public at large. Fifty-three gate rangers were trained. Teacher training and the development of environmental education and protected area materials also occurred.

4 According to the Director of KWS, the former Education Department of KWS had limited impact compared to the Community Wildlife Service, introduced in 1995. This is traced back to the chronic lack of focus and clarity regarding the mandate of KWS' former Education Department (Njunga, 1996). Njunga concluded that, overall, the WWF project helped to clarify the role of education within the KWS programs. He also noted that most activities initiated within this program came to a stop after WWF ceased involvement. His conclusions:

- that there is a great need for an education section within KWS with a clearly defined mandate;

- that KWS has to undertake environmental education with the support of the formal education sector and NGOs;
- that KWS should capitalize on educational opportunities and the country-wide network offered through the Wildlife Clubs of Kenya (WCK);
- that KWS' education unit should focus on three principal target groups (a) people within and around protected areas, (b) visitors to protected areas; and (c) national institutions including schools, local authorities and the public at large;
- that the Nairobi Safari Walk with 200,000 visiting students per year be adequately incorporated into the educational program;
- that biodiversity education issues be addressed on a regional level where trust and confidence in participation for local communities can be developed.
- Njunga emphasizes that the environmental education program in KWS is not given the attention it deserves. He recommends that KWS should set a target of at least 10 percent of its budget for biodiversity conservation education programs.

Paws Environmental Education Component in KWS

5 The WWF/KWS project phased out when the PAWS project came on-line. The SAR document clearly recognizes the need for a well-designed and energetic environmental education program directed to all sectors of the public and the visitors of Kenya's protected areas. Formal and informal education is seen as a cornerstone for sustainable biodiversity conservation inside and outside of protected areas. The SAR document indicates that KWS' education program has suffered from lack of funding, leadership and training, and low morale. It further says that virtually no information or interpretative materials are provided to PA visitors and the visitor infrastructures inside PAs are totally inadequate to meet visitor demands. The educational shortcomings for marine parks and coastal areas are also highlighted in the SAR document.

6 The SAR document requests that within the PAWS project KWS develop an education program which would rely heavily on the implementation abilities of NGOs with proven expertise and interest in environmental education.

Assessment of PAWS impacts on KWS' Education and Visitor Services Program

7 Scant information on the educational sector of KWS is available through the organization's corporate memory. It is difficult to locate persons within KWS with qualitative and quantitative knowledge on the history of the education sector from 1992 to present. This is mostly due to the high rate of turnover in personnel. Much of the information provided to the PRT is anecdotal and remains descriptive. For a better understanding of why so little has been achieved in the educational sector since the onset of the PAWS project, despite ambitious project goals and substantial budgets (i.e. close to \$7 million was set aside for the educational sector), it seems prudent to piece together the chronological events that lead to the current status.

8 At the onset of the PAWS project KWS' Education Program was one out of four functioning sections within the Department of Wildlife Services. Its mandate focused on environmental education (wildlife conservation education) and awareness building aimed at PA visitors and the public at large. This included formal and informal education, training of educational personnel within KWS, and production and dissemination of educational and informational materials. The goals were to be achieved through a concerted effort between the Education Section and governmental and NGOs.

9 The WWF support project to the Education Section (1991 to 1993) set the stage for what should have been a successful PAWS intervention. The goals and targets set by PAWS were ambitious but realistic and achievable. What exactly happened to the Education Section after WWF's involvement ended in 1993 is muddled. Generally, the ICR Team concurs with the findings of Njunga (1996), which hold a combination of factors responsible for the rapid deterioration of the Education Section, which was officially dissolved in 1996. Although difficult to substantiate, the rapid decline of the Section may very likely have been a combination of lack of leadership and clearly defined tasks, poorly designed workplans, and the lack of corporate support by KWS. The latter may be traced back to a general lack of understanding and appreciation of the role of environmental education for sustainable biodiversity conservation and its importance to visitor programs; or perhaps the general belief that the task would be better served by splitting the load between different Departments.

10 For whatever reasons, the Education Section was dissolved in 1995. From then on, the functions of the former Education Section were vaguely assigned to the newly created Departments of (a) Corporate Communications, (b) Partnership, (c) Safari Walk and (d) Tourism. Before the breakup, the Education Section was a coordinating unit, mostly serving KWS' four educational field centers, representing KWS at the country-wide annual agricultural society shows and providing services to other KWS Departments. According to E. Gituku (Assistant to KWS Director, pers. comm., June 1998), the Education Section failed in setting achievable regional targets. Work increasingly overlapped with other Departments, resulting in wasteful duplication of work. The same source is quoted as saying that activities by the Section 'collided' with activities implemented by the Wildlife Clubs of Kenya.

11 The findings of the current PRT suggest that the education program of KWS seems to be more confusing now than before the Education Section was dissolved in 1995. What to do for education, awareness building and visitor information is currently left to the four departments to decide, without a coordinating authority. The chances of work overlap and, more importantly, the chances to neglect or forget about one or more critical components within the broad education/awareness building field are much greater within the new organizational structure than before. The latter applies to the Tourism/Customer Services Department in particular, as will be shown in a different context. The only programs with noteworthy components of education are found at present in the Partnership Department (COBRA), the Biodiversity Department (Dutch-funded Wetlands Program) and the Safari Walk Department (not part of PAWS).

12 Wetlands program - The PRT concurs with the findings of the evaluation report of the KWS/Netherlands Wetlands Conservation and Training Program (Lavieren, 1998) that much work has been done in environmental awareness creation and extension within this PAWS component. Teaching kits for formal primary school education were developed, teacher training courses implemented, and workshops on wise use of wetlands conducted for different target groups. Overall, this educational component for wetland conservation is considered successful. The same applies to the training sub-program of the Dutch-supported project. This component also has met its objectives and is considered successful. Lavieren highlights the importance and positive impacts of the rehabilitated Coastal Resource Training Center at Malindi, which now serves a vital role in training KWS and other marine resources management personnel and facilitates environmental education for selected target groups. This also applies to the highly successful training and education on wetland ecology and management at the NaTI.

13 Education in the Partnership Program (Cobra Project) - Although an assessment of the COBRA project is not included in the ToR of the PRT, there have been many opportunities to see and discuss the impacts of the Partnership Program on KWS and stakeholders. Despite the many shortcomings highlighted in the in-house assessment of the USAID-supported COBRA project, the PRT unanimously agrees that the COBRA project in general has been very successful. This applies in particular to the development of good working relationships with communities in support zones, conflict resolutions, a rising level of environmental awareness and a recognition for the need of biodiversity conservation (i.e., establishment of wildlife sanctuaries, habitat protection for wildlife etc.).

14 The Nairobi Safari Walk - Recognizing the need for environmental education and public awareness, KWS has embarked on an ambitious program under the name 'Nairobi Safari Walk' (NSW). Although this program falls outside PAWS, it seems noteworthy as being indicative of KWS' new educational policies. 'NSW will be the center for educational materials production, providing basic teaching and learning materials to be used by the regional officers in the field center. The staff of the NSW are centrally involved in contributing to the development of the country's conservation

education curriculum in conjunction with the Conservation Education Commission of the IUCN, National Environmental Secretariat (NES), and the Kenya Institute of Education” (Gituku, 1997). Apparently, the NSW does not find IDA support. However, KWS has already located other donor financing for this priority project, which will reach 200,000 visitors per year in the Nairobi education center alone.

15 The specific targets of the PAWS program and the degrees of achievement are summarized in the following table.

Table 19. Achievement of intervention objectives in the Education Program.

Target	Achievement	Comment
Purchase vehicles and office equipment	Unknown	No quantitative information available
Cover operating costs for program	Nil, except for wetlands	
Provide technical assistance to Education Division	Nil to low	In conjunction with Partnership Program
Finance operation of visitor information facilities in parks	Nil	None operational
Set up field 'study' centers for schools and adults in selected parks together with NGOs	Nil to low	Only through Partnership Program
Finance and promote production of educational materials by NGOs to be used for formal education	Nil to low	To some extent through Wetlands Program
Construct and rehabilitate visitor centers	Medium	Several completed, but unfurnished and not equipped
Produce and distribute wildlife conservation textbooks	Unknown	
Provide teacher training	Low, except for wetlands	Some through Partnership Program
Support wildlife conservation activities implemented by schools	Low	Scanty information available
Senior professionals and technical people	Nil	Unit does not exist
Close collaboration with NGOs	Nil	

Headquarter staff designing programs and developing materials	Nil	
Collaborate with school authorities	Low	Through Wetlands and Partnership Programs only

Summary Observations

16 The KWS Wildlife Policy (Western, 1998) suggests that KWS shall focus its own education programs in priority biodiversity areas on partnership groups and important constituencies in Kenya. The overall aim shall be to build a large national constituency for biodiversity conservation, in collaboration with other governmental and non-governmental agencies.

17 The PRT Team recommends that these rather global goals be translated into practical, achievable and well-defined activities to be placed into a realistic time frame. Furthermore, the team recommends that identified tasks are delegated to the appropriate authority in order to achieve accountability and develop ownership in the proposed programs, strategies and expected results. Furthermore, it is recommended that KWS make a serious effort in truly involving non-governmental organizations with proven capability in environmental education as requested by the SAR at the onset of the PAWS project.

18 The SAR provides a full page on Key Performance Indicators for the Education and Visitor Services (SAR, page 97) of the PAWS project. Except for the single one indicator: 'links established with mass media' (i.e., responsibility of the Department of Corporate Communications), none of the others seems to be applicable. It therefore is concluded that the Education, Awareness, and Communication Component of the PAWS project did not meet the objectives. The overall success of this component was very poor.

3.10 Tourism Program

Background

1 The SAR notes that "failure to manage tourism development (unplanned tourism) has led to severe ecological damage and growing dissatisfaction among tourists as seen in Masai Mara, Amboseli and Samburu. The problem is exacerbated by the lack of adequate visitor information, park surveillance capacity, and road networks, which causes tourists to concentrate in relatively small areas in most parks and makes prevention of damaging behavior (e.g., harassment of wildlife and off-road driving) difficult" (SAR, 1992). The high concentration of tourists in small areas also results in a poor distribution of benefits in the form of income and employment in rural areas (TTCI, 1998).

2 The SAR quotes uncontrolled lodge and management-related infrastructure development, deterioration of park infrastructure, and maintenance capacity as factors contributing to increasing tourist dissatisfaction. It also recognizes that some areas are fully developed (Tsavo East and West) and that others have received little attention. The problems identified in the SAR are partly confirmed by the findings of the JICA-sponsored Master Plan for National Tourism Development (1995), which primarily blames the over-concentration of tourists in key areas and uncoordinated environmental management for the environmental deterioration and climbing tourist dissatisfaction throughout Kenya's parks and reserves. The same source highlights the importance of visitor education to be implemented as part of the KWS visitor service: "Well-informed visitors will better appreciate wildlife and natural ecosystems of Kenya and visitor education can contribute to mitigation of tourism impacts on the natural environment, promote international understanding of Kenya's wildlife conservation, and increase revenue/donation from visitors" (Pacific Consultants International, 1995).

3 Other constraints identified in the SAR are related to the poor management of National Reserves by County Councils, "which view the reserves as a significant source of general revenue, which they often divert to activities unrelated to the reserves" (SAR, 1992). As a result, infrastructure in key reserves such as Masai Mara and Samburu have deteriorated. Furthermore, since revenue-sharing agreements with support-zone communities are rarely honored by County Councils, growing frictions with communities neighboring PAs over land use issues compromise the ecological integrity of the reserves. Inadequate management of wetlands and poor security for wildlife and tourists were other problems identified as constraints for the tourism sector.

4 According to the SAR, 5,525 kilometers are tourist and administrative roads and tracks in the PA system and 3,243 kilometers are primary roads connecting the Ministry of Public Works access roads to lodges, airstrips and protected areas. About 150 kilometers of access roads of the latter type are critical for tourist access to the most popular parks and reserves (i.e., Amboseli with 60 kilometers access, Meru with 40 kilometers access and Aberdares with 20 kilometers access). At the onset of PAWS there was an understanding with the GOK that these access roads were to be included in the priority investment program of the Ministry of Civil Works.

5 Importance of Tourism to KWS and Kenya Recent market research shows that 79 percent of the tourists interviewed by the JICA-funded Tourism Master Plan Study cited "nature and wildlife" as the major attractions for coming to Kenya (Tourism Masterplan, 1995). This was confirmed through KWS' Tourism and Pricing Study, which showed that 80 percent of Kenya's tourist market is drawn by wildlife and a third of the country's foreign exchange earnings is generated by the tourism industry. Most of KWS' self-generated income derives from tourism. It is recognized that though tourism can fluctuate wildly, it is a sector with great potential for growth (KWS Commercial Department, 1998).

6 Visitation of Protected Areas and Revenue Generation The number of tourists visiting Kenya increased at an average rate of eight percent per year during the 1980s and early 1990s with a unique combination of wildlife safaris, beach holidays and cultural tourism as major attractions. Visitor numbers in KWS managed parks and reserves reached a peak in 1993/94 with a total of 844,000 (see Annex 4). Since then visitor numbers have been declining steadily. The latest figures for 1997/98 show a decline of over 40 percent compared to 1993/94. Judging by visitor numbers, the most popular parks seem to be Nairobi, Lake Nakuru, Amboseli, Tsavo East and West, and Aberdares (Annex 4). Lake Nakuru, Amboseli and Tsavo East seem to be less affected by the decline. Whether this is related to better access, enhanced infrastructure (PAWS financed) or just because the three areas are amongst the preferred tourist destinations, is unknown. Revenue generated from gate fees peaked in 1995/1996. This followed a substantial restructuring of the fee schedule. Gate fees are now in line with fee structures in neighboring countries.

7 Flannery (Kenya Tourism Board, pers. comm.) gives the following reasons for the declining tourism in Kenya:

- Kenya has failed in the past to invest in destination marketing.
- Tourism in Kenya is operator-driven, without the pro-active role of KWS as the key player.
- New opportunities for attractive beach tourism are offered increasingly elsewhere, especially in Florida, the Caribbean and Asia.
- New and better opportunities for wildlife-based tourism are developing in South Africa and neighboring countries.
- Kenya has a poor political image due to human rights issues and negative press reports (more than 120 international journalists are based in Nairobi).
- Kenya's tourism facilities are outdated and in need of upgrading.
- Kenya has a bad track record for tourist safety.
- Epidemic outbreaks of cholera, malaria, rife fever etc. especially in coastal areas.
- There are low-quality infrastructures inside parks and reserves, with poor visitor facilities and inadequate visitor service by KWS.

8 "The tourism sector continued to perform poorly in 1997. The recovery in the number of visitor arrivals that started in 1996 continued into the first half of 1997, but reversed during the second half of the year. The downward trend continues into 1998. This has been attributed to the unstable situation that prevailed in some parts of the Coast, the deteriorating infrastructure mainly caused by the *el nino* rains, and political uncertainty" (Ministry of Planning, 1998).

PAWS Contribution to the Tourism Program in KWS

9 One of the major PAWS components aimed to improve roads, office buildings, staff housing and related maintenance facilities through the development and rehabilitation

of park and reserve infrastructure. This was in support of environmentally sound tourism expansion, increased security, more cost-effective anti-poaching, and rigorous traffic control (SAR, 1992). As pointed out in a different context, the SAR document also fully recognized the shortcomings of KWS' visitor services. It highlighted the deficiency in quality information and education materials for parks and reserves and the need for better cooperation with key stakeholders and NGOs. All these issues are addressed in PAWS' assistance package to KWS.

Assessment of PAWS' Impact on KWS' Tourism Program

10 It is very difficult to determine where in the KWS organization the 'visitor services' program was located prior to the restructuring in 1995. Although qualitative information is not available, it is assumed that the functions of the current Tourism Department were integrated into the two former Commercial and Wildlife Services Departments without clearly identified responsibilities and tasks. It further is assumed that the Education Section as part of the former Wildlife Services Department took the lead role for the tourism sector, although very little was accomplished by this Section prior to its dissolution in 1995. It also is unclear how priorities for tourism-related infrastructure development were assigned in the PAWS project although there is some indication that decisions on priority development were made in KWS headquarters rather than in the regions. In absence of sound policies, strategies and long-term vision, there seem to have been considerable overlap in authorities and functions prior to restructuring. The tourism sector was just another program suffering from the institutional shortcomings prior to the establishment of the Department of Tourism in 1996.

11 Recognizing the importance of tourism to KWS, the tourism program has become one of the three priority areas (i.e. tourism, biodiversity, partnership) following the 1995 re-organization. Prior to 1995, PAWS intervention in support of the visitor program focused on infrastructure development and enhancement inside protected areas and on the establishment of an effective security force for the protection of wildlife and tourists. The PAWS project started without a clear concept for the tourism sector and without identified priorities. At the onset of PAWS there was too much to be done at once with seemingly unlimited funds. Roads were constructed, bridges built, old staff quarters enhanced and new ones built, park entry gates renovated, and visitor centers constructed without a prioritized masterplan.

12 As a result, impacts from PAWS intervention, especially in the sector of infrastructure development, are difficult to assess. The visitor centers at Mt. Kenya and Hell's Gate were of low priority, considering the low visitor numbers for the two parks compared to other protected areas which do not have a visitor center. Visitor centers at Tsavo and Malindi were constructed without funds being available for furnishing and equipment; (i.e., according to SAR supposed to be covered through KWS-generated revenue available on completion of the PAWS project). Roads were rehabilitated in areas with low visitation rates, many more in parks and reserves with a very high visitation rate.

On the other hand, a well-established and maintained road network inside protected areas is of little use if the access roads are sub-standard and not acceptable to tourists.

13 Projected staff training and capacity building within the ranger corps with respect to visitor handling, dealing with the public, and environmental education, never achieved its goals. Despite the shortcomings much has been achieved. The newly created Department of Tourism has developed an ambitious strategic plan with well-defined priorities and an aggressive approach to an enhancement of the tourism program inside and outside the protected area system. The new mission statement of the Tourism Department reads as follows:

"The mission of the Tourism Department is to significantly improve and diversify the quality of nature tourism in KWS parks and reserves, reduce negative environmental and cultural impacts and to maximize revenue for KWS from tourism and other rental facilities. The department's main goals are to significantly improve and diversify the quality of the nature tourism experience offered in the parks and reserves, optimize revenue from nature tourism, as well as income from park accommodation facilities, undertake to improve KWS' current gate image and develop visitor friendly gates that include toilets, reception, parking and retailing facilities, and to shift KWS' "soldier" and government-oriented culture to a more customer-oriented training and development of new skills in interpretation" (Corporate Plan, 1998).

14 Although many of the detailed objectives/targets identified in the PAWS project were only partly achieved, overall, PAWS had a very positive impact on the KWS' tourism program. Thanks to PAWS, the Department of Tourism was created as a result of restructuring. The Department was provided with strong leadership and a well-defined mandate. PAWS also deserves credit for the establishment of the highly successful Security Department, with direct benefits to tourists inside and outside of protected areas. The tourism program directly and indirectly benefited from all of the PAWS Project interventions, including road enhancement, improved staff quarters, re-modeled and client friendly park gates, upgraded park headquarters, staff training, restructuring, downsizing the organization and the diverse equipment purchase. Table 20 provides some grading for targets set in the SAR document for the KWS' visitor program.

Table 20. Achievement of intervention objectives in the program of visitor service enhancement.

Target	Achievement	Comment
Establish and enhance visitor information facilities at parks	Low	Although some facilities have been established they lack programs and materials
Establish large visitor centers in Nairobi and Mombasa	Nil	Neither has been built

Nairobi visitor center to be constructed, partially equipped and operational	Nil	
Field center at Voi fully operational	Unknown	
Field center at Nakuru operational	Unknown	The Rhino center is operational
Visitor center in Tsavos fully operational	Low	The construction is currently being completed, but no furnishings and/or programs
Visitor center at Amboseli Partially operational	Nil	
Simple information centers established in all priority parks, including nature trails in three parks	Nil to low	
Headquarter visitor service established and staffed	High	Department of Tourism has been established
Staff training programs designed and initiated	Nil to low	Needs assessment to be done for field level personnel
Developed capability to produce materials ready for printing	Low to medium	
Production of guidebooks, newsletters, materials for information centers	Low to medium	
Links established with printed media, radio and television	Low to medium	Need for better cooperation with Department of Corporate Communication
Establish database on tourists inside PA	Nil to low	
Reach and educate the tourists and enhance their experiences	Nil to low	
Mombasa Aquarium feasibility study completed and construction initiated	low	
Establish visitor centers in selected parks	Low to medium	5 visitor centers are established but not operational

Summary Observations

15 The current Department of Tourism has strong leadership, well-qualified and dedicated personnel and very clear goals. A strategic action plan has been developed with defined priorities until the year 2002. Table 21 provides an overview of priority activities until 1999 for which funding has been secured. For most activities listed in the five-year activity schedule financing has been secured (i.e. DFID and the EU). The same donors will finance the two-year priority program.

16 Since its establishment in 1995, the Department of Tourism has been very active in identifying its role, providing a gap analysis, and developing a working relationship with key stakeholders in the tourism industry. This applies in particular to ties established with the Kenya Association of Tour Operators (KATO), the Kenya Association of Hotel-keepers and Caterers (KAHC) and cooperation with the Kenya Tourism Board (KTB). The Department finds its regional representation through the regional tourism coordinators and area-specific tourism officers.

17 Although the organizational structure for a could-be-functioning Department is in place, there is still little understanding by field-level personnel of the new role the Tourism Department plays in KWS. This is partly due to lack of guidance, but mostly due to lack of training. A needs assessment is required to specify training needs of field-level tourism personnel. Area tourism officers still see their main function in 'cash collection' from tourists at the gates rather than serving visitors through developing and distributing informational and educational materials with a much needed innovative approach to visitor service. Several area tourism officers interviewed received only standard paramilitary ranger training before being catapulted into the position of a tourism officer. The regional tourism coordinators should be provided with assistants on an as-needed basis rather than establishing an area-specific standard position for a tourism officer.

18 By not reaching out to the 600,000 annual visitors of the KWS-operated parks and reserves, the organization loses an unmatched educational opportunity. Currently, visitors to Kenya's parks and reserves are still at the mercy of the tour operators who dominate and drive the market. A pro-active approach is needed to change the pattern. This challenge has now been recognized by the Tourism Department and the KTB with the official mandate for tourism marketing in Kenya. Both intend to embark on an ambitious marketing campaign to reverse the trend of declining tourism to Kenya.

Table 21. Nature Tourism Goal: Funded Projects/Activities for Financial Period 1997/98-98/99

Project	Project Description	Activities	Location	Estimated Cost	Funding
Banda and guest houses	Rehabilitation and equipping local tourism and educational facilities in selected national parks	rehabilitation, equipping and furnishing units rehabilitation, equipping and furnishing and educational centers	L. Nakuru, Amboseli, Aberdares, Tsavo West, Meru, Mt. Kenya, Mt. Elgon, Kakamega, Shimba and Malindi Tsavo East	Ksh 15,000,000	EU
Banda information leaflets and signage	Produce promotional materials for accommodation facilities in parks	design, artwork and production of brochures, marketing and promotional material for bandas	the above parks	Ksh 2,500,000	EU
Improvement of picnic and campsites	Improve high-potential sites that are currently below standard	improve tourist services/facilities in selected sites	Hell's Gate, Nairobi and Nakuru	Ksh 3,000,000	EU
Diversify tourism revenues	Improve national parks interpretation products	visitor information centers produce park maps produce park brochures produce guide books	Tsavo (E&W), Meru, Mt. Kenya, Hell's Gate and Nairobi Nairobi, Amboseli, Aberdares, Tsavo (E&W) Amboseli, Aberdares, Nakuru, Tsavo (E&W) Nairobi, Amboseli, Aberdares, Tsavo (E&W) and Nakuru	Ksh 10,000,000	DFID
Increase accommodation revenue Retail units development Banda management Tourism investments	new lease negotiation open new retail units banda management training marketing, PR, advertising and	develop prospectuses for new sites park shops opened and operational staff training in banda management KWS parks promotion	 Nairobi and Hell's Gate (franchise) sites in EU project	Ksh 20,000,000	DFID

	promotion		KWS parks		
Unallocated (Finance and Tourism Projects/Activities)				Ksh 40,000,000	DFID

19 Future program of KWS' Tourism Department The new policy concept of KWS stipulates that KWS will place highest priority on the well-being and viability of nature tourism nationally. Realizing the critical importance of the tourism industry to KWS and Kenya at large, the new policy document emphasizes that “KWS will place high priority on the well-being and viability of nature tourism nationally and KWS shall continue to ensure tourist security in protected areas. In conjunction with the Ministry of Tourism and Wildlife, the Kenya Tourist Board, the tourism industry, and the landowners in conservation areas, KWS will enhance its capacity to plan and manage the nature tourism industry to the highest standards consistent with ecotourism principles, while also ensuring that maximum returns accrue to the nation” (Mwale, 1997).

20 In its new policy document, KWS defines the principle role of the tourism program as coordinator of tourism activities in all protected areas under KWS' jurisdiction. The functions of the program should concentrate on "identification of tourist destinations, planning, coordination, market research, establishment of standards, fee structure, licensing, franchising and tourist promotion in collaboration with pertinent Government and private institutions and agencies" (Mwale, 1997).

3.11 Co-managed Areas: MOU between KWS and the Forestry Department

Background

1 Mt. Kenya, Aberdares, Mt. Elgon and Shimba Hills were highlighted in the Staff Appraisal Report as KWS-managed areas that are surrounded by indigenous forests of great ecological importance. Other forest areas earmarked for special protection were the Mathew Range and the Nguruman Hills, which, at the time, were reserves under the jurisdiction of the Forestry Department (FD). In recognition of the need for special protection of indigenous forests which remain under-represented in the KWS-managed protected area system, the KWS and the FD signed a Memorandum of Understanding (MOU) in 1991 for a program to co-manage key indigenous forests (MOU, 1991). The parties agreed to pursue their common goals through preparation and implementation of joint forest management plans, which do not require Forest Reserves to change their legal status. Forests covered by the MOU are selected according to (a) degree of species diversity, (b) accessibility and usefulness for tourism and (c) forests subject to wildlife damage. Some of the forests listed in the Annex of the MOU as areas of national importance fall under the jurisdiction of County Councils (Trust Lands). The KWS and FD agreed to continue to push for gazettement of these areas as Forest Reserves to safeguard their sustainable protection.

2 The key objectives of the MOU are:

- To select representative samples of different forest ecosystems-including mangroves-for sustainable protection.

- To provide sustainable protection to endemic and threatened species.
- To select areas important for the maintenance of genetic diversity of flora and fauna.

3 Other objectives are (a) to develop the levels of sustainable exploitation of forest products and tourism, (b) to provide opportunities for environmental education and research, (c) to minimize wildlife/human conflicts and (d) to generate income for re-investment into sustainable protection of these areas. The duration of the MOU is 25 years.

4 The 1991 MOU was enhanced in 1992 through an Addendum, which specifies the collaboration between the two signatories to the MOU and the National Museums of Kenya. The very detailed Addendum strengthens the biodiversity conservation objectives for co-managed forest areas. The Addendum to the MOU lists nine gazetted Indigenous Forest Reserves with four adjacent National Parks, two ungazetted areas (i.e., Nguruman Escarpment and Ngong Hills) and four Mangrove Forest areas to be included in Phase I of the MOU. Phase II includes 14 gazetted Indigenous Forest Reserves with two adjacent National Parks for co-management. In 1992, an ODA-financed KWS/FD liaison officer was appointed to ensure implementation of the MOU.

5 A comprehensive analysis of the Natural Forest Conservation program under the MOU was implemented by Butynski et al. (1995) for the MTR. According to Butynski et al., degazettment, illegal agricultural encroachment, and degradation of natural forest have continued during PAWS and seem to remain the most important direct threats to the sustainable conservation of biodiversity. The same source cites graft within the Forestry Department, poor management, and inadequate training as other constraints compounding the overall problem.

6 According to Butynski et al. (1995), the Forest Conservation program was one of the five divisions of the Wildlife Services Department. This could not be verified by the PRT. Neither can this program be located on the 1998 organizational chart of KWS. However, the program still includes the coordinator, a secretary, a driver and a messenger located at KWS Headquarters.

7 A key issue highlighted by Butynski et al. (1995) focuses on the repeated excision of forest areas from Forest Reserves despite the Revised Forest Policy and the National Environmental Action Plan (NEAP) which state that there would not be any more excisions from indigenous forests incorporated into gazetted Forest Reserves. According to Gatharaa (Liaison officer KWS/FD-MOU, pers. comm., June 1998)) no recent excisions have been made and the problem seems to be under control. However, alienation of indigenous forests through uncontrolled use (i.e., charcoal production, grazing, agricultural encroachment) continues to be a serious threat.

PAWS' Contribution to Co-managed Forest Reserves Under the MOU

8 Except for the employment of the KWS/FD liaison officer and a rather undefined financial support for co-managed areas, the SAR does not provide investment details on the protection program for indigenous forests. Only general references are made to the need for the protection of indigenous forests and expansion opportunities of the PA system. Without clearly identified targets, however, a quantitative assessment of PAWS' impacts on this program is difficult.

Assessment of PAWS' Impacts on Conservation of Indigenous Forests

9 Little can be added to the very comprehensive assessment of PAWS' contributions to co-managed Forest Reserves and the protection of indigenous forests under the MOU as provided by Butynsky et al. (1995, pages 15-19) for the MTR. The MTR Team concluded that the Natural Forest Conservation program has made excellent progress under PAWS and that PAWS' objectives until 1995 have been met. Since the 1995 assessment by Butynski et al., three Forest Reserves have been added to the list of co-managed areas under the MOU: (a) Ngong Road Forest Reserve with 1116 hectares, (b) the Menengai Crater Forest Reserve with 5737 hectares and (c) the Nairobi Arboretum with 30 hectares. Since the MTR Assessment several Forest Reserves have substantially increased in size (i.e., Loita Hills from 10,000 to 41,480 hectares and Lerhogi Range from 80,000 to over 90,000 hectares). Only a few co-managed Forest Reserves have been - insignificantly- downsized since 1995 (Table 22). As may be learned from Table 22, the Forest Protection Program under the MOU is still on track and progress is being steadily made.

10 The signing of a license for the development of forest-based ecotourism under the FD/KWS-MOU subsequent to the MTR is another positive sign for an improved relationship between the two factions.

Table 22. Forest Reserves identified for joint management under the MOU (list updated for the PRT by Gatharaa, FD/KWS Liaison Officer).

Name	Indigenous Forest Reserve (in hectares)	Adjacent NP or NR (in hectares)	Plantation
Phase I			
Aberdares	159,638	76,619	35,444
Mt. Kenya	200,870	71,759	8,674
Namaganga Hill	11,904		
Ngurman Escarpment*	Not surveyed		
Ngong Hills	3,081		25
Mau Forest Complex	366,255		52,528
Mathews Range	97,392		

Mt. Nviro	45,496		
Kakamega	24,980	4,470	12,874
Arabuko-Sokoke	41,763	600	688
Shimba Hills	19,251	19,251	1,902
Mangrove Forests	Z=45,000		
Malindi/Watamu		24,500*	
Kiunga		25,000*	
Mdunguti/Kisite		2,900*	
Tana River Delta	Area not surveyed		
Phases II and III			
Mt. Elgon	73,089	16,923	4,500
Mt. Kulal	45,942		
Marsabit Bojoge Forest	15,281 2,150	155,400*	
Chyulu Hills		47,100	
Loita Hills	41,480		
Ngare Ndare	5,627		
Nyambene Hills	8,701		
Ngaya Forest	4,314		
Mukogondo Forest	29,931		
Cherangani Forest	128,575		5,513
Tinderet Forest	28,167		
Leroghi Range	91,794		
Lembus Forest	16,927		
Ngong Road	1,116		60
Menengai Crater	5,737		70
Nairobi Arboretum	30		30
* adjacent NP or NR larger than FR			

Summary Observations

11 Visiting with field personnel in some of the co-managed Forest Reserves with adjoining National Parks confirmed that there is still much room for improvement. This applies in particular to harmonizing long-term goals and objectives between KWS and the FD and coordinating practical forest management plans which are acceptable to the three signatories of the MOU. Inter-departmental conflicts over issues in co-managed areas are very common. They arise mostly over management issues; in particular, when forest use licenses are issued by the FD without prior consultation of the KWS. Wildlife/people/forest conflicts also frequently surface.

12 In summary, the progress made under PAWS related to the protection of indigenous forests can be rated medium to high, although it is difficult to judge to what extent the PAWS project can be credited for the success.

13 The President of Kenya recently suggested that KWS take management responsibility from the Forestry Department for the indigenous forests of Kenya. The PRT does not support this recommendation, as KWS lacks the administrative infrastructure and capacity to adequately address this task in addition to the current KWS mandate.

3.12 Wildlife Protection and Tourist Security Program

Background

1 The Kenya Wildlife Service (KWS) was created in 1989 to replace the Wildlife Conservation and Management Department (WCMD), following a period of long decline in the standards of wildlife conservation in Kenya. By the time KWS was established, commercial poaching, internal corruption and rapidly deteriorating infrastructure and staff morale within Kenya's protected area network had resulted in declining ungulate population, accelerated habitat destruction and decreasing tourist safety inside and outside protected areas. By the late 1980s, organized poaching had eliminated 95 percent of Kenya's elephant and rhino populations. Most affected were the areas of Tsavo East and West, Samburu, Meru, Kora, the North of the country and Masai Mara.

2 In response to the threat to wildlife and tourists the Armed Wing of the Kenya Wildlife Service was created in 1989. As a first step, the new force established an extensive intelligence network, Wildlife Protection Units, and a training field camp. Five hundred persons were selected and trained, forming the corps of the special security forces. At the onset of the PAWS project, the Armed Wing was prepared to absorb PAWS funding in order to become fully operational. Following the restructuring process in 1995 the Security Department was firmly established in the organization. It is composed of eight sections centered around the Wildlife Protection Unit, Intelligence and Investigation.

3 The Airwing was created as a special entity under PAWS and has been closely linked to the Security Department since its creation in 1992. It is administered by the Department of Technical Services.

PAWS Wildlife Protection and Tourist Security Component in KWS

4 In recognition of the critical importance of an effective law enforcement section in KWS the PAWS project aimed to supply the Protection Unit with transport, communication and surveillance equipment, in addition to financing the construction and furnishing of several mobile field stations. The SAR document specifies that "the Wildlife Protection Unit would operate as a specialized force of KWS, with its head reporting directly to the director of KWS. It would have four sub-units. Field force sub-units would be based in national parks and reserves where poaching is most grave (Meru, Tsavo, and Kora)." The special tasks of the sub-units would be to handle security problems, combat poaching through a mobile strike unit, and provide tourist security on the coast.

Assessment of PAWS' Impacts on KWS' Security Department

5 The KWS wildlife protection unit is widely acknowledged to be the most effective force available to ensure security of both wildlife and tourists in parks and reserves, due to notable success in anti-poaching efforts and increased security of tourists. There seems to be a high level of commitment and discipline among this special force. At the time of the mid-term review, the Security Department was recognized as one of the best trained, disciplined and equipped wildlife security bodies in Africa (Butynski et al., 1995). Little can be added to the comprehensive assessment of the Security Department prepared during the mid-term review by Butynski et al (1995). The assessment indicates that the Security Department is possibly the most efficient and successful structural component of KWS. The track record of the Department is impressive.

6 Butynski et al. (1995) used three basic indices in the mid-term review to demonstrate the rapidly growing effectiveness of this Department: (a) arrests and firearm confiscations, which have been steadily declining; (b) no recorded attacks on tourists inside parks within the past two years, and decreasing attacks on tourists outside parks, with a total of 18 recorded for 1998 until June; this is proportionately less than for the same time period the previous year; (c) poaching of elephants and rhinos inside parks is still declining. Poaching in general seems to be declining and does not seem to be a major factor contributing to the steady decline of some endangered species. The indicator table of security effectiveness was updated by the Security Department for the PRT (Table 23).

Table 23. Summary of activities of the KWS Security Department and indicators of security department effectiveness (1996-1998).

Activity	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Training at Manyani (person-weeks)	0	800	1,759	12,268	2,016	2,268	404	5,092	35,00	744
Disciplinary actions within armed wing	27	23	22	19	43	33	33	51	19	5
Contacts with Bandits/Poachers	4	0	8	27	18	6	16	31	29	4
Bandits/Poachers killed	9	0	5	8	19	0	6	17	13	4
Bandits/Poachers arrested	81	213	219	185	114	125	82	265	466	133
Firearms confiscated	2	41	16	61	43	17	19	16	16	6
Attacks on tourists in parks	0	1	0	3	1	1	0	3	0	0
Attacks on tourists outside parks	0	7	0	6	7	28	14	75	51	18
Elephants poached	36	43	20	45	61	66	32	44	45	16
Rhinoceros poached	1	4	0	0	0	0	0	0	4	2

The achievements of PAWS intervention in this sector are summarized in Table 24.

Table 24. Achievement of intervention objectives in the program of wildlife protection and tourist security.

Target	Achievement	Comment
Adequately equip wildlife protection unit	High	
Build up viable intelligence network	High	
Purchase vehicles and patrol boats	High	
Furnish mobile field bases in Tsavo, Meru, and Mount Elgon	High	
Finance detailed feasibility study for expansion of park telecommunication system	High	
Establish highly mobile strike force and three additional sub-units	High	

Summary Observations

7 Despite the past success and increased effectiveness of anti-poaching and intelligence efforts, wildlife protection and visitor security still remains an important function of the Security Department, assisting KWS in achieving its financial and long-term conservation objectives (Hamilton, 1998 pers. comm., June 1998). According to the same source, KWS will not be able to sustain the current operational costs of the Wildlife Protection and Tourist Security Unit, unless the mandate of the Unit can be confined to Protected Areas only and unless funding can be obtained from sources outside KWS for services provided outside the PAs.

8 According to Hamilton (1998, pers. comm., June 1998), 62 percent of all 4x4 vehicles in the Wildlife Protection Unit are not operational and are in need of major repairs, and 8 out of the 16 KWS airplanes operated by Airwing are either destroyed or in need of very costly repairs (Table 25). Airwing plays a vital role in anti-poaching efforts. The same source indicates that members of the security forces lost in performance of duty are currently not being replaced as a result of KWS' austerity measures and that new recruits are needed to replace rangers entering retirement.

Table 25. Condition of KWS aircraft as of April, 1998.

Registration	Type	Station	Comments
5Y-KWT	C208	Wilson Hangar	Serviceable
5Y-KWF	B206 2-4	Wilson Hangar	Serviceable
5Y-KWS	C402C	Wilson Hangar	Serviceable
5Y-BCA	C182q	Wilson Hangar	Serviceable
5Y-KRC	C180	Meru	Serviceable
5Y-ADW	C180	Tsavo East	Serviceable
5Y-KWB	CAIH	Tsavo West	Serviceable
5Y-KWD	CAIH	Mt. Kenya	Serviceable
5Y-KWC	CAIH	Wilson Hangar	Burnt on Mt. Elgon, has just started being rebuilt
5Y-DAL	CAIH	Wilson Hangar	Crashed into by bus, is being built, awaiting inspection and C of A test flight
5Y-FOC	CAIH	(Minjila)	Crashed on T/off, awaiting recovery, then rebuilding
5Y-BGR	CIAH	(Meru)	Crashed on T/off, awaiting recovery, then rebuilding
5Y-BGV	CAIH		Destroyed when it crashed on Mt. Elgon
5Y-AKT	C180	Wilson Hangar	Presently being rebuilt
5Y-KSR	C180	Wilson Hangar	Plans to have it rebuilt when AKT is completed
5Y-AUM	C182	Wilson Hangar	Plans to have it rebuilt when insurance pays up, some spares already in store

3.13 Condition of Biodiversity

1 One of the three main objectives of the PAWS project was to halt the rapid decline of Kenya's wildlife and national parks and reserves. A short-term objective of PAWS was to reduce poaching (particularly of elephants and rhinoceros), while a long-term objective was to conserve the habitat required for sustainable populations. As noted elsewhere in this review, the mandate of KWS has expanded from protection of wildlife in national parks to protection and management of biodiversity.

2 Biodiversity is used interchangeable with biological diversity, and refers to “*all life forms and the life process upon which they depend for continuity and which they are part of*” (Mwangi, 1995). As such, biodiversity includes traditional wildlife populations (e.g., birds, mammals, reptiles and amphibians), in addition to insects and other invertebrates, and the habitat for these species

3 Wildlife Population Trends The dramatic decline in Kenya's major wildlife species in the 1980s is well documented. For example, elephant numbers declined from 167,000 in 1969 to about 20,000 in 1989 (Butynski et al., 1995). This loss of elephants was attributed to drought conditions and virtually uncontrolled poaching. In 1975, the black rhino was headed for extinction with only 350 left out of an estimated 20,000 in 1970. In 1995, the black rhino population had increased to 450, and by 1998 it was estimated to be as high as 462.

4 Formation of the KWS in 1989, and the institution of effective control of poaching resulted in the reversal of the downward trend in numbers for elephants and some other species. However, the trends in numbers are not consistent for all species and geographic areas.

5 The most comprehensive data on population numbers of large herbivores come from DRSRS aerial surveys conducted from 1977 to 1997 (Githaiga, 1998). While there continues to be debate about the interpretation of inventory data for various species, there are areas of consensus and general trends that can be discerned.

- Elephant numbers have increased generally throughout Kenya in response to protection from poaching. Poaching is not now a significant problem for elephants. In localized areas, elephant populations may be exceeding carrying capacity of the suitable habitat, especially in national parks that have been fenced to restrict movements out of the park or reserve.
- The black rhinoceros numbers are increasing slowly under the intensive protection offered by the sanctuaries established as part of the meta-population management strategy. Poaching has not been a significant factor for rhinos in the past six years, although two were poached this past year.

- Conservation efforts from the late 1980s to the 1990s show improvement and stabilization in some critical mammal populations, most notably buffalo, eland, gerenuk, lesser kudu, and ostrich (Table 26 and Figure 2).
- The remaining rare mammals (see Table 27) are at best stable in numbers or their status is unknown. All these species must be considered vulnerable to continued declines, especially those species that are found largely outside of protected areas (e.g., hirola).
- There is a general downward trend in large herbivore populations in rangelands in the past two decades; this includes both wildlife herbivores and domestic stock numbers.

Table 26. Wildlife population estimates for the selected rangeland districts in Kenya

* Denotes significant difference between estimates of populations (z score, $p < 0.05$).

Species	Population Estimate			Percent Change		
	Lates 1980s	Early 1990s	Late 1990s	Late 1980s to Early 1990	Early 1990s to Late 1990s	Late 1980s to Late 1990s
Buffalo	25,445	29,299	26,463	15%	-10%	4%
Eland	17,129	18,746	19,081	9%	2%	11%
Elephant	13,075	9,148	14,153	-30%*	55%*	8%
Grant's Gazelle	125,313	157,997	115,536	26%*	-27%*	-8%
Thomson's Gazelle	91,072	40,403	69,315	-56%*	72%*	-24%
Gerenuk	23,717	21,204	26,829	-11%	27%*	13%
Giraffe	43,379	52,060	30,833	20%	-41%*	-29%
Greater Kudu	241	679	54	182%*	-92%*	-78%
Impala	91,791	62,622	86,243	-32%*	38%*	-6%
Kongoni	19,377	17,651	17,409	-9%	-1%	-10%
Lesser Kudu	5,977	8,687	8,605	45%*	-1%	44%
Oryx	24,889	34,892	27,225	40%*	-22%*	9%
Ostrich	24,435	34,489	28,942	41%*	-16%	18%
Topi	95,062	91,838	59,825	-3%	-35%	-37%
Waterbuck	7,177	5,450	5,108	-24%	-6%	-29%
Wildebeest	78,066	67,256	56,661	-14%	-16%	-27%
Burchell's zebra	123,302	147,286	158,229	19%*	7%	28%
Grevy's zebra	4,806	5,256	4,726	9%	-10%	-2%
Totals	814,253	804,963	755,237	-1%	-6%	-7%

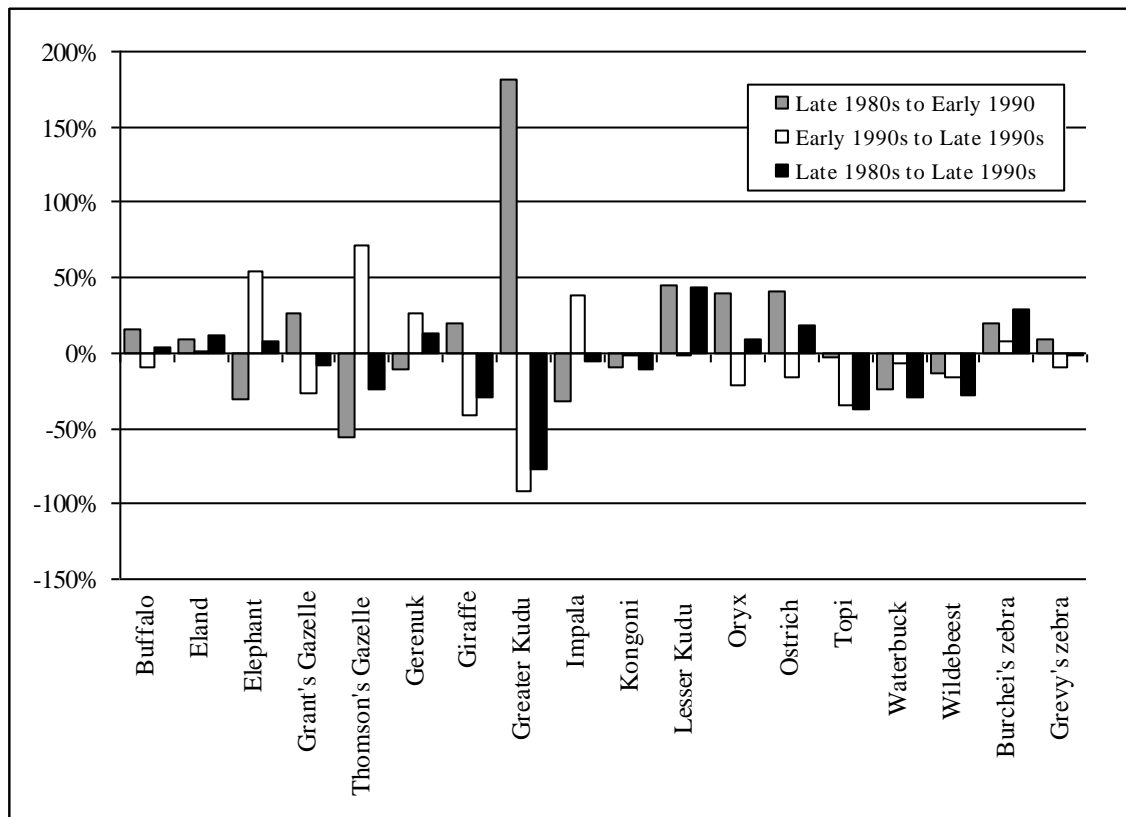


Figure 2. Graphical presentation of changes in herbivore populations for late 1980s To 1990s based on Giathaiga (1998).

Table 27. Trends in the populations of some of Kenya's rarer mammals. Data provided by KWS (June 1998).

Species	Year Number	Year									
					1961	1966	1973	1975	1980	1994	1998
Dugong	Year Number				50	80	67	8	3	10	nd
Roan Antelope (Ruma NP)	Year Number		1970 200	1974 170	1979 125	1985 109	1989 30	1990 30	1994 29	1995 21	1998 25
Sable Antelope (Shimba Hills NP)	Year Number				1960 265	1968 54	1982 260	1987 105	1994 120	1995 148	1998 150
Hunter's Antelope	Year Number						1976 13,000	1989 2,500	1993 2,000	1995 320	1998 413 ¹
Elephant	Year Number						1969 167,000	1979 130,000	1989 20,000	1995 25,000	1998 27,000
Black Rhinoceros	Year Number	1970 20,000	1975 10,000	1989 285	1990 304	1991 317	1992 325	1993 338	1994 375	1995 445	1998 462
Tana Red Colobus (Tana River NR)	Year Number				1975 814	1985 147	1989 208	1990 182	1993 273	1994 481	1998 nd
Tana Crested Mangabey (Tana River NR)	Year Number					1975 739	1985 340	1989 430	1993 595	1994 574	1998 nd
DeBrazza's Monkey (Salwa Swamp NP)	Year Number							1983 28	1989 17	1995 20	1998 nd

¹ Could be up to 1,500

² No census data available at the time of review.

6 It should be emphasized that a large proportion of Kenya's large mammals occur outside of KWS-managed protected areas. Butynski et al. (1995) concluded that there was no evidence of a significant, widespread reduction of poaching on most of these animals outside of protected areas. Since the 1980s, 10 of 18 species included in the DRSRS census data showed overall population declines, and only the ostrich and Burchell's zebra have increased nationwide since 1977 (Butynski et al. 1995).

7 Though differences in patterns exist between regions, the general pattern of decline is true throughout the country. Numbers have declined in protected areas, but even more so in wildlife areas without protected status. However, areas with established community programs (e.g., Amboseli, Machakos and Laikipia) all show positive trends in census data, while adjacent areas without community programs (e.g., Athi Kapiti Plains and Eastern Kaputei) show declines in census data over the same period (Githaiga, 1998).

8 There is currently little incentive for private landowners to tolerate wildlife. Landowners bear the costs of living with wildlife, including economic losses associated with crop damage and loss of human life, and derive little or no economic benefit from the wildlife resource. Community wildlife programs may provide sufficient incentive for landowners to tolerate wildlife on their property; however, more analysis is needed before any hard conclusions can be drawn.

9 Rainy and Worden (1997) calculated a 33 percent decline in total wildlife herbivore populations from the 1970s to the 1990s, and an 11 percent decline in domestic livestock. They attributed the decline in herbivore numbers to a reduction in carrying capacity due to rangeland degradation and recent periods of extended drought.

10 There have been recent reports of increased poaching activity that have circulated in the popular media. Upon investigation, many of these reports were found to be without basis.

11 While trends in large mammal populations are fairly well documented, trends in the overall health of Kenya's ecosystems, including flora and non-mammal faunal resources, are harder to assess. Marine ecosystems are known to be suffering from over-fishing, pollution and competition for the use of coastal resources. Indigenous forests continue to be over-exploited.

12 Amboseli NP data over three decades show that plant species richness has declined in the park due to heavy herbivore use, particularly the compression of elephants (Western and Gichohi, 1993), and Mwangi (1995) hypothesized that this downward trend in biodiversity is a prevalent trend within many protected areas. Fencing of other parks is likely to increase the rate of elephant-induced habitat change and the likely resultant loss of biodiversity.

13 Kenya's Protected Area System

The current protected area system (PAS) of Kenya, which includes national parks and reserves, covers about 8 percent of the country (i.e., 44,928 km²). National Parks, the only areas under the direct jurisdiction of KWS, occupy 4.9 percent of Kenya's land surface and contain only an estimated 10 percent of Kenya's biological diversity. The rest is found on land under jurisdiction other than KWS (Mwale, 1997). Jurisdiction for national reserves and sanctuaries ranges from local authorities to private land owners. Forest Reserves and indigenous forests fall under the jurisdiction of the Forestry Department, except for those co-managed under the MOU.

14 This clearly indicates that without a concerted effort between KWS, landowners and other stakeholders, biodiversity in Kenya cannot be sustained. Within the past five years progress seems to have been made for a better protection of biodiversity through a series of MOUs signed between KWS and other resource agencies. However, a rapidly growing human population with increasing demands on land and resources continues to threaten the ecological integrity of ecosystems outside of protected areas. The result is ecological fragmentation and isolation of protected areas which may not meet the required minimum critical size for a sustainable ecosystem and biodiversity protection. This is of special significance for PAs with perimeter fences, effectively blocking traditional ungulate movements (i.e. Shimba Hills, Nakuru NP and Aberdares NP; soon, Nairobi and Ruma NPs could be added to the list). Threats are aggravated through socio-cultural changes associated with changing land use patterns, destruction of forests and pastoral areas adjacent to parks and reserves.

15 Following the expanded mandate of KWS in 1995, which entrusts KWS with the challenge of biodiversity conservation throughout the country, KWS commissioned a study under PAWS to assess the completeness of Kenya's protected area system coverage (Mwangi, 1995). This comprehensive document provides excellent background information on the current PAS, general threats and constraints, and opportunities for safeguarding biodiversity inside and outside the PAS. Mwangi's study resembles a high quality gap analysis that clearly identifies ecosystem coverage by the current PAS. His findings indicate that the current PAS cannot in itself guarantee effective conservation of Kenya's biodiversity. His convincing statistical evidence shows that more than 70 percent of large mammals are found outside protected areas, at least for part of their biological cycle.

16 Based on the ecosystem classification completed in 1983 with the assistance of the Canadian Wildlife Service, Mwangi (1995) identified in his gap analysis that the current PAS significantly favors savanna biomes, with semi-arid woodland and bush/grassland represented in 28 PAs. Wetlands, ranging from marine to inland alkaline and freshwater ecosystems, and several forest biomes are insufficiently represented as shown in Table 28.

Table 28. Ecosystem representation in Kenya's PAs (Mwangi, 1995)

Ecosystem	National Parks	Reserves	Forest	Other	Remarks
Afroalpine Glacier	3	0	0	0	Adequate
Highland Moist Forest	3	0	*	0	Adequate
Guinco Congolen Rain	0	1	*	*	Adequate
Evergreen and Semi-Evergreen Bushland	2	2	*	*	Not Adequate
Highland Dry Forest	3	1	*	*	Not Adequate
Open Grassland	6	6	(-)		Adequate
Semi-Arid Woodland and Open Grassland	7	21	(-)		Adequate
Semi Desert	3	2	(-)	*	Adequate
Coastal Forest	1	3	*	*	Adequate
Groundwater and Riverine	2	4	(-)	*	Adequate
Coastal Evergreen	0	1	(-)	*	Not Adequate
Coastal Palm Stands	0	0	(-)	*	Not Adequate
Permanent Swamps	2	0	(-)	*	Not Adequate
Freshwater lakes	2	0	(-)	*	Not Adequate
Alkaline Lakes	1	1	(-)	*	Not Adequate
Marine Beaches/Dunes	0	1	(-)	*	Not Adequate
Mangroves	0	3	(-)	*	Not Adequate
Coral Reefs/Islands	4	4	(-)	*	Adequate
(-) definition of community precludes its presence from forests * ecosystem in areas without legal protection An ecosystem was considered not adequately represented if present in less than four areas. Presence in parks under KWS carried more weight due to better protection					

17 Mwangi (1995) concludes that the current PAs is totally insufficient in complying with KWS' mandate of sustainable biodiversity conservation. He points out that closed canopy forest ecosystems harboring 35 percent of larger mammal species, 30 percent of bird species and 35 percent of butterfly species are of critical importance to biodiversity. Three times as many rare mammals are found in forests as in savannas. Despite such importance, these ecosystems are represented by only 2 percent. There seems to be a consensus among stakeholders that without efficient protection outside of the PAS, large plains mammals will not be able to sustain viable populations in the long run. There also seems to be a consensus that without the support of communities in peripheral areas of PAs, sustainable biodiversity conservation inside and outside of such areas will be in permanent jeopardy.

18 Mwangi (1995) points out that, traditionally, the main trust of biodiversity conservation resolved around the protected area concept, with little concern for people

and land outside PA boundaries. As can be observed worldwide, this attitude has changed dramatically within the last two decades. In recognition, KWS has rightly placed its 'Partnership Program' on top of its priority list.

19 In an effort to deal with growing problems associated with increasing alienation of wild-lands and pressures on biodiversity, several participatory planning workshops have been conducted since 1995 by KWS in collaboration with major stakeholders. Three primary goals crystallized from the workshops: " (a) to make custodians of biodiversity the beneficiaries by ensuring that benefits accrue directly to those who bear the costs of biodiversity conservation; (b) to promote sustainable nature tourism that will ensure maximum economic benefits to the nation while minimizing environmental and cultural damage; and (c) for KWS to establish a viable conservation area system" (Mwangi,1995).

20 Rising to the challenge and in compliance with repeated IDA requests KWS recently (1998) developed a new approach to biodiversity conservation through the adoption of a 'Minimum Viable Conservation Area' (MVCA) concept, which takes all aspects discussed above into account. In his background paper on the MVCA concept prepared for the PRT, Waithaka (1998) indicates that "the new concept provides the basis upon which KWS expects to allocate conservation effort and available resources, realizing that it is not possible to be everywhere that Kenya's biodiversity is located." The MVCA is the core of KWS' revised Wildlife Policy by defining: " a network of conservation areas far beyond the current PAS that ensures that biodiversity resources are adequately conserved into the next century" (Waithaka, 1998).

21 The MVCA (Map 1) takes major dispersal areas of migratory plains animals into account. It also covers areas of outstanding ecological value outside of the PAS, and areas with high levels of endemism or which are critical to the survival of rare and endangered species. Also included are ecosystems currently under-represented in the PAS and those with critical habitat requisites for known keystone and endangered species. Also covered are significant cultural sites and areas with high potential for nature-based tourism.

22 Waithaka (1998) emphasizes the importance of people for the MVCA concept to function. He points out that "social, cultural, economic and political issues are not peripheral to MVCA, but central. Furthermore, the cultural and socio-economic characteristics of the local people form the basis for measures to promote the sustainable use of natural resources, alleviate poverty, raise the quality of human life and create positive support for protected areas." He continues, "The MVCA approach to biodiversity conservation requires that conservation on private lands becomes an integral part of the strategy by providing incentives for private sector conservation. The private sector can often protect and conserve biodiversity at a lower cost and with less political opposition than can KWS." Waithaka concludes that within the MVCA, the approach incorporates biodiversity conservation into all land and resource uses, including those aimed mainly at

economic production. This means that biodiversity conservation is integrated into forest management, rangelands, fisheries, and agriculture, into decisions and policy about developing wetlands, desert, and high mountain areas, and into policies for reclaiming wastelands. In each case, conserving biodiversity within the production system is the key to the resource's sustainability, and often provides short-term benefits as well.

23 The PRT fully endorses the new concept of KWS, which has evolved under the PAWS project. It is the remarkable result of a five-year PAWS sponsored process. The MVCA is a progressive approach to ecosystem management and possibly the only solution for the sustainable protection of Kenya's rich biodiversity.

Impacts of PAWS on Biodiversity

24 The PAWS project has contributed to KWS' success in meeting its urgent objective of controlling poaching for several key species of wildlife (e.g., elephants and rhinos). The PAWS project has enabled KWS to maintain protection of wildlife in Kenya's PAS, and to a lesser degree in those areas with community wildlife programs. However, this protection has not been effectively extended to wildlife beyond the boundaries of these areas. Despite KWS' efforts and PAWS project assistance, populations of many wildlife species continue to decline. While poaching may be a factor in some cases, a contributing cause is loss of habitat in key dispersal areas and in migration corridors outside of the PAS.

25 In summary, the PAWS program has made substantial contributions to protection of wildlife and biodiversity through the following efforts:

- Training and equipping of the security force and park rangers has undoubtedly contributed to the reduction and/or continued control of poaching in protected areas, and so some lesser degree in areas outside of the protected areas.
- The research and monitoring programs have contributed valuable information on wildlife dispersal areas, movement corridors and general habitat requirements that have facilitated development of the MVCA plan and improved the management of protected areas.
- KWS has successfully resisted degazettement of several areas of protected areas and forest reserves.
- The elephant and rhinoceros conservation plans have played a key role in protection and recovery of these species.

- The community wildlife programs appear to be providing the incentives for private landowners to conserve wildlife on their lands.
- KWS has developed a general management concept - the MVCA plan - that addresses the key issues of habitat and long-term protection of biodiversity.
- PAWS support for the development of new legal basis for wildlife management and conservation legislation should play a key role in future KWS efforts to promote conservation of biodiversity throughout Kenya.
- PAWS-funded training at all levels of KWS has contributed to the different conservation programs listed above.

4.0 SUSTAINABILITY OF THE PAWS CAPITAL INVESTMENT

1 During the early stages of PAWS, donors, GoK and KWS realized that KWS cannot be fully self-sufficient financially in the near or long term unless stability is achieved through an endowment fund or another sustainable financial arrangement. Considering the continuing financial crisis of Kenya, there is little hope that the shortage in operational funds within KWS can ever be covered by the GoK. KWS' unusually broad mandate which by far exceeds management of parks and reserves, will continue to be a financial drain on the organization unless KWS is properly reimbursed by the GoK and/or other beneficiaries for the services it provides.

2 It is now recognized that the most serious shortcoming of the PAWS project was the optimistic projection for revenue-generation through the tourism sector which was hoped to lead KWS to financial self-sufficiency by the end of the PAWS project. As shown in Figure 3, the SAR document projected a positive cash flow during and after the project with a substantial cash surplus. In reality, KWS revenue started to decline in 1996, due to the unforeseen decline in the tourism industry as indicated in Figure 4. The 1997 peak in revenue generation, while visitor numbers were already on the decline, is explained by the substantial increase in gate fees in 1995.

3 Another shortcoming of PAWS' financial projection is related to KWS' operational costs. As shown in Figure 5, the difference between actual expenses and PAWS projection as of 1997 is approximately US \$10 million, with actual total expenses of KWS exceeding US \$30 million by 1997. This compares unfavorably to the US \$19 million generated at the 1997 peak from tourism.

4 Table 29 provides a summary of PAWS and IDA projections compared to reality. It is apparent that without continuing support KWS is in jeopardy. Financial instability is by far the biggest threat to KWS. Bensted-Smith (1983) concludes that under the given

circumstances, "it is illogical for the donor community to drag its heels on contributing to a Trust Fund, which is essential to KWS' long-term financial security."

5 The 1997 PAWS supervision mission agreed that KWS needs an adjustment period to (a) complete and consolidate the institutional and cultural changes it has been undertaking, (b) get its management systems functioning effectively, and (c) define its specific goals and priorities on a regional/area and program basis (DFID, 1998). The supervision mission also agreed that donors would continue to support KWS, mostly through technical assistance, in order for KWS to achieve its goals.

Figure 3. KWS internally generated revenue (1990/1991-1997/1998).

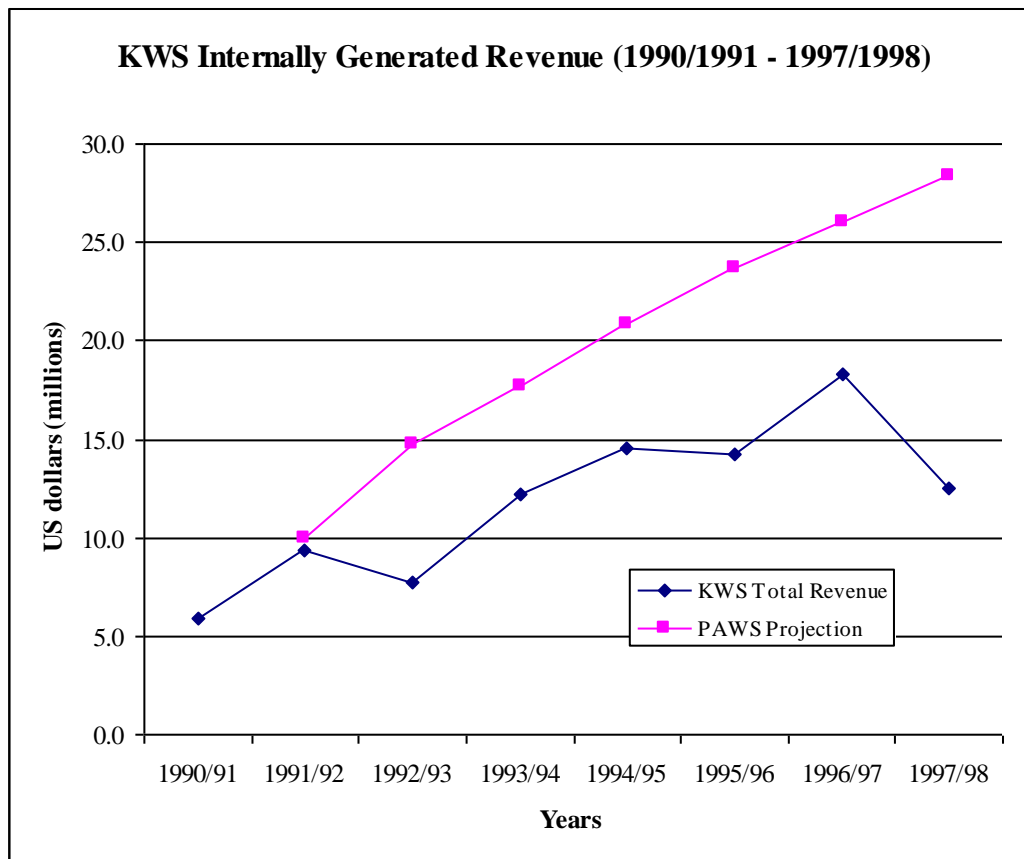
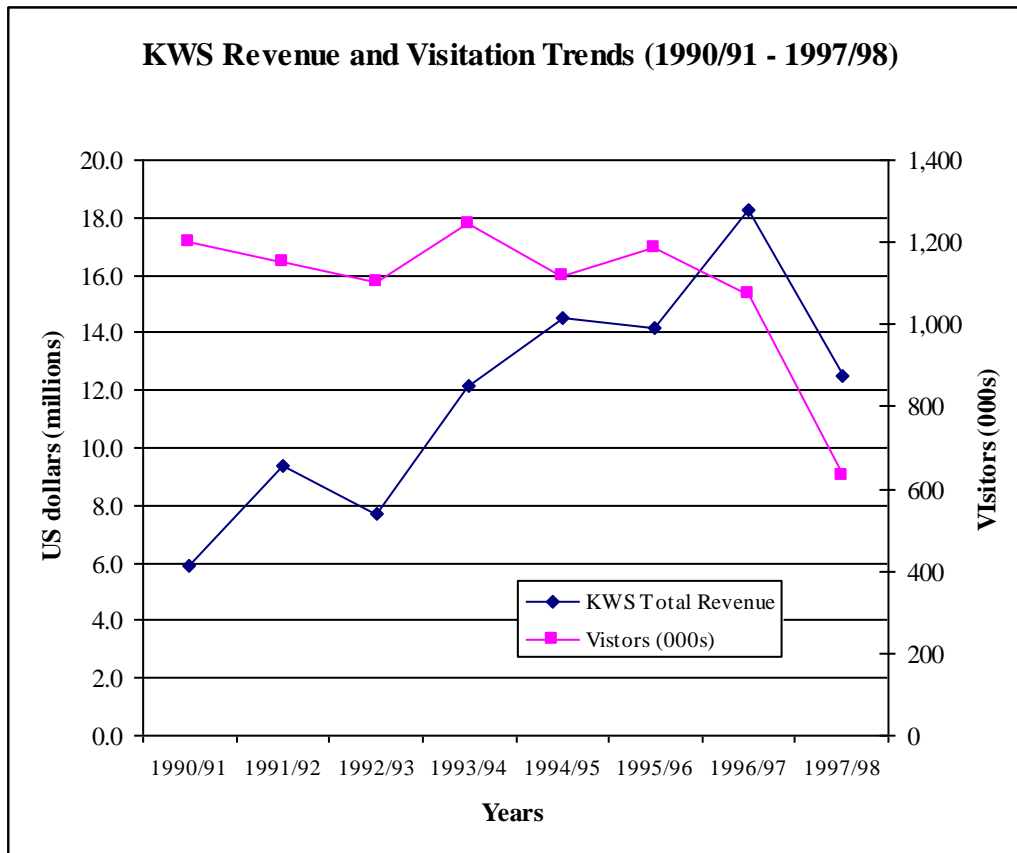


Figure 4. KWS revenue and visitation trends (1990/1991-1997/1998).



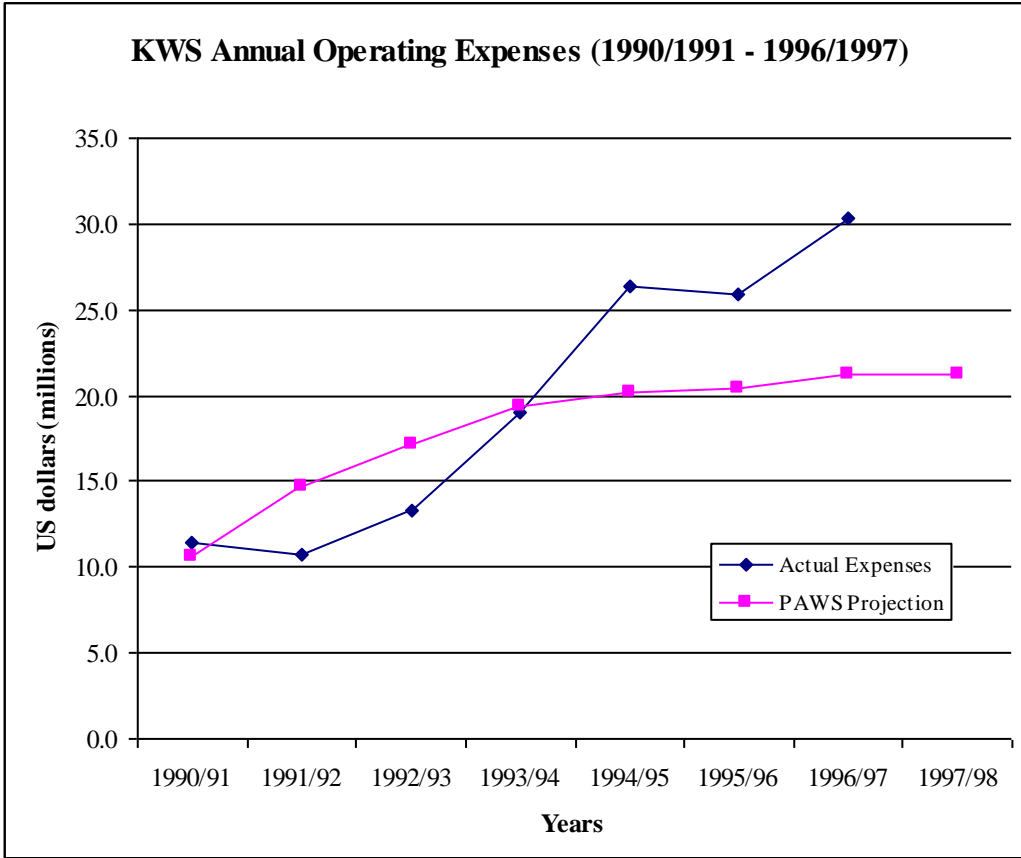


Figure 5. KWS annual operating expenses (1990/1991-1996/1997).

Table 29. KWS Annual Trends, 1990/91 - 1997/8. Money is expressed in millions of US dollars.

Operating Expenses	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Actual Expenses	11.5	10.7	13.3	19.0	26.3	25.8	30.3	
PAWS Projection	10.6	14.7	17.2	19.4	20.2	20.4	21.2	21.2

Internally Generated Revenue	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
KWS Total Revenue	5.9	9.4	7.7	12.2	14.5	14.2	18.3	12.5
PAWS Projection		10.0	14.7	17.7	20.8	23.7	26.0	28.4

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Vistors (000s)	1,199.4	1,149.9	1,105.8	1,243.1	1,116.3	1,183.7	1,075.2	633.6
Revenue	5.3	8.6	7.2	11.6	14.0	13.4	16.8	11.5
IDA Projection		10.0	14.7	17.7	20.8	23.7	26.0	28.4

Revenue and Visitation Trends	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
KWS Total Revenue	5.9	9.4	7.7	12.2	14.5	14.2	18.3	12.5
Vistors (000s)	1,199.4	1,149.9	1,105.8	1,243.1	1,116.3	1,183.7	1,075.2	633.6

Source:

1. KWS Annual Reports
2. PAWS Projections from World Bank Report

6 The recent review of the KWS/Netherlands Wetlands Conservation and Training Program strongly recommends a continuation of this rather successful component of the PAWS project. It is argued that the achievements of the first phase require follow-up in order to strengthen KWS' capabilities in the field of wetlands conservation, management and training.

7 DFID has also come to realize that without continuing assistance, KWS' financial dilemma will escalate to a point where KWS will be unable to implement its most basic functions. This is expected to not only threaten the already endangered integrity of Kenya's PAS but would undermine PAWS' past efforts and the project's overall achievements.

8 In the Project Memorandum, which details the new assistance package by DFID to KWS until the year 2000, DFID justifies its continuous support of the organization based on the overall success of its previous contribution under PAWS: "DFID (then ODA) contributed £ 2.861 million to KWS under PAWS, aimed at managing the complex change process, introducing new IT-based financial management system, strengthening the technical services, telecommunications and veterinary functions, and establishing a revenue-raising Department within the organization. The components of this DFID-funded project were successful, with the important exception that targeted improvements in financial management were not adequately realized" (DFID, 1998). The proposed DFID project of £ 1.5 million will assist KWS in (a) a more efficient application of available funds, (b) enhancement of revenue-earning potential from PAs mostly through strengthening the Tourism Department and the fund raising section, (c) improvement of international competitiveness of Kenya's main parks, (d) diversification of revenues and (e) increasing revenues from domestic tourism.

9 As already mentioned in the context of the Tourism Sector, the EU has entered into an agreement with KWS to continue its financial support in the areas of (a) conflict resolutions within the partnership program (i.e., fencing), (b) enhancement of the tourism sector, (c) financing of the second entrenchment, and (d) assisting KWS in achieving financial sustainability (i.e., a feasibility study for an endowment fund).

10 Encouraged by the overall success of its contribution to the partnership program, USAID intends to continue its support beyond PAWS under COBRA. The COBRA project ends in 1999 but the next phase has already been prepared. USAID decided to continue its project without KWS involvement.

The PRT Team recommends that continuous support be provided to KWS, which now has reached the stage where future funding can show substantial results.

5.0 CONCLUSIONS AND RECOMMENDATIONS

1 Understandably, the PAWS project in its first phase concentrated funding on the protected area system as critical underpinnings of biodiversity conservation and nature-based tourism in Kenya. From the first need assessment, it became apparent that capital investments would have to be enormous in order to bring the PAS to international standards and to stem the widespread poaching. At the onset of PAWS, the importance of ungulate 'dispersal areas,' which cover large tracts of land outside the jurisdiction of KWS, and the importance of 'biodiversity' outside the PA system (estimated at 80 percent), may not have been fully appreciated by the PAWS project proponents. This may be one of the major reasons for misunderstandings that surfaced during project implementation.

2 Mistakes cannot be avoided in a project of PAWS magnitude, especially in the absence of proper institutional and policy framework within KWS at the beginning of PAWS and in the absence of a well-defined development plan with clearly identified priorities.

3 Overall, the achievements of PAWS and the performance of KWS are remarkable considering the adverse conditions in the country. KWS has reached a stage where it could be a highly efficient organization if sustainable financing for recurring costs were available. The new focus of KWS on the program areas of tourism, partnership and biodiversity conservation is fully supported by the Project Review Team. Although the Partnership Program has not been assessed in this evaluation, it seems to have been highly successful, and has prepared the basis for cooperation between landowners in dispersal areas and KWS.

4 The new approach to biodiversity conservation through the MVCA is fully endorsed by the PRT. It is apparent that without support from landowners and stakeholders outside the PAS, parks and reserves will become increasingly isolated and will not be able to safeguard ecosystem survival in Kenya.

5 Legislation and Policy PAWS has had a definite positive impact on the development of proposed legislation and policies. New legislation is essential to enable KWS to fulfill its mandate. Development of policy and legislation has proceeded to the point where a draft Wildlife Bill awaits further action by the Government of Kenya.

Recommendations:

- More than a full year has passed since the Wildlife Bill and the attendant Wildlife Policy statement were submitted to the Government. The PRT team recommends that efforts be made by KWS and the donors to impress upon the GOK the importance of passing a new Wildlife Act.

6 Institutional Capacity PAWS contributed significantly to a major

restructuring of KWS. Headquarters reorganization and Regional decentralization were well under way at the time of this review. However, the process of devolution of authority to the Regional Director level has not yet been completed. In addition, some apparent inadequacies remain in the organizational structure, particularly in respect to regional representation in headquarters and the lack of verticality in the headquarters and regional offices.

7 All staff interviewed were aware of KWS' newly expanded mandate and most, with the possible exception of some Regional and Area Tourism Officers, understood their individual roles.

8 The RADs interviewed complained of a lack of devolution of authority, while some HQ executives expressed the opinion that RADs lacked sufficient managerial skills to be granted more authority over fiscal matters. The devolution of authority to RADs is expected to be completed following the completion of the current Regional Management Team training exercise.

9 The reason for the apparent confusion on the part of Tourism staff interviewed appears to stem from a lack of clear direction regarding the formal role of KWS in the commercial aspects of Kenya's nature tourism industry. A major thrust of KWS is to introduce a new commercially-oriented culture, particularly in respect to its involvement with the tourist industry. KWS, with the support of PAWS, has produced a policy document on the role of KWS in the nature tourism industry. The policy direction in this report needs to be translated into action at the Regional and Area levels.

10 Staff Training The PRT rates the overall results of the PAWS-funded staff training program as high. While an objective assessment has not yet been conducted to support this assessment, it is based on the level of knowledge exhibited by staff interviewed. Most staff interviewed, and particularly the middle and senior managers, clearly understood their respective duties and responsibilities; they were aware of the goals and objectives of the organization, the reasons for the goal-oriented basis of the recent reorganization, and the expansion of the KWS mandate.

Recommendations:

- Contrary to an earlier agreement in the Mid-term Review (1996), no ongoing or final training evaluation has been conducted. Such an exercise is essential to objectively assess the quality of the training and its effectiveness in helping to build the organizational capacity of KWS.
- There appears to be a sound basis for the Naivasha Wildlife Training Institute to become a self-supporting, independent training institution. The PRT recommends expanding the mission of the institute towards financial and institutional independence.

- Special out-of-country postgraduate and advanced training was costly and is likely unnecessary given the availability of professional people in the local job market. The agency also has the option of providing special training for staff at education and training institutions within Kenya.

11 Park Infrastructure Development PAWS' contribution to the organization and the PAs in terms of infrastructure development is high. There is no doubt that KWS as an organization and the PAs would have continued on their rapid decline without PAWS intervention. Infrastructure development covered everything from construction of KWS Headquarters, roads, park and visitor facilities, park entry gates, staff housing, to the purchase of communication equipment, vehicles, road maintenance and ranger equipment. It is safely assumed that this massive PAWS support contributed to growing staff morale, job dedication and performance efficiency.

12 With a sound infrastructure in place, but insufficient funds to cover recurrent costs, the sustainability of the PAWS capital investment is jeopardized. Most vehicles and road maintenance equipment purchased at the onset of PAWS need to be replaced, but no funds are available.

Recommendations:

- It is recommended to provide support for infrastructure and equipment maintenance to KWS until sustainable financing is in place.

13 Veterinary Services Unit This unit of KWS has achieved the major goals established by the SAR document as a direct result of PAWS funding. The unit has developed and trained a core staff of veterinarians and key support staff that provide key support to other KWS programs.

Recommendations:

- The veterinary unit urgently needs operational and capital investment funds to maintain its operational effectiveness and to maintain its current staff.

14 Environmental Impact Assessment Unit After a very slow start, the

EIA unit now appears to be fully operational and capable of directing and coordinating an effective EIA review for KWS projects. PAWS funding of technical assistance was a key in getting the EIA unit operational. The EIA guidelines submitted in June 1998 for adoption by KWS are a credible effort that should provide clear mechanism and process for EIAs. Some KWS staff are not fully supportive of the EIA process, and feel that it is simply a hindrance to project development.

Recommendations:

- The executive branch of KWS needs to quickly review and adopt the proposed EIA guidelines that were submitted in 1998, and inform KWS staff that the EIA process will be implemented for all KWS projects. An executive directive detailing the implantation process and responsibilities should be prepared.
- Staff awareness training should be initiated to educate the staff on the values of the EIA process, not only to improve development projects, but also to minimize environmental impacts.
- The recommendations that mitigation and monitoring be included should be changed to a project requirement, and costs of the EIA process, the mitigation, and the monitoring should be included as a project cost.
- With responsibility for EIA implementation at the regions, additional funding will be required to adequately conduct the required reviews.

15 National Park and Reserve Planning PAWS' goal to build up an efficient Planning Section, mostly for the production of area management plans, failed because the Planning Section as part of the former Research and Planning Division was dissolved after the 1996 restructuring. Some components of the former RPD have been very successful since. The new Sections for wetlands, environmental impact assessments and biodiversity policy planning are very productive, with a sound understanding of their respective functions.

16 Management planning for parks and reserves has ceased to exist after the restructuring. All management plans produced by the Planning Unit of the former Research and Planning Division lack a long-term perspective, priorities and practical applicability. The plans are standardized with a blue-print approach without stakeholder participation, possibly the major reason why the plans are not being consulted by PA staff.

17 Corporate Planning and KWS Policy Development has been transferred to the Director's Office with reasonable success. Two- and five-year corporate plans have been produced and a long-term plan for the management of a Minimum Viable Conservation

Area (MVCA). Annual workplans are now produced by each Department and each PA independently. At present, annual workplans are produced without prior knowledge of budget allocations. This has resulted in rather unrealistic plans that frequently resemble 'wish-lists' rather than practical and prioritized workplans.

18 Under given circumstances, the overall achievements for the Planning and Research Division under the PAWS project are difficult to assess. The new Sections (i.e., EIA, Biodiversity and Wetlands) receive a high rating; Corporate Planning needs improvement and PA Management Planning does not exist. Sector specific annual workplans have to be adjusted and prioritized according to available funds.

Recommendations:

- Establish a Section for PA planning in the Biodiversity Department. Update existing management plans and elaborate new plans with participation of local stakeholders with emphasis on support zone development (dispersal areas), environmental education and visitor services.
- Produce a policy manual for PA management plans; streamline and update the existing guidelines for the production of management plans.
- Adjust annual workplans to available budgets; organize by priority.
- Define and delegate responsibilities for Corporate Planning.

19 Research and Monitoring Program The original goals and program elements for the research and monitoring programs outlined in the SAR document were unrealistic. The department failed to complete much of the initial planning and program assessment work necessary to improve its own management, staff development, research, and information exchange capabilities.

20 Development of the research and monitoring programs has been hampered by the lack of a full-time department director with strong managerial and program development skills and a focused research program strategy.

21 The Biodiversity Department has now developed a staff of well-trained biologists that are capable of conducting the applied research and monitoring for conservation management needs. However, staff levels are likely inadequate to address all aspects of the expanded KWS biodiversity mandate.

22 Information management is currently inadequate. Reports on field research and monitoring efforts are either not produced, distributed, or properly archived.

Recommendations:

- A research strategy should be developed as per the aide memoires and the other PAWS agreements. This strategy is needed to guide regional staff in the annual work planning process.
- Additional post-graduate training of KWS staff is not warranted, as there are many well-qualified professional biologists available in the local job market. Future training should focus on new technologies and program development issues.
- The *Biodiversity Conservation Trust Fund* proposal should be approved and funded.
- The objectives of a monitoring program to assess the impacts of PAWS and other KWS actions should be clearly defined. The PRT does not endorse nationwide systematic monitoring programs that are not directly linked to conservation management activities.
- KWS needs to improve its information management capabilities and ensure that research results are properly documented (e.g., credible reports and publications prepared), disseminated to the appropriate conservation management staff, and archived for future reference.

23 Environmental Education, Communication and Public Awareness The impacts of PAWS on the education sector in KWS are difficult to assess after the former Education Section was abandoned during the restructuring process. In general, formal and informal education has been quite successful for the Wetlands and Partnership Programs which developed their own educational programs. Mandates for PA visitor education have been given to the Departments of Safari Walk and Tourism. Although strategic plans addressing environmental education for PA visitors have been developed by both Departments, educational opportunities do not seem to have been fully recognized. The Department of Corporate Communications needs a sound conceptual framework in order to properly represent KWS' corporate image nationally and internationally.

Recommendations:

- The goals for environmental education found in KWS' new Policy Concept must be translated into practical, achievable and well-defined activities to be placed into a

realistic time frame. The tasks have to be delegated to the most appropriate departments with well-defined authorities.

- KWS should be serious in its efforts to involve non-governmental organizations with proven capability in environmental education as requested already in the SAR report.

24 Tourism Program PAWS' contributions to the tourism program of KWS are substantial. PAWS enabled much needed infrastructure development in many parks and reserves, ranging from road rehabilitation, construction and enhancement of staff housing, gate rehabilitation and ranger training to providing equipment and facilities to PA staff. Conditions for PA visitors improved dramatically under PAWS which widely has been acknowledged.

25 Under PAWS, the new Tourism Department of KWS was established. The department shows strong leadership and has highly qualified and motivated personnel and a well-defined strategic plan. The gradual shift from KWS ' notorious "soldier" mentality to a more customer-oriented attitude is noteworthy..

Recommendations:

- The Tourism Department should capitalize on the unique potential for environmental education in parks and reserves.
- Ranger training should shift from the para-military focus to visitor handling, dealing with the public, the partnership program and environmental education.

26 Co-managed Areas: MoU between KWS and the Forestry Department

Except for the employment of the KWS/FD liaison officer and a rather undefined financial support of co-managed protected areas under PAWS, no other investment details could be located in SAR.

27 According to the MTR Team, the Natural Forest Conservation Program has made excellent progress under PAWS and PAWS objectives until 1995 have been met. Since the 1995 assessment by Butynski et al. (1995) three Forest Reserves have been added to the list of co-managed areas under the MoU and several areas have been expanded in size. The license for the development of forest-based ecotourism under the FD/KWS-MOU subsequent to the MTR is a positive sign for an improving relationship between the two factions.

Recommendations:

- Efforts by KWS should continue to incorporate endangered forest ecosystems and such indigenous forest ecosystems which are currently under-represented in the PAS.

28 Wildlife Protection and Tourist Security Program PAWS is credited for the extraordinarily successful Security Department of KWS. The Department was trained, equipped and supported in all its activities under PAWS. Currently, the Security Unit is widely acknowledged as possibly the most effective force in all of Africa. It ensures security of both wildlife and tourists in parks and reserves. Its success in anti-poaching and increased tourist security is noteworthy. Poaching within the PAS seems to be under control, elephant and rhino populations as indicator species are increasing, and tourism-related banditry in parks and reserve has practically been eliminated. The Security Department seems to be one of the most stable and successful Departments of KWS.

Recommendations:

- Continuous support of the Security Department is needed in order to safeguard its high performance standards currently being threatened by lack of funds to cover basic operational costs.

A summary rating for achievements within different PAWS project components is given as follows:

<u>Intervention</u>	<u>Rating</u>
Legislation and Policy	high to very high
Institutional Capacity	medium to high
Staff Training	medium to high
Park Infrastructure Development	high
Veterinary Services Unit	high to very high
Environmental Impact Assessment Unit	high
National Park and Reserve Planning	
PA management plans	low
Corporate and Strategic Planning	medium
Annual workplans	low to medium
Research and Monitoring Program	medium
Environmental Education	low
Communication and Public Awareness	low to medium
Tourism Program	medium to high
Co-managed Areas: MoU (KWS/FD)	medium to high
Wildlife Protection and Tourist Security Program	very high

6.0 LITERATURE REVIEWED

- Aligula, H., M. Said, and E. Njuguna. 1997. Geo-information for sustainable rangeland management. A case study of the arid and semi-arid lands in Kenya. Proceed. Conf. on Geo-Information for Sustainable Land Management, Enschede, The Netherlands.
- Anonymous. 1991. Memorandum of Collaboration between the Forestry Department and the Kenya Wildlife Service and the National Museum of Kenya. An Addendum to the FD/KWS MoU. Nairobi, Kenya.
- Anonymous. 1995. COBRA Project Assessment. Draft report to U.S. AID, Nairobi, Kenya.
- Anonymous. 1995. Commercial Department - Update Brief Prepared for ODA. Kenya Wildlife Service, Nairobi, Kenya.
- Anonymous. 1995. Poaching down, herds up. KWS Newsbrief 1:3.
- Anonymous. 1997. Much ado about the African elephant. KWS Newsbrief 2:1-3.
- Anonymous. 1997. Hirola or hunter's hartebeest (*Beatragus hunter*). Report of the Hirola Task Force, Nairobi, Kenya.
- Anonymous. 1998. Proceedings of the Kenya Landowners Wildlife Forum Meeting. Meeting held Dec. 9, 1997 at KWS Vet Clinic, Langata.
- Anonymous. 1998. Kenya Wildlife Service Phase II Project (DFID). Project Memorandum. Department for International Development.
- Anonymous. 1997. Financial Viability Strategy for the KWS Training Institute. Mimeo. KWS. Nairobi. 15 p.
- Anonymous. 1997. Strategic Plan for the KWS Training Institute. KWS. Nairobi. 15 p.
- Anonymous. 1998. Kenya Wildlife Service Phase II Project. Department for International Development (DFID). Mimeo. Nairobi. 70 p.
- Awere-Gyekye, K. 1996. Land use Planning and Coordination Study: National Land Use Patterns and Trends. Prepared for Kenya Wildlife Service. Nairobi, Kenya.

- Bensted-Smith, B. 1993. Case Study on Protected Areas Wildlife Service Project. IUCN Protected Area Programme/CNPPA.
- Butynski, T., J. Klina, W. Ottichilo, and G. Runo. 1995. PAWS Project Mid-term review. Position Paper No. 1A. Kenya Wildlife Service, Nairobi, Kenya.
- Census Bureau of Statistics. 1998. Chapter 13. Tourism. Pages 174 to 185, *In* Economic Survey. Ministry of Planning and National Development, Nairobi, Kenya.
- Deloitte & Touche Management Consultants Ltd. 1995. Kenya Wildlife Service financial projects for the period 1990/91 to 2000/01. Revised draft report to Overseas Development Administration (ODA), Nairobi, Kenya.
- Dublin, H., T. Milliken, and R. Barnes. 1995. Four years after the CITIES ban: illegal killing of elephants, ivory trade and stockpiles. A report of the IUCN/SSC African Elephant Specialist Group.
- Dublin, H., T. McShane, and J. Newby. 1997. Conserving Africa's elephants. Current Issues and Priorities for Action. A WWF International Publication, Gland, Switzerland.
- Friends of Conservation. 1998. Conservation Corner - Poaching Resumes. Msafiri 23:50.
- Game Ranching Ltd. 1995. Land use options in ASAL Areas: The case of wildlife utilization. Workshop Report, 20-23 March 1995.
- Githaiga, J. 1998. Recent wildlife population trends in Kenya. Interim Final Report to Kenya Wildlife Service. Nairobi, Kenya.
- Grunblatt, J., M. Said, and P. Wargute. 1996. Summary of Population estimates for wildlife and livestock. Kenyan rangelands 1977-1994. Department of Resource Surveys and Remote Sensing, Ministry of Planning and National Development, Nairobi, Kenya.
- IDA. 1998. Protected Areas and Wildlife Interim Support - Project Completion Report.
- Kenya Tourism Board. 1998. Short-term marketing Campaign. Background Information and Campaign Outline.
- Kenya Tourism Board. no date. See Kenya - See Africa. Nairobi, Kenya.

- Kenya Tourism Board. no date. Short-term marketing Campaign. Background Information and Campaign Outline. Nairobi, Kenya.
- Kenya Wildlife Service. 1990. Policy Framework and Development Programme, 1991-96. Annex 6. Community Conservation and Wildlife Management Outside Parks and Reserves (Zebra Report). Nairobi, Kenya.
- Kenya Wildlife Service. 1993. Strategic planning workshop for the Community Wildlife Service (CWS) Department. Workshop proceed. January 11 to 22, 1993. Nairobi, Kenya.
- Kenya Wildlife Service. 1995. Annual Report. Nairobi, Kenya.
- Kenya Wildlife Service. 1996. Strategy for conduct and use of Environmental Impact Assessment (EIS) in KWS development projects. Final report. Nairobi, Kenya.
- Kenya Wildlife Service. 1996. Annual Report. Nairobi, Kenya.
- Kenya Wildlife Service. 1996. Wildlife-Human Conflicts in Kenya. Report of the Five-Persons Review Group. Nairobi, Kenya.
- Kenya Wildlife Service. 1997. KWS Training Plan & Implementation Strategy. Prepared by KWS and Price Waterhouse. Nairobi, Kenya.
- Kenya Wildlife Service. 1997. Tsavo Regional Annual Work Plan for the Period: 1997-1998. Prepared by Tsavo Region.
- Kenya Wildlife Service. 1997. Corporate Plan 1997-199. Corporate Planing Unit, KWS, Nairobi, Kenya.
- Kenya Wildlife Service. 1998. Ecological Monitoring Programme: Implementation Strategy. Nairobi, Kenya.
- Kenya Wildlife Service. no date. Concept paper for the Nairobi Safari Walk. Nairobi, Kenya.
- Kenya Wildlife Service. no date. Guide to Parks/Reserves Management Plans. Nairobi, Kenya.
- Kenya Wildlife Service and FD Policy Planning Department. 1993. Shimba Hills Ecosystem Management Plan, 1993-1997.

- Kenya Wildlife Service and the Forestry Department. no date. Memorandum of Understanding for the Joint Management of Selected Forests. Nairobi.
- Kibera, F., and E. Aosa. 1995. Draft Position Paper on Organisational Development and Human Resources Management. Report to Kenya Wildlife Service. Promin Consultants Limited, Nairobi, Kenya.
- King'oriah, G. 1995. An economic appraisal of wildlife conservation as a land use in Kenya. Final report to Kenya Wildlife Service, Nairobi, Kenya.
- Lavieren, B. van. 1998. KWS/Netherlands Wetland Conservation and Training Programme. Draft Project Evaluation Report. Nairobi, Kenya.
- Mwale, S. 1997. Wildlife Policy 1997. Nairobi, Kenya.
- Mwangi, E. 1995. Land use planning and coordination study, protected area system coverage. Prepared for Kenya Wildlife Service, Nairobi, Kenya.
- Njuguna, S. 1996. Support for long-term management of Kenya Wildlife Service's education unit. Project Evaluation Report submitted to World Wide Fund for Nature, Nairobi, Kenya.
- Njuguna, S. 1998. Environmental Impact Assessment (EIA) Guidelines and Administrative Procedures. Prepared for Kenya Wildlife Service. June, 1998.
- Norton-Griffiths, M. 1988. The economics of wildlife conservation policy in Kenya. *In* Milner Gulland, E., and R. Mace. Biological conservation and sustainable use. Blackwells, Oxford, England.
- Pacific Consultants International. 1995. The Study on the National Tourism Master Plan in the Republic of Kenya. Vol. 1. National Tourism Development Master Plan. Report to Ministry of Tourism and Wildlife, Gov. of the Republic of Kenya, Nairobi.
- Pacific Consultants International. 1995. The Study on the National Tourism Master Plan in the Republic of Kenya. Vol. 2. Master Plans for Priority Tourism Region. Report to Ministry of Tourism and Wildlife, Gov. of the Republic of Kenya, Nairobi.
- Pacific Consultants International. 1995. The Study on the National Tourism Master Plan in the Republic of Kenya. Vol. 3. Environmental Conservation and Management Plan. Report to Ministry of Tourism and Wildlife, Gov. of the Republic of Kenya, Nairobi.

- Rainy, M., and J. Worden. 1997. Summary of wildlife and domestic herbivore population trends in Kenya's rangeland districts 1977-1994. Report by Explore Mara Ltd. Nairobi, Kenya.
- Said, M., G. Ojwang, E. Njuguna, and P. Wargute. 1997. Aerial Surveys Database , Methods, Products. Dept. of Resource Surveys and Remote Sensing, Ministry of Planning and National Development, Nairobi, Kenya.
- Tourism & Transport Consult International. 1998. Impact of Tourism on the Economy of Kenya 1996. Draft report on the EDF Kenya Tourism Development Project.
- University of York & Hull. 1993. Kenya Shimoni Marine Park Expedition, 1992. Part 1. Report on the distribution of habitats and species of Kisite Marine National Park and Mpunguti Marine National Reserve.
- University of York & Hull. 1993. Kenya Shimoni Marine Park Expedition, 1992. Part 3. Management of the marine and coastal resources of Shimoni and recommendation for managing protected areas
- Waithaka, J. 1998. Minimum viable conservation area (MVCA) concept. Kenya Wildlife Service, Nairobi, Kenya.
- Waithaka, J. 1998. Biodiversity Conservation Trust Fund (BCTF). Draft proposal. Species Conservation Programme, Kenya Wildlife Service, Nairobi, Kenya.
- Wainaina, Alice. 1998. Proceedings of the National Landowners Wildlife Forum and Other Stockholders Meetings. Kuzoya Developments.
- Wamukoya, G., J. Mirangi, and W. Ottichillo. 1996. Marine aerial survey: marine mammals, sea turtles, sharks & rays. KWS Tech. Series Report No. 1.
- Wanjala, S., and K. Kibwana. 1996. Draft Wildlife (Conservation and Management Bill), 1996. Kenya Wildlife Service, Nairobi, Kenya.
- Western, D., and H. Gichohi. 1993. An ecological monitoring program for Kenya's protected areas. A Consultancy Report to Kenya Wildlife Service. Wildlife Conservation International, Nairobi, Kenya.
- Western, D., and H. Gichohi. 1993. Segregation effects and impoverishment of savanna parks: the case for ecosystem viability analysis. *Afr. J. Ecol.* 31:269-281.

- Wishitemi, B. 1997. Kenya Wildlife Service Training Institute- Training Programmes. Kenya Wildlife Service, Naivasha, Kenya.
- World Bank. 1992. Staff Appraisal Report. Kenya- Protected Areas and Wildlife Service Project. Agriculture Operations Division, The World Bank.
- World Bank. 1994. Kenya: Protected Areas and Wildlife Service (PAWS) Project, Supervision Mission, June 6-30, 1994. Aide Memoire.
- World Bank. 1995. Kenya: Protected Areas and Wildlife Services Project: Supervision Mission, Jan. 30 - Feb. 17, 1995.. Aide Memoire.
- World Bank. 1996. Kenya: Protected Areas and Wildlife Services Project Mid-term Review, Aide Memoire - Annex 1.
- World Bank. 1997. Kenya: Protected Areas and Wildlife Service (PAWS) Project, Supervision Mission: Oct. 22 - Nov. 1, 1996. Aide Memoire.
- World Bank. 1997. Kenya: Protected Areas and Wildlife Service (PAWS) Project, Supervision Mission Aide Memoire. Draft 10 December, 1997.

Kenya Wildlife Service Management Plans

- Hell's Gate/Mt. Longonot National Parks/Suswa Ecosystem. Management Plan (1991-1996). Planning Department.
- Hell's Gate/Mt. Longonot National Parks/Suswa Ecosystem. Component 3: Community Wildlife Plan for Hells Gate/Mt. Longonot/Suswa Ecosystem. Management Plan 1992-97.
- Kirimon N. Reserve. Management Plan (1991-1996). Planning Department.
- Laikipia N. Reserve. Management Pan (1991-1996). Planning Department.
- Mount Kenya National Park: Five Year Management Plan, 1993 to 1998.
- Nairobi National Park. Management Plan 1996-2000. Research and Planning Department.
- Nasolot N. Reserve. Management Plan (1991-1996). Planning Department.

Shimba Hills Ecosystem Management Plan, 1993-1998. KWS and FD Planning Departments.

South Turkana N. Reserve. Management Plan (1991-1996). Planning Department.

Tana River National Primate Reserve. Management Plan 1993-1998. Planning and Monitoring Department.

Tsavo West National Park. Management Plan (1993-1997). Planning and Research Department.

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Kahoro, Chadrek	Area Superintendent Works
Kilonzo, Daniel M.	Regional Assistant Director and Senior Area Warden Lake Nakuru NP
Kinyui, Jim	Mechanical Supervisor
Kisoyan, Lydia	Regional Partnership Coordinator
Mwangi, John	Acting Finance Coordinator
Mwangi, Joe	Area Rhino Security Officer

Mountain Region

Aberdares National Park

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Kimanthi, Julino N.	Area Partnership Officer
Mulwa, Pius	Area Tourism Officer
Mwangangi, Wilfried	Area Security Officer
Mwangi, Charles K.	Regional Human Resources Coordinator
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Owudr, Job Philipp	Superintendent Telecommunications
Rauni, Munene	Area Security Officer
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Regional Partnership Coordinator

Eastern Region

Buffalo Springs National Reserve Samburu National Reserve

Ruhiu, Joseph, M. Regional Biodiversity Coordinator

National Parks Tsavo East and West

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Ibrahim, Mohammed	Clerk of Works
Kahiga, Philipp	Area Partnership Officer
Kaisha, Absolom	Area Tourism Officer
Kulecho, Florence	Area Tourism Officer
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Malindi Marine National Park and Reserve

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Watamu Marine National Park

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Annex 4, Table 1. Park visitation and revenue in protected areas, 1993/4 -1997/8.

Protected Area	1993-1994		1994-1995		1995-1996		1996-1997		1997-1998	
	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)
NATIONAL PARKS										
Aberdares	65,471		66,843	24,674,015	61,295	89,078,485	61,334	83,113,156	43,277	69,592,333
Amboseli	129,556		118,775	32,550,060	130,481	228,611,793	127,121	207,942,361	72,589	149,213,765
Central & South Is	450		501	379,948	400	587,482	664	396,396	363	420,482
Chyulu Hills	*		*		*	375,429	*	9,400	*	35,185
Hell's Gate/ Longonot	39,768		41,914	6,346,698	47,997	17,809,167	25,873	5,873,543	32,077	8,559,802
Lake Nakuru	156,218		174,859	43,377,754	158,984	180,076,808	153,701	181,077,846	112,411	133,009,181
Meru	6,381		6,892	1,955,749	6,209	5,430,091	2,802	2,602,843	850	1,879,765
Mt. Kenya	19,230		16,026	9,475,436	17,607	22,693,159	18,732	11,027,871	8,664	8,446,554
Nairobi	169,972		127,337	37,695,977	139,713	99,372,731	126,709	76,502,380	94,763	44,513,428
Ol Donyo	1,968		2,832	107,490	3,147	244,368	833	86,337	1,435	97,148
Ruma	1,476		1,552	55,175	406	141,520	746	263,329	529	272,006
Saiwa Swamp	1,832		1,817	532,209	1,387	1,184,638	1,389	390,175	1,775	380,782
Sibiloi	475		480	276,156	817	760,586	362	326,853	204	314,922
Tsavo East	148,921		147,014	60,907,939	138,601	203,770,102	143,612	163,395,547	74,466	103,693,296
Tsavo West	103,129		125,846	34,647,541	100,672	160,762,426	92,421	115,159,486	57,623	72,981,400
TOTAL	844,847	0	832,688	252,982,147	807,716	1,010,898,785	756,299	848,167,523	501,026	593,410,049

Annex 4, Table 1. Continued.

Protected Area	1993-1994		1994-1995		1995-1996		1996-1997		1997-1998	
	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)
MARINE PARKS										
Diani/ Chale	*		*	0	*	5,530	*	0	*	78,000
Kisite/ Mpunguti	30,655		31,683	5,937,353	38,334	14,584,224	40,885	10,179,631	24,996	6,124,673
Malindi	35,566		16,042	4,738,990	29,941	13,594,471	30,426	4,952,912	14,701	3,350,575
Mombasa	30,559		37,123	5,380,693	29,156	17,433,445	19,236	23,124,430	20,705	13,199,025
Watamu	17,172		8,021	3,362,759	25,403	5,226,146	20,831	5,587,967	9,077	4,042,853
TOTAL	113,952		92,869	19,419,795	122,834	50,843,816	111,378	43,844,940	69,479	26,795,126
RESERVES										
Arabuko Sokoke	*		*		*	0	*	11,750	*	0
Kakamega	950	*	1,871	50,966	2,650	220,501	2,975	70,524	3,087	31,564
Marsabit	2,152		1,595	467,810	1,638	1,759,861	1,314	953,780	521	618,801
Mt. Elgon	2,973		3,222	1,211,718	2,796	2,332,714	2,691	921,029	3,262	1,245,481
Mwea	0		0		0	0	0	27,917	41	0
Shimba Hills	23,107		21,509	12,013,704	19,814	29,057,312	25,861	22,507,942	15,246	16,014,623
Kiunga	*		*		*	0	*	0	*	0
Tana River Primate	*		*		*	5,400	*	22,000	*	0
TOTAL	29,182		28,197		26,898	33,375,788	32,841	24,514,942	19,070	17,910,469

Annex 4, Table 1. Continued.

Protected Area	1993-1994		1994-1995		1995-1996		1996-1997		1997-1998	
	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)	Visitor Numbers	Revenue (Ksh)
OTHERS										
Animal Orphanage	150,436		126,262	6,990,450	228,856	15,149,263	194,250	7,210,585	144,727	5,200,770
Ndere Is/ Impala Sanct.	53,530		*		*	0	*	0	*	0
TOTAL	203,966		126,262		228,856	15,149,263	194,250	7,210,585	144,727	5,200,770

Note:

1. Revenue for Kakamega is from camping & other non- tourism generated activities. Arabuko and Tana River also record non- tourism generated income
2. The following do not collect revenue nor record data on regular basis: Nasolot, Impala Sanctuary, Kora and Arewale Reserve
3. The 1997/8 data for revenue and visitation excludes the final month in the financial year (June 98)
4. The payment of park entry fees was introduced in 1993/4 and Categorization of parks in 1995/6

Annex 4, Table 2. Tourism trends in Kenya and in KWS managed parks and reserves (1985- 1994)

Category	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
International visitors to Kenya (in 000's)	541	614	661	695	735	814	805	782	826	863	691	717	750
(% change from previous year)	-17	-14	-8	-5	-6	-11	-1	-3	-6	-4	-19.9	3.8	4.6
Receipts (US\$ mn)	249	313	354	394	420	466	432	442	413	508	447	474	502
		25.7	13.1	11.3	6.6	11.0	-7.3	2.3	-6.6	23.0	-12.0	6.0	5.9
Visitor days in KWS parks & reserves (000's)	886	776	841	815	1,001	1,326	1,345	1,153	1,273	1,217			
Tourism revenue from KWS parks and reserves (Ksh M)	19.5	20.5	39.6	46.9	53.9	130.1	197.1	334.1	461.9	792.1			

Source:

1. Kenya data from WTO Annual Reports
2. KWS data from KWS Reports