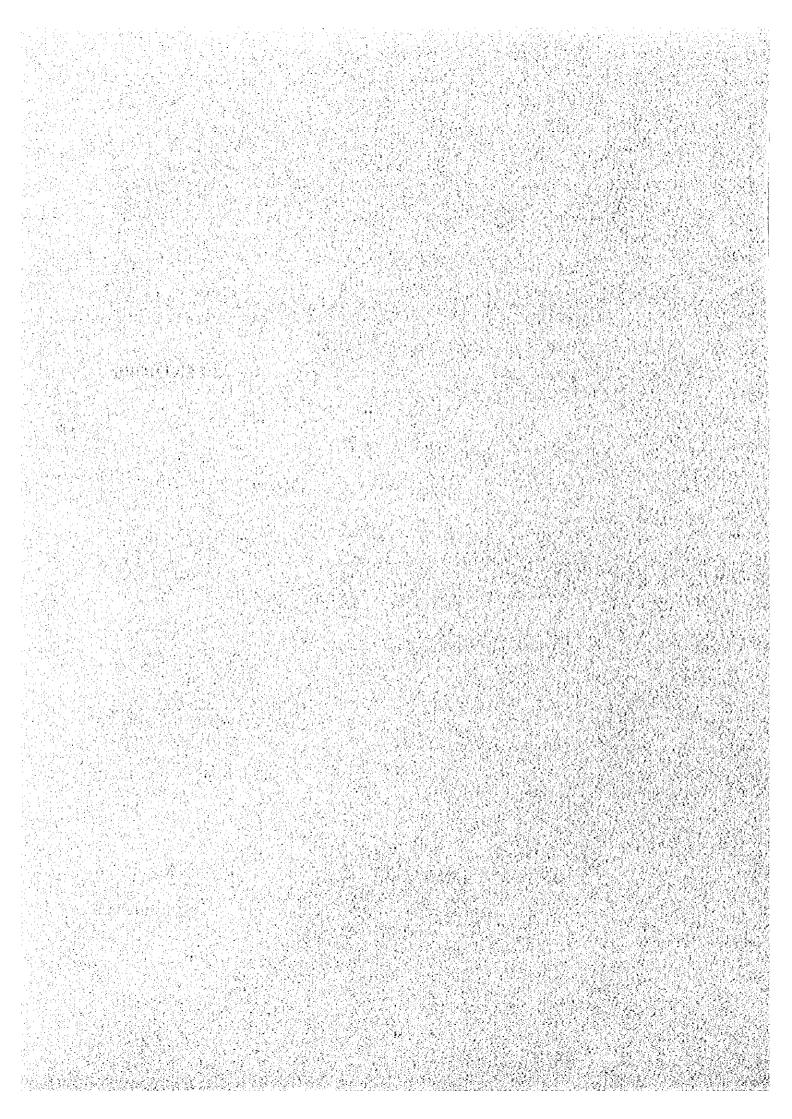
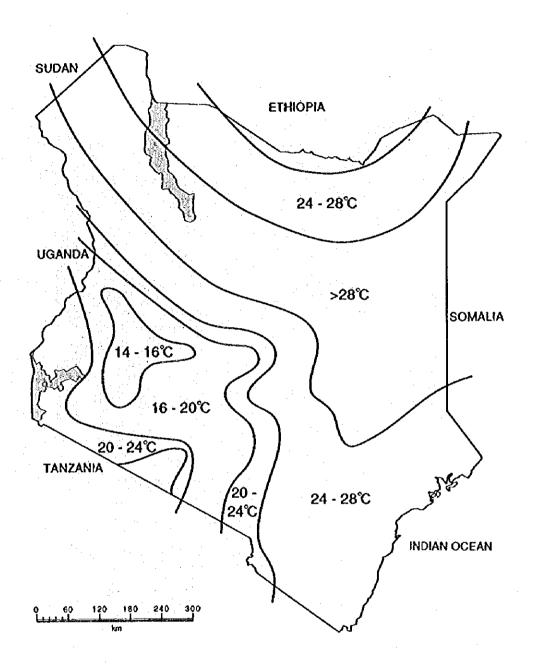
APPENDICES

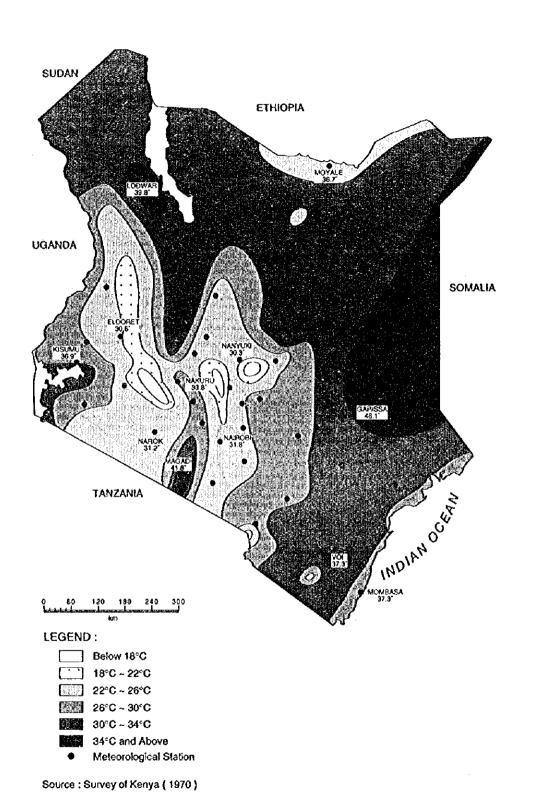


Appendix 1.1 Mean Annual Temperature (°C)



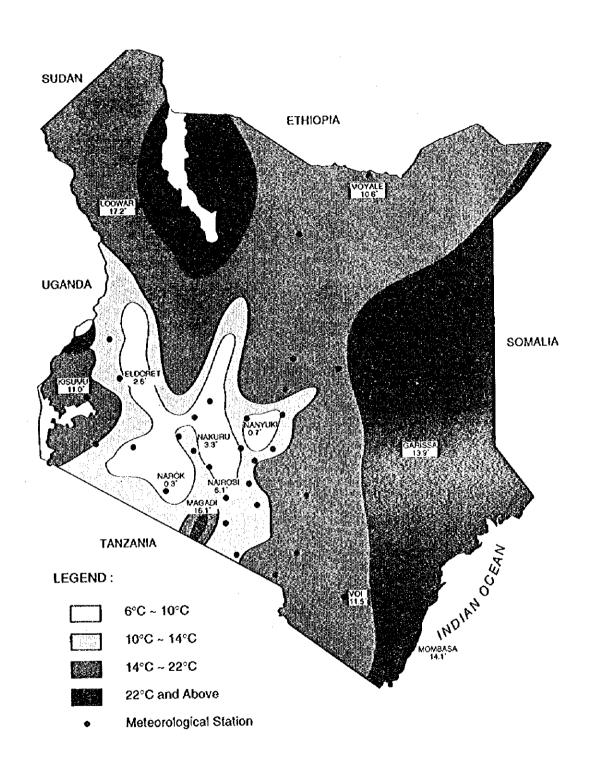
Source: Ministry of Water Development / JICA (1992)

Appendix 1.2 Maximum Temperature (°C)



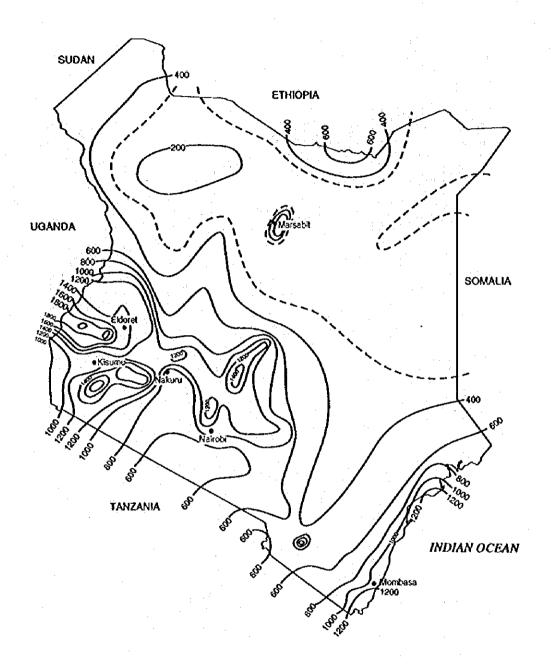
A - 2

Appendix 1.3 Minimum Temperature (°C)



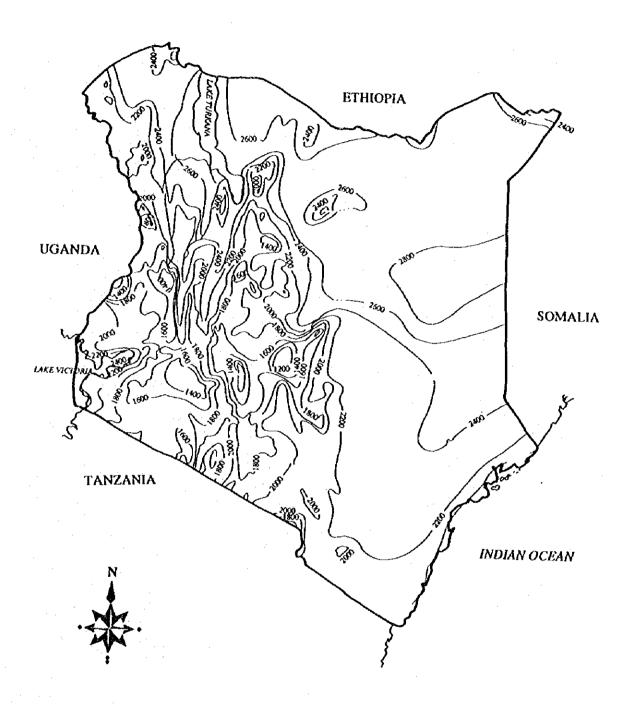
Source: Survey of Kenya (1970)

Appendix 1.4 Annual Rainfall (mm)



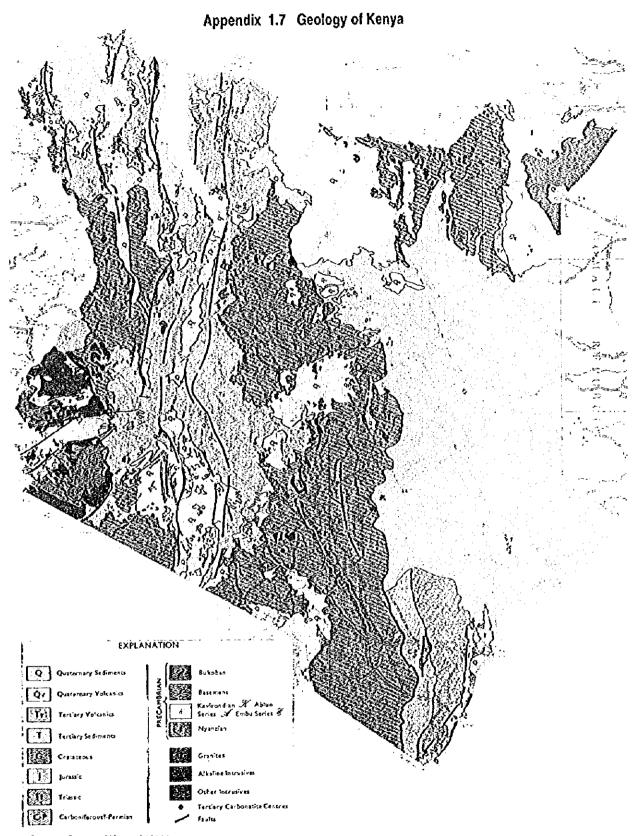
Source: Ministry of Water Development / JICA (1992)

Appendix 1.5 Annual Potential Evapotranspiration (mm)



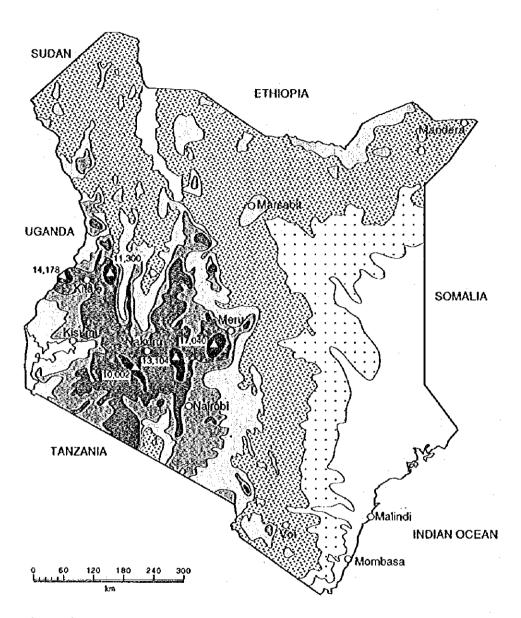
Source : Ministry of Water Development / JICA (1992)

Appendix 1.6 Agro - climatic Zone Map of Kenya SUDAN ETHIOPIA KEY Zone Agricultural potential Climalic LEGENO EXPLANATION designation r/lo ratio ia % **Z**one r/Eo ratio climatic designati humid high 1 80K **X** bumid seb-hamis high 0.65 - 0.80 65 - 80 sub-bani semi-buaid bigh O 650 - 0.65 50 - 65 semi-hum semi-bumid to semi-arid medium IV 0.40 - 0.5040 - 50semi-hur to seci-a medium semi-arid 0.25 - 0.43 25 - 40 seroi-ari jox biu VI 015 - 025 15 - 25 arid very arid very low VII **Ø15** d5 very acid Source: Kenya Soil Survey (1982) A - 6

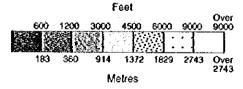


Source : Survey of Kenya (1970)

Appendix 1.8 Topography of Kenya

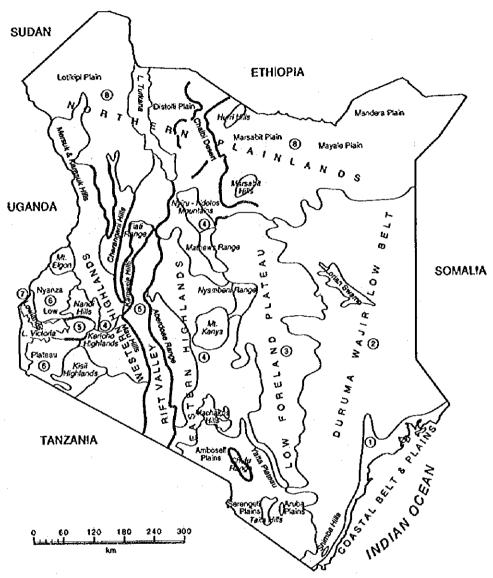


Legend:



Source: Ministry of Water Development / JICA 1992

Appendix 1.9 Physiographic Regions of Kenya



Legend:

- 1. Coastal Belt and Plain
- 2. Duruma Wajir Low Belt
- 3. Low Foreland Plateau
- 4. Kenya Highlands (Western and Eastern Highlands)
- 5. Kenya Rift Valley
- 6. Nyanza Low Plateau
- 7 Nyanza Lowlands
- 8. Northern Plainland

Source: Ministry of Water Development / JICA (1992)

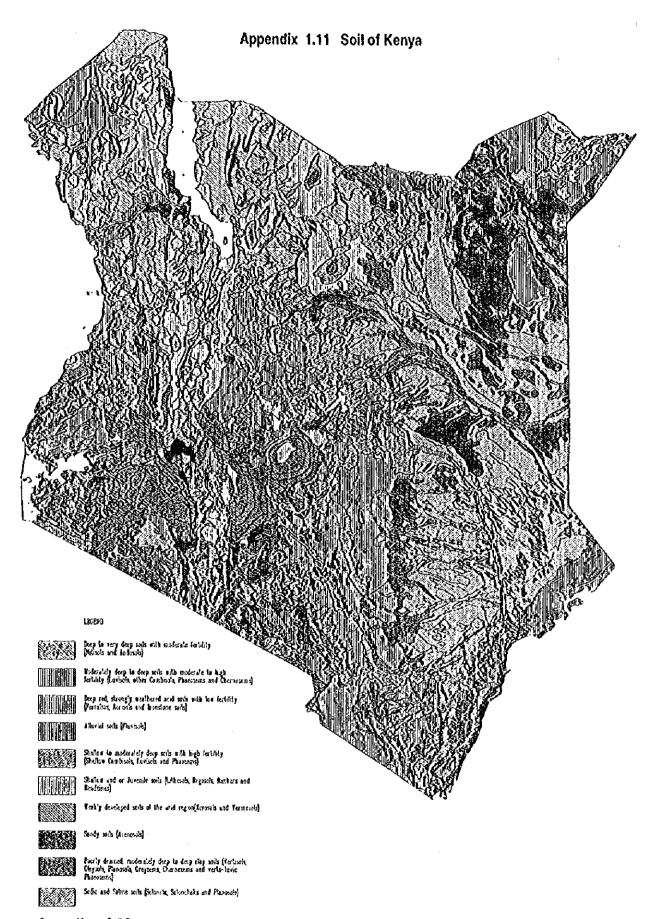
SUDAN **ETHIOPIA UGANDA** 5 **⊕** WAJIR MT. ELGON SOMALIA TANZANIA **LEGEND:** MALINDI 1 Lake Victoria Basin 2 Rift Valley Basin Athi River Basin 3 Tana River Basin 4

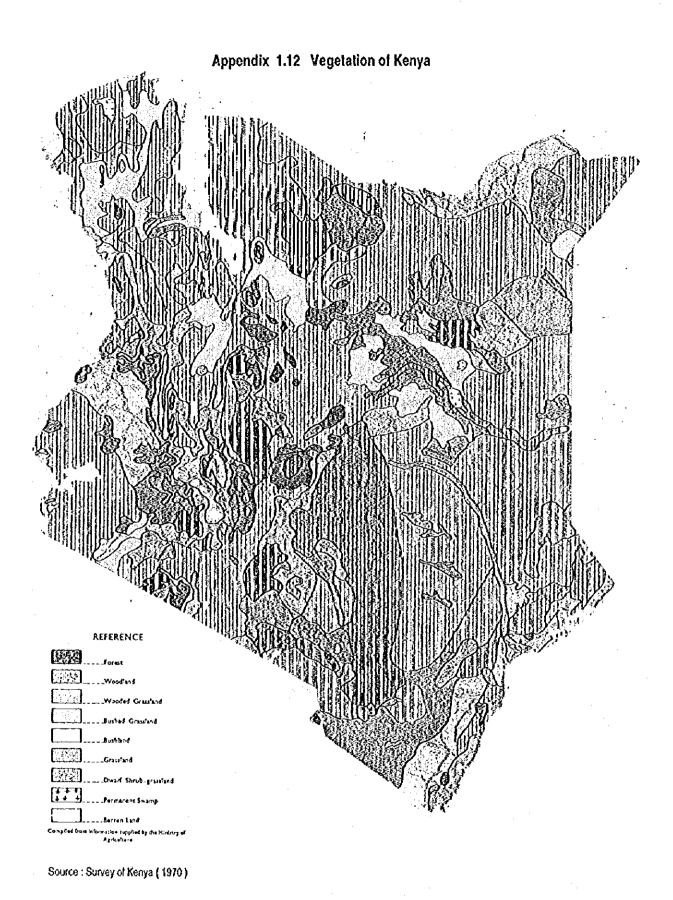
Appendix 1.10 Major Drainage Basins of Kenya

Source: Ministry of Water Development / JICA (1992)

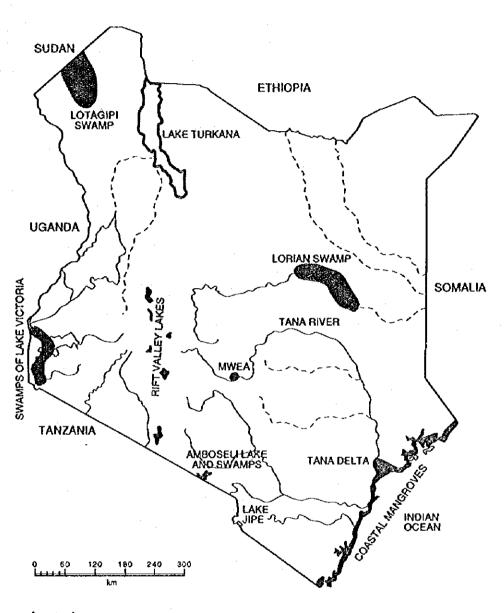
Ewaso Ngiro Basin

5





Appendix 1.13 Major Wetland of Kenya



Legend:

Major Wetlands

Source: S.A. Crafter, S.G. Njuguna and G.W. Howard, IUCN (1992)

Appendix 1.14 Diversity of Animal Species and Plant Taxa in Kenya and Other African Countries with Rich Fauna and Flora

Countries	Mammals	Birds	Reptiles	Amphibians	Plants
Kenya	309 (17)	1,067 (18)	187 (2)	88 (0)	6,500 (144)
Angola	276 (14)	872 (12)	- (2)	- (0)	5,000 (19)
Cameroon	297 (27)	848 (17)	- (2)	- (1)	8,000 (74)
Ethiopia	255 (25)	836 (14)	- (1)	- (0)	6.283 (44)
Nigeria	274 (25)	831 (10)	100 (2)	60 (0)	4,614 (9)
South Africa	247 (25)	774 (13)	299 (3)	95 (1)	23,000 (1,016)
Sudan	267 (17)	938 (8)	- (1)	- (0)	3,200 (9)
Tanzania	306 (30)	1,016 (26)	245 (3)	121 (0)	10,000 (158)
Uganda	315 (16)	989 (12)	119 (1)	44 (0)	5,000 (11)
Zaire	415 (31)	1,086 (27)	- (2)	- (0)	11,000 (3)

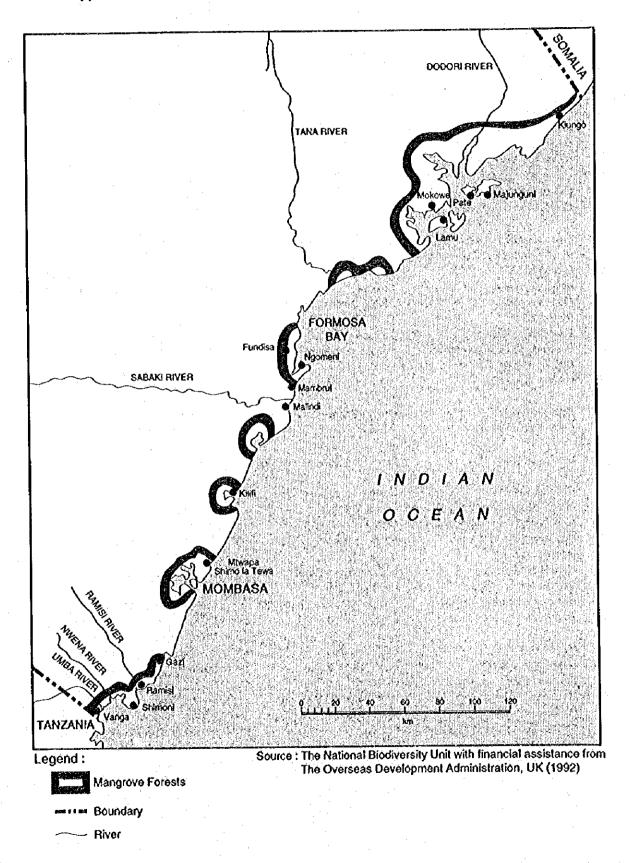
Notes: Numbers of species/taxa known and numbers of threatened species/taxa in parentheses.

Only species level is accounted for in animals but also taxa below species level in plants.

"Threatened" includes all of IUCN categories: Endangered, Vulnerable, Rare,
Indeterminate and Insufficiently Known.

Source: UNEP Environmental Data Report 1993-94, UNEP (1993)

Appendix 1.15 Distribution of Mangrove Forests along the Kenya's Coastal line



Appendix 1.16 (1) List of Threatened and Endemic Animal Species in Kenya by IUCN Categories (1994)

UCN	Scientific Name	Common Name	Distribution
	[MAMMALS]		
ζ .	Crocidura monax	(White-toothed Shrew)	Southern Region
*	Crocidura raineyi	(White-toothed Shrew)	Central Region
	(C. luna raineyi)		
<i>t</i> .	Myonycleris relicta	East African Collared Fruit Bat	South-eastern Region
(Galagoides thomasi	Thomas's Galago	Coastal forest
-	(G.demidoff thomasi)		
ľ	Galagoides zanzibarious	Zanzibar Galago	Southern Coast, Tana River
	(G.senegalensis zanzibaricus)	. *	
E (*)	Cereocebus galeritus galeritus	Tanà River Mangabèy	Tana River
*	Cercopithecus mitis albotorquatus	Syke's Monkey	Northern Coast
+	Cercopithecus neglectus	De Brazza's Monkey	Kakamega Forest, Salwa Swamp NP,
·	*.	•	Tana River
v * *	Procolobus badius rufomitratus	Tana River Colobus	Tana River
•	(P.rufomitratus/P.r.rufomitratus)		,
Ξ.	Lycaon pictus	Wild Dog	Masai Mara NR, Tsavo Eest/West NPs, etc
v .	Acinonyx jubatus	Cheetah	Masai Mara NR, Tsavo EastWest NPs, etc
· <	Profelis aurata	African Golden Cat	Western forest
•	(Felis aurata)		***************************************
<	Bdeogale jacksoni	Jackson's Mongoose	Central Region
E	Bdeogale crassicauda omnivora	Sokoke Bushy-tailed Mongoose	Arabuko Sokoke Forest
- V	Dugong dugon	Dugong	Marine
V	Loxodonta africana	African Elephant	Masai Mara NR, Tsavo East/West NPs,
•			Amboseli NP, Aberdare NP, etc.
E	Equus grevyi	Grevy's Zebra	North-eastern arid land
_ V	Ceratotherium simum	White Rhinoceros	Lake Nakuru NP, Masai Mara NR, etc.
•			(Re-introduced)
E	Diceros bicornis Black Rhinoceros		Lake Nakuru NP, Aberdare NP,
			Nairobi NP, Masai Mara NR, etc.
ı	Dendrohyrax validus	Eastern Tree Hyrax	Southern Coast
V	Phacochoerus aethiopicus delameri	· ·	Northern Region
+	Hylochoerus meinertzhageni	Giant Forest Hog	Central forest
v ·	Cephalophus adersi	Aders' Duiker	Arabuko Sokoke Forest
E	Damaliscus hunteri	Hirola	Tsavo East NP, Arawale NR
٧.	Gazella soemmerringii	Soemmerring's Gazelle	North-eastern Region
V	Ourebia ourebi haggardi	Haggard's Oribi	Boni NR, Dodori NR
V	Redunca fulvorufula chanleri	Chanler's Mountain Reedbuck	Nairobi NP, Masai Mara NR
v *	Tragelaphus eurycerus isaaci	Eastern Bongo	Mt. Kenya, Aberdare Mountains,
		•	Mau Forest (?)
+	Hippotragus niger	Sable Antelope	Shimba Hills NR, Lunga lunga
+	Hippotragus equinus	Roan Antelope	Ruma NP
v .	Beamys hindei	Lesser Hamster-rat	Coast
K	Mastomys pernanus	(Multimammate Rat)	South-western Region
v	Pelomys hopkinsi	(Groove-toothed Creek Rat)	Western Region
(*)		Golden Mole	Mt. Elgon, Cherengani Mountains
٧٪	Rhynchocyon chrysopygus	Golden-rumped Elephant-shrew	Arabuko Sokoke Forest
R	Rhynchocyon petersi	Black & Rufous Elephant-shrew	Southern Coast
к *	Petrodromus tetradactylus sangi	Four-toed Elephant-shrew	Eastern Coast
*	Myosorex norae	(Kenya Mole-shrew)	Aberdare Mountains
	Myosorex polulus	(Kenya Mole-shrew)	Mt. Kenya

Appendix 1.16 (2) List of Threatened and Endemic Animal Species in Kenya by IUCN Categories (1994)

UCN	Scientific Name	Common Name	Distribution
	[BIRDS]		
R	Falco naumanni	Lesser Kestrel	(Palearctic migrant)
	Francolinus jacksoni	Jackson's Francolin	Western/Central montane forest
l	Crex crex	Corn Crake	(Palearctic migrant)
(*)	Otus ireneae	Sokoke Scops-owl	Arabuko Sokoke Forest
*	Phoeniculus granti	Violet Wood Hoopoe	Eastern riverine wooland
•	Mirafra williamsi	William's Bush Lark	Northern arid land
(*)	Anthus sokokensis	Sokoke Pipit	Coastal forest
• •	Malaconotus monteiri	Monteiro's Bushshrike	Kakamega Forest (?)
	Apalis chariessa	White-winged Apalis	Tana River
	Apalis thoracita fascigularis	Taita Bar-throated Apalis	Taita Hills
	Chloropeta gracilirostris	Thin-billed Flycatcher-warbler	Swamps
(*)	Cisticola restrictus	Tana River Cisticola	Tana River
¥	Cisticola aberdare	Aberdare Cisticola	Western/Central montane grassland
	Zosterops poliogastra silvanus	Taita Montane White-eye	Taita Hills
	Macronyx sharpei	Sharpe's Longclaw	Central montane grassland
	Eremomela turneri	Turner's Eremomela	Kakamega Forest
	Muscicapa lendu	Chapin's Alseonax	Kakamega Forest, North Nandi Forest
	Sheppardia gunningi	East Coast Akalat	Coastal forest
	(Erithacus gunningi)		
*	Turdoides hindei		South-central small valleys
*	Andropadus ansorgei kavirondensis	Ansorge's Greenbul	Kakamega Forest
	Zoothera guttata	Spotted Ground-thrush	Coastal forest (Intra-African migrant)
*	Turdus olivaceus helleri	Taita Thrush	Taita Hills
	(T.helleri)		and the second
	Anthreples pallidigaster	Amani Sunbird	Coastal forest
	Plocous golandi	Clarke's Weaver	Arabuko Sokoke Forest
	Cinnyricinclus femoralis	Abbott's Starting	Central/South-eastern montane forest
	(REPTILES)		
	Malacochersus tornieri	Pancake Tortoise	Arid land
	Chelonia mydas	Green Turtle	Marine
	Éretmochelys imbricata	Hawksbill Turtle	Marine
	Lepidochelys olivacea	Olive Ridley	Marine
	Chamaeleo fisheri excubitor	Mt. Kenya Hornless Chameleon	Mt. Kenya
	Chamaeleo fisheri tavelanus	Two-homed Chameleon	Taita Hills
,	Chamaeleo jacksonii xantholopus	Mt. Kenya Three-horned Chameleon	· · · · · · · · · · · · · · · · · · ·
	Acontias percivali	Taita Mountain Limbless Skink	Mt. Mbololo, Taita Hills
	Coluberu keniensis	Lake Baringo Snake	Łake Baringo
	Vipera hindii	Montane Viper	Mt. Kenya, Aberdare Mountains
	Atheris desaixi	Mt. Kenya Bush Viper	Mt. Kenya, Nyambeni Forest
•	Bitis worthingtoni	Kenya Horned Viper	Naivasha, Njoro, Kipkabus, etc.
	•	Kenja Homoo Vipol	
	(AMPHIBIANS)		Mau Escarpment, Nyachururu, Limuru, etc
*	Hyperolius cystocandicans		
	Hyperolius montanus		Mt. Kinangop, Aberdaré Mountains,
			Mau Escarpment, Molo
*	Hyperolius rubrovermiculatus		Shimba Hills
*	Hyperolius sheldicki		Galana River, Tsavo East NP, Kakoneni
*	Alrixalus sylvaticus		Kwale
*	Afrixalus pygamaeus		Voi, Mtito Andei
•	Arthropleptides dutoiti		Mt. Elgon

Appendix 1.16 (3) List of Threatened and Endemic Animal Species in Kenya by IUCN Categories (1994)

IUCN	Scientific Name	Common Name	Distribution
•	Phrynobatrachus kinangopensi		Kinangop Plateau, Aberdare Mountains
*	Afrocaecilia changamwensis		Changamwe, Mombasa
•	Afrocaecilia taitana		Taita Hills
	(FISHES)@		
l (*)	Haplochromine spp. (>250 spp.)#	Lake Victoria cichlid fishes	Lake Victoria
l (*)	Tilapiine spp. (2 spp.)#	Lake Victoria cichlid fishes	Laké Victoria
R *	Oreochromis alcalicus grahami	Lake Magadi Tilapia	Laké Magadi
	[INVERTEBRATES]		
K	Tridacna maxima	Small Giant Clam	Marine
ı	Tridacna squamosa	Scaly Clam/Fluted Clam	Marine
٧ *	Cymothoe teita		and the second s
l	Euryphura achlys	Mottléd Green	?
*	Metisella kakamega		Kakamega Forest
E *	Papilio desmondi teita	Taita Blue-banded Papilio	Taita Hills
	Charaxes druceanus williamsi		and the state of t
V *	Charaxes xiphares desmondi	•	?
•	Mecostibus sellatus	**	Emali

Note: E: Endangered, V: Vulnerable, R: Rare, I: Indeterminate, K: Insufficiently Known

- *: Endemic species, (*): Probably/partly endemic species
- +: Species for special conservation concern besides those listed on the 1994 IUCN Red List
- 9: >25 species of non-cichiid fishes inhabiting Lake Victoria, Lake Turkana and Tana River are also reported
 as endemic (The National Biodiversity Unit, 1992)
- #: Species numbers inhabiting Lake Victoria including Tanzania and Uganda sides; 157ca. species of cichlid fishes are reported as endemic in Kenya side. Other >4 species of cichlid fishes inhabiting Lake Turkana and Tana River are also reported as endemic (The National Biodiversity Unit, 1992)

Source: 1994 IUCN Red List of Threatened Animals, IUCN (1993)

The Costs, Benefits and Unmet Needs of Biological Diversity Conservation in Kenya, Annex 2, Species Diversity (Animals), The National Biodiversity Unit (1992)

Antelopes, Global Survey and Regional Action Plans, Part 1, East and Northeast Africa, IUCN/SSC Antelope Specialist Group (1988)

Birds of East Africa, C.A.W. Guggisberg & M. Ellis (1990)

Appendix 1.17 Numbers of Threatened Animals Species in Kenya by IUCN Categories (1994)

Groups	E	V	R		K	TOTAL
Mammals	6	: 16	1	1	7	31
Birds	3	. 2	. 8	1	3	17
Reptiles	3	0	0	0	1	4
Amphibians	0	0	0	• 0	0	0
Fishes	. 0	0	1	>2*	0	>3
Invertebrates	1	2	0	3	1	. 7
TOTAL	13	20	10	7	12	62**

Notes: * excludes 252 species of cichlid fishes in Lake Victoria consisting of Kenya, Tanzania and Uganda sides

E: Endangered, V: Vulnerable, R: Rare, I: Indeterminate, K: Insufficiently Known Source: 1994 IUCN Red List of Threatened Animals, IUCN (1993)

^{**} includes 13 subspecies

Appendix 1.18 Population Trend of African Elephant and Black Rhinocerous in Kenya

Year	Elephant	B. Rhino
1970	·	20,000
1973	165,000	-
1977	80,000	-
1979	65,000	1,500
1981	65,056	1,028
1985	28,000	550
1987	23,000	521
1989	16,000	300
1990	20,000	390
1991	20,000	398
1992	26,550	414
1994	25,000	420

Sources:

[Elephant]

I. Douglas-Hamilton (1979, 1989), Kenya Rangeland Ecological Monitoring Unit (1977),

D.M.H. Cumming & P. Jackson (1984), R.B. Martin (1985),

African Elephant and Rhino Specialist Group (1987), KWS (1991, 1994/95 information)

[B. Rhino]

African Elephant and Rhino Specialist Group (1987),

D.H.M. Cumming & P. Jackson (1984),

African Rhino Specialist Group (1991, 1992 litt.), KWS (1990, 1994/95 information)

Appendix 1.19 Population Trend of Large Ungulates with Three Groups

Groups/Species	1977	1985	1987	1989	1990	1991	1992	1993*
[Migratory]								: .
Wildebeest	179,829	93,400	67,600	87,900	100,200	114,200	120,100	186,400
Eland	49,221	26,800	17,000	25,500	31,300	38,400	32,500	16,700
Thomson's gazelle	172,269	183,900	107,100	101,400	98,700	96,000	89,200	53,500
Burchell's zebra	155,013	142,100	141,200	174,300	193,700	215,100	197,000	212,700
SUB-TOTAL	556,332	446,200	332,900	389,100	423,900	463,700	438,800	469,300
[Semi-migratory]							•	
Topi	89,055	81,600	102,500	107,300	109,800	112,300	107,700	103,500
Kongoni	39,092	24,200	19,600	22,000	23,300	24,700	26,000	23,500
Hirola	2,278	2,000	1,900	2,300	2,600	2,900	2,600	2,200
Oryx	65,599	41,500	25,500	33,300	38,100	43,500	35,600	34,200
Grant's gazette	234,642	183,900	126,600	162,600	184,300	208,600	118,000	113,300
Grevy's zebra	13,858	7,000	4,300	5,500	6,200	7,000	7,200	6,000
SUB-TOTAL	444,524	340,100	280,400	333,000	364,300	399,000	297,100	282,700
[Sedentary]								
Giraffe	79,591	54,800	44,500	52,100	56,400	60,500	59,300	58,700
Buffalo	73,968	15,500	36,900	42,200	45,100	48,200	51,100	33,200
Kudus (lesser/greater)	18,106	6,900	7,600	11,000	13,200	15,900	14,100	13,200
Waterbuck	20,003	11,100	7,700	6,500	6,000	5,500	6,700	6,100
Gerenuk	49,707	24,800	24,600	23,500	23,000	22,500	24,400	24,300
Impala	179,936	122,000	111,400	106,800	104,500	102,300	110,800	85,700
SUB-TOTAL	421,311	235,100	232,700	242,100	248,200	254,900	266,400	221,200
TOTAL	1,422,167	1,021,400	846,000	964,200	1,036,400	1,117,600	1,002,300	973,200

Note: * data for 1993 is provisional source from DRSRS.

Sources: Dept. of Resource Surveys & Remote Sensing (1989), Kenya Economic Survey (1991, 1994)

Appendix 1.20 Population Trend of Livestock

Species	1977	1985	1987	1989
Cattle	4,088,703	11,500,000	12,073,000	13,433,000
Sheep/goats	6,965,660	15,000,000	14,972,000	13,886,000
Camels	635,816	600,000	956,000	800,000
Donkeys	139,904	300,000	249,000	2,000
TOTAL	11,830,083	27,400,000	28,250,000	28,121,000

Sources: Dept. of Resource Surveys & Remote Sensing (1989),

United Nations Environmental Programme (1987),

Min. of Reclamation and Development of Arid, Semi-arid Areas and Wastelands (1992),

The World Resources Institute (1992,1994)

Appendix 1.21 (1) Distribution of Threatened and Other Large Mammal Species in Kenya

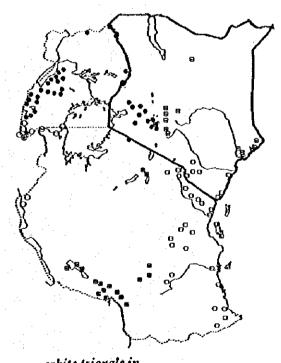


Zanzibar Galago * (a)



C. galeritus distribution. *= C. galeritus.

Tana River Mangabey * (a)



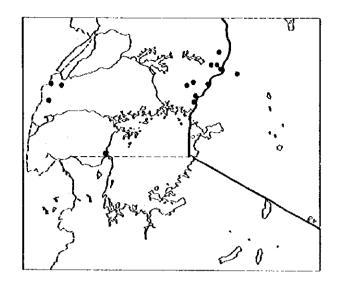
white triangle in white square = C. m. albotorquatus

Syke's Monkey * (a)

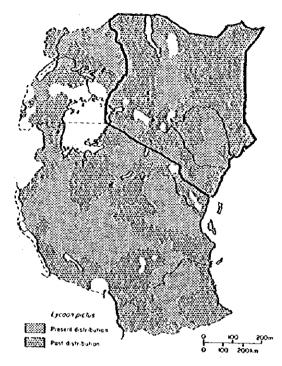
o rufomitratus

Tana River Colobus * (a)

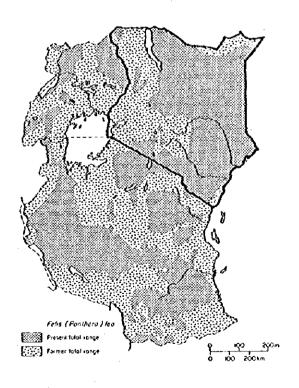
Appendix 1.21 (2) Distribution of Threatened and Other Large Mammal Species in Kenya



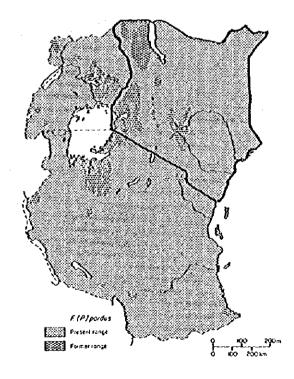
De Brazza's Monkey * (a)



Wild Dog * (a)

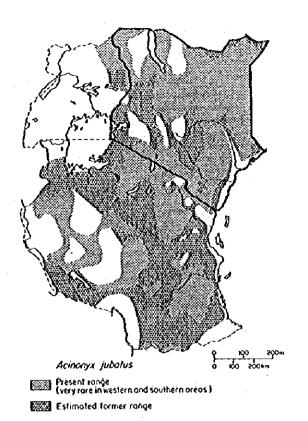


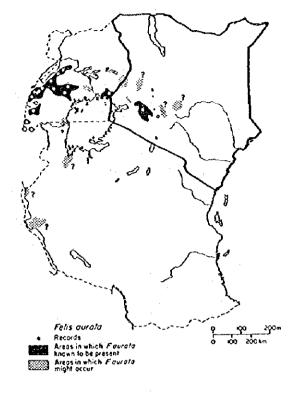
Lion (a)



Leopard (a)

Appendix 1.21 (3) Distribution of Threatened and Other Large Mammal Species in Kenya





Cheetah * (a)

African Golden Cat * (a)

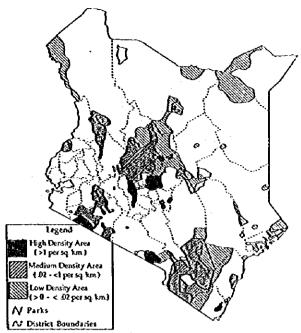


500 675 500 675 500 675 500 675 600

Sokoke Bushy-tailed Mongoose * (a)

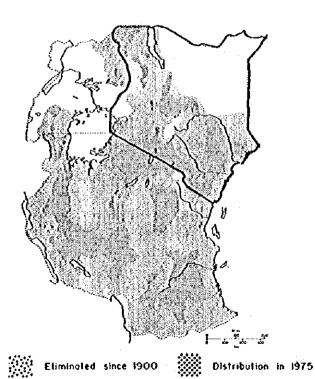
Dugong * (a)

Appendix 1.21 (4) Distribution of Threatened and Other Large Mammal Species in Kenya

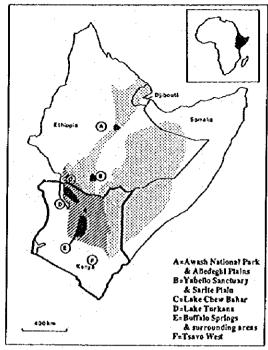


Density distribution map of Kenya's elephant population in 1992 based on KWS aerial surveys, forest surveys and wardens' reports. Prepared by: Ministry of Planning and National Development, Department of Resource Surveys and Remote Servicing (DRSRS), and Kenya Widdits Service (KWS). Source of data: KWS, February, 1992

African Elephant * (b)

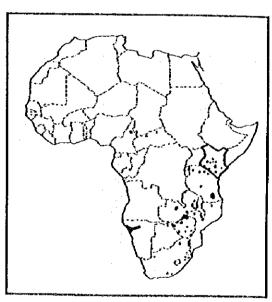


Burchell's Zebra (a)



Distribution of Grevy's zebra in historical times (stippled, from Kingdon 1979, Yalden et al. 1986) and at present (hitched=rare, shaded=more abundant, after KREMU 1989, Ato Tadesse G. Michael and Ato Fekadu Kassaje in litt.).

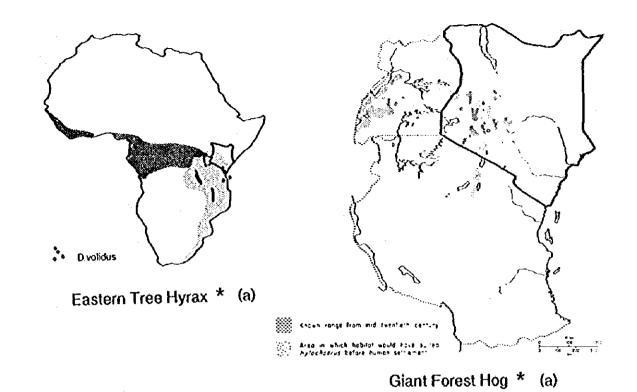
Grevy's Zebra * (c)

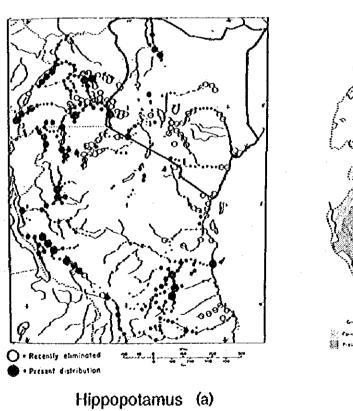


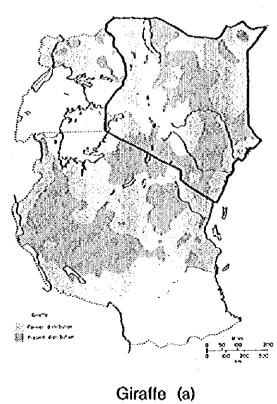
Distribution of the black chinoceres in 1987 (adapted from Cumming 1987).

Black Rhinoceros * (d)

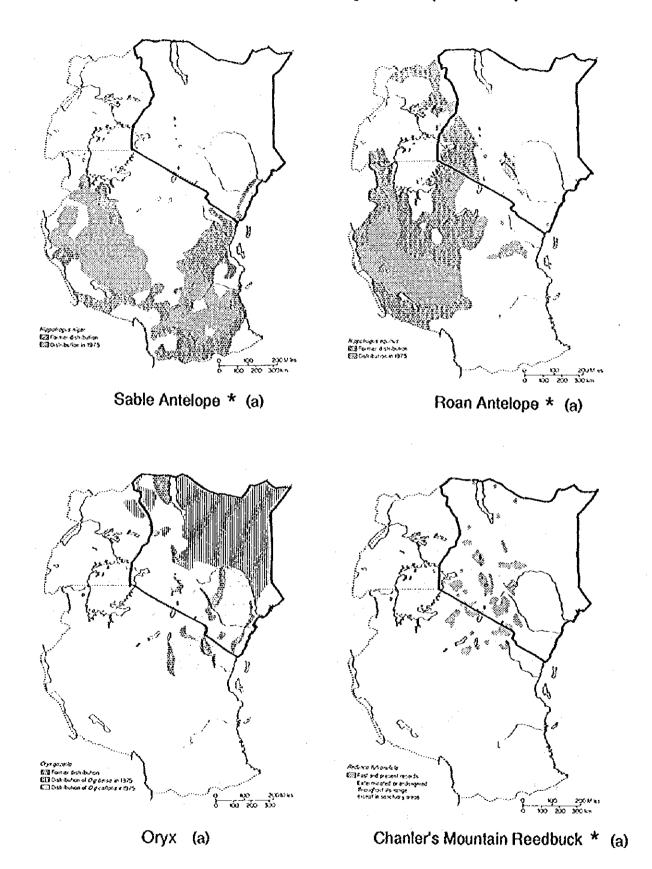
Appendix 1.21 (5) Distribution of Threatened and Other Large Mammal Species in Kenya



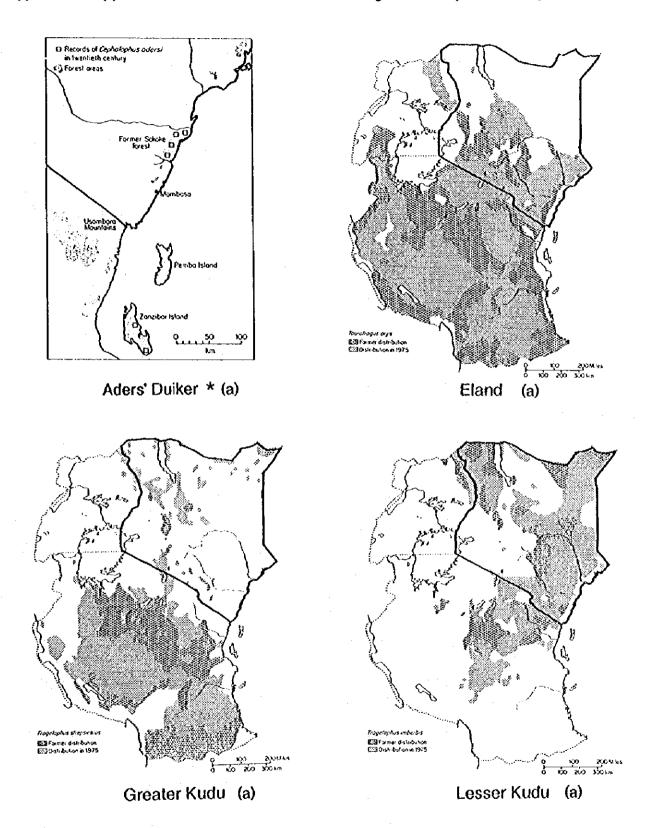




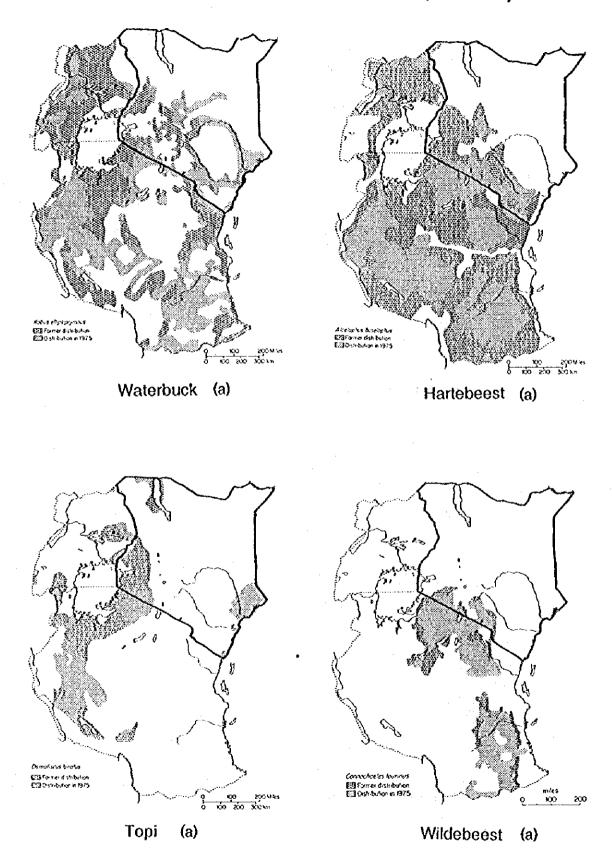
Appendix 1.21 (6) Distribution of Threatened and Other Large Mammal Species in Kenya



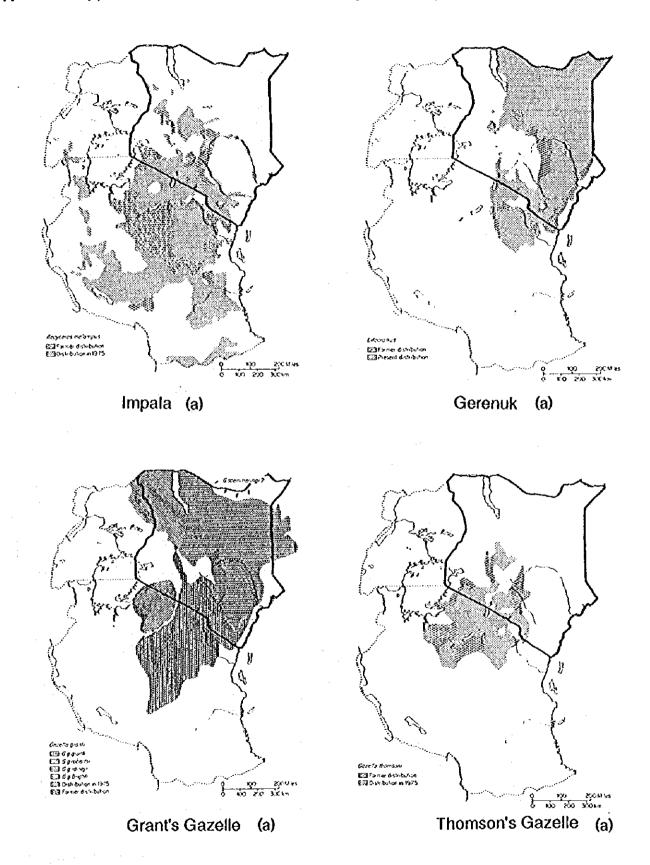
Appendix 1.21 (7) Distribution of Threatened and Other Large Mammal Species in Kenya



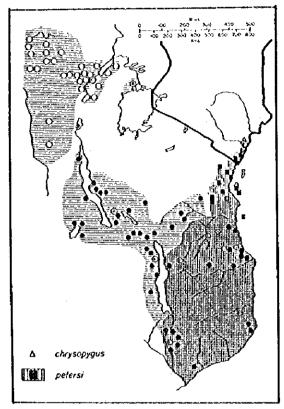
Appendix 1.21 (8) Distribution of Threatened and Other Large Mammal Species in Kenya



Appendix 1.21 (9) Distribution of Threatened and Other Large Mammal Species in Kenya



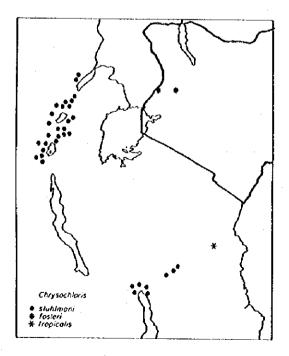
Appendix 1.21 (10) Distribution of Threatened and Other Large Mammal Species In Kenya



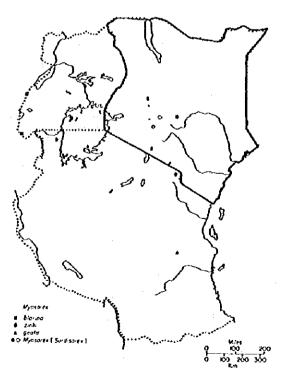
• P. t. sultan

Four-toed Elephant-shrew * (a)

Golden-rumped Elephant-shrew * Black & Rufous Elephant-shrew * (a)



Golden Mole * (a)

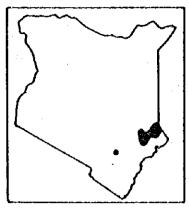


Kenya Mole-shrew * (a)

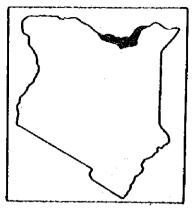
Appendix 1.21 (11) Distribution of Threatened and Other Large Mammal Species in Kenya



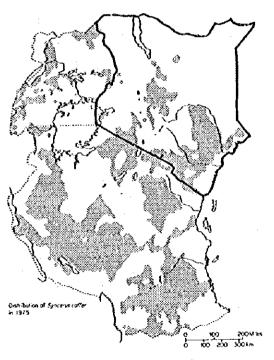




Hirola * (e)



Soemmerring's Gazelle * (e)



African Buffalo (a)



Lesser Hamster-rat * (a)

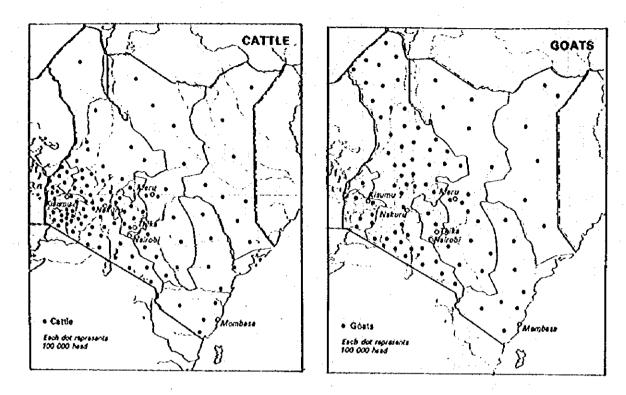
Note: ★ Threatened species

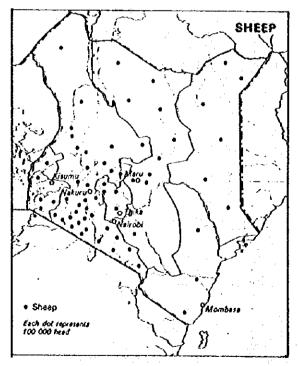
Source: (a) J. Kingdon (1971, 1974, 1977, 1979, 1982)

(b) D. M. Nyeki (1993) (c) P. Duncan, IUCN / SSC Equid Specialist Group (1992)

(d) Rhino Specialist Group (e) R. East, IUCN / SSC Antelope Specialist Group (1988)

Appendix 1.22 Distribution of Livestock in Kenya





Source: E.A.E.P. Ltd. & George Philip Ltd. (1991)

Appendix 2.1 (1) Characteristics of Protected Areas (1): Geography, Topography, Soils and Vegetation

			i.du.bud.	The state of the s	
hasonay Fayer, Manance, Gencius and Lottle Consciously		D. Tenant Vincentes	Eastern Psychenic	Shakow Cambace, Lunson, Pheecems	Conserved, Woodbell (Vintelland, November Conser.
Nerto N.P.	921		Putt Valley	Liftnacks, Regoods, Reviews	
Tata Galle N.P.	4 000	Comment of the commen	Control of the Contro	Someth. Soldmarks. Percent	Wooded granderd
Late Nature N.P.	188,00	Outsement Sediments	A STATE OF THE STA	Laborate Barden	Butherd
	0075	Qualitating Volcanica	Part Valley	Largeon, regulator, revenue	the American Broken contract like
The state of the s	20,000	Terlary Volcance	Eastern Highworthounteen	Millack, Andrack, Udvoeck, Registics, Ranken	MANAGEMENT AND
	H CO JAKE OU STANDARD BALLERS	. Series Voter Voter Voter Care	Eastern Higherd	Verhiode, Cheysode, Planoede	Comments transcent from the comments
		Pre-centioner Beanman	Eustern Highland	Shallow Cambiach, Lunton, Phaecizonia	FORM, TOUGHO, (FIRMER)
	= 100 KI	Pre-centralish Benefits	Low-fordand Platesu	Shallow Cambride, Luvische, Pheeszente	
Surgico append P.C.	1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Percentition Resembers	Loseforgand Pleteru	Shallow Cambridge, Luntable, Phenaderne, Chemoderne	•
Sembleu N.P.	T OF COM	Brennest Brennest	Low-toward Plateau	Sycilor Cambiada, Lotecta, Pheopyema	Woodend, Burhland, Wooded Onselbrid, Bushed Orestord, Swarth
A STATE OF THE PERSON NAMED IN COLUMN NAMED IN			Farter Herbieres Phonon Control Contro	Nombe, Andreade, Lithonole, Regionale, Herman	laborane lorsal, Grassland, Honishe moorlend
Mount Kenye N.P.	2 80'51/		Contract of the Contract of th	Remiscle, Acticle, Ponsione edite	Moname forest, Wooded greatend
On Dollago Sabale N.P.		District Control of the Control of t	Course Michigan	System Combacts, Lectors Prescorns	Woodand, Thombushland
Maren N.A.	23.35			Colonely Colombia Plantaria	Wooded (massiend, Bushed grassiend, Swamp
Anthonesi N.P.	30200	Qualificacy Sadiments	Con-common Parameter	Charles Canada Santa Canada December Verlands Charles Manada	Woodsord, Wooded greatend, Bushed presidend, Riverine toxes
House Man N.P.	1,510.00	Tertiery Volcance, Pre-cambrier Basement	Western Physical Control of the Cont	CARREST (MRT CARREST CONTROL OF THE	resegante de la company de la
PAR N.	1,200	Cuestomary Sectionals	Lake Victore Lowlend & Hoodbarn	Vertical, Carry state, 11 Section 2	
March Interest N.P.	- 8	Crantine	Lake Victoria Lowland & Procepain/Lake latend	Legion, report, remain	Married Superior District Specialists
State of the state	758	Tertany Votamos	Cala Videora Covincia di Procepieri	Vertebra, Garykow, Plancicom	ACCOUNTS TO THE PARTY OF THE PA
A Charles	44.68	Pa-cantoran Karkpriden	Whether Hgriand	Nitrok, Ancoecie	Agent Copper
O Maring and a second a second and a second	22.99	Tertary Votantos	Western Hightend/Nountain	Shakev Cembratis, Luvisole, Ulbobole, Reposole, Mileole, Antonola	PORTUGATOR CONTRACTOR
	- USS	-ce estates estates estates estates estates en en en en estates en estates en	Whelen Highland	Hernalecke, Achieces, Ironatoria sonia	Action of the second in present in the second in the secon
	2 2	Pre-combrier Benefiters	Western Highland	Shallon Cartillada, Ludecia, Phenobera	Durthand
MECHANICAL PARTICIPATION OF THE PARTICIPATION OF TH		Commentations	Wasten Hghand	Leseph, Phaeozenn, Chartobera	Worderd
Familia Ch. N. M.			Windows Hotherd	Loveole, Phaeczams, Chartozema	Moderd
Protect.P.	2	Commence of the commence of th	Die United	Shalton Cantanda, Lestada Phaeozema	Thom-cushind, Grassland, Physics fortic
Late Occorte N.R.	и 2070г	1070-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	The transfer of the second literature and the second secon	January March March Marker, Solvett Standary, Parcell	Transcenterd, Burbel greaterd, Wooded presterd, Restrict lover
South Turkent N.R.	00,190,1		ŀ	Course? Sciencials Pleasable	Bushand, Bushed presidend, Sennicheest
Selen VP.	HI SECULAR HI	Section Continues, descripting Continues	Company of the Compan	Mounta Barnach, Rachard	Burhad grandend
Carthel letterd N.P.	H BS	Superior Superior		Incomis Records Backen	Bushed greenlend
South learned N.P.	# OFFI	2 Qualifornia Volcanica	The state of the s	Charles Continue (canale (strengts December Millerin Arcticalle	Roses, Wooded onselent, Bushed onselent, Semi-detern
Married P.P.	2,000.00	***************************************	CACALIGNATION CONTRACTOR CONTRACT	Control Derivate Paracia Phonocan Denomination Northwest Veryons	Transparent, Woodel granterd, Burket granters
COMPAR.	1,006.00	1 Customery Vocaruos, Proviementi Desembers	Market Branch	Listeria Phaesterna Chemisterna Libraria Bertania Bertania	Thomsputterd
Marke Mark N.P.	# 00%	1 July Sept.		Station Contract Lucion Diseases Seminar Action Impacts soils	Woodland, Bushand, Wooded greatend, Busher greatend, Riverina forest
Kone N.P.	4 08,786,1	٠	Company of the second particular com-	Statute Comment Industry Proposes Appropriate	Woodland, Thom-SueMand, Woodled Ornesiand
Have N.P.	- 11E	Culturary Voltaines, Pre-central Basement	CONTRACT DATE OF THE PROPERTY	Charles Contracts Located December Contracts	Woodset, Tremburierd
Black R.R.	00,000	Pre-cambrien Beservent	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	OTOGOGO CONTRACTO DE CONTRACTO	Manager of the Principal Passers in the Contract of the Contra
Now Kand M.R.	745.00	Pre-gentinen Basement	Low-toniend Patrice	COMMON CAMPAGES, LICENSES, FINESCOMM, PRINCIPLE, POPULAR SECTIONS OF SECTIONS	Theory attack Worder (Passing) Bushes (Passing)
Barole N.R.	4 2000	 Qualernery Volcavoce, Pre-cambrish Senament 	Control Patent	CORNER OF THE PROPERTY AND THE PROPERTY CONTRACT CONTRACT OF THE PROPERTY OF T	Married Company of the Parket Company of the
27	7	Customery Sediments	Durante-Walfe Low Belt	SOCYARZ, SOCYCTARR, Marcaca	
Tan Stee Person N.S.	168.00	Customary Sedments	Coastal Belt & Plain	Vertecia, Claysola, Planoecia	Troughting, Toward Lives
	N 18251	Thereto	DAMETIE-WHAT LOW BOTH	Farmlacia, Acriscia, icordicine todio	**************************************
K-t- Martin	v 00%C		Coastal Committeens Intent		Marke Hotel Contracting, Const Hands
The state of the s	A 00.11		Committee Committeering Internal	•	MEAN FREE CLASSICAL CONTRACTOR CONTRACTOR
1	10.00 A		Cossist Comm	•	MAINTO MOTE CONTINUEN, COTE TREES
The state of the s	30000		Coastel Comm	•	MARKE SOCIETY COMPTIONS, COMPTIONS
03110	000	/ Outlanday Sediments	Coastal Bell & Plain	SoloneC, Guidaldia, Plantacia	
Maharit MacAus H.P.	600 h		Coasta Coast		Market Spiel Control and Carle Market
P. Control of the Con	202	,	Countrie Dosen	•	Manage Model Contracting, Contracting
The Market No.	23.00	- 1	Countil Cosen	•	
Name of Street	20.00	,	Countal Cover/Mentine leternd		AMERICAN CONTINUES COM FROM
a 2 1 6	1,208,00	Duelsmany Sediments	Curumar Wajer Low Berli	LAMEGO, PRECEDENTE, CRETORINE.	CONTRACTOR OF THE PROPERTY OF
Decise N. R.	1 9C LLD	/ Cusensey Secremb	Counts Bett & Plant	Vertecks, Gieyscis, Percent	Company Treatment, Comman
Curco Marine N.A.	00'052	,	Coastal Ocean/Alektre letterd	Charles Constants Laborate Blooms Millerds Jodensky	Frank Wordland, Granished
S. OppenP.	470.90	s Outsimery Volcanius	Low-tording Pathens	Ì	Washington Backerd, Wooded consulted. Student considered
Times Call N.P.	11,747,00 H.1	*	Constitution of the contract o		900
•	1,653.00	Dusternary Sectionals, Pre-complete Basement	Con-toward representation of the contract of t	Personal Agreem, Married and Communication of the C	

Source: Survey of Kenya, Kenya (1970), Kenya Soil Survey, Min. of Agriculture (1982), Min. of Water Development & JICA, Japan (1992), The World Bank (1993)

Appendix 2.1 (2) Characteristics of Protected Areas (2): Wild Animals (a)

	Sentiumy	(1993)	(0861)	r de	monarce	(1987-98)	(28 %)	(25-sp) (45-sp)	(13 ap)	(03 89)		: 1	
	Neurobi N.P.	57 (0.49)		15	ន		21	R	si .	8	3	Š	387
٨	Hels Gate N.P.	•		۶	2		. 99	e 19	64	2			
60	Lete Natura N.P.	20(0.11)		5	幸		₽	ន	ø	€	\$	ž	8
4	Longonot N.P.	:	3				•	•	•				1
"	Aberdere N.P.	37 (0.05)	2100 (2,74)	\$	82		. 71		c	35	07	7/1	8
9 1	California P. H.	£	€										
	Merapa N.S.		. 1	1	ä		ş	ş	ď	5	4.43	***	300
0 6	Company N. P.		a cov (u.s.)	<u>^</u>	S 4	837	\$ F	3 X	o wi	3		4	
, <u>ç</u>	Sheban N. P.		* 2 •4	1 8 4	0 <	.	3 8	3 %	• •n	3	. 47	ı «	. 40
ľ	(Thurst Keeps N.S.	······································		THE PERSON NAMED IN COLUMN	**************************************		14	23	*	41		25	131
= \$		E	(600)	'n	3		ž ur	} •	N	92	:		į
7 5	- /		33.0.49)				, e7	· =	•	۴	•		
- 1	4 Amboses N.P	(A) 0) 6	725 (1.87)	*	S	3038	ន	8	4	18	ā	SS SS	Ź
=	Vassa Ners N.B.	35.03	1300 (0.86)	<u>.</u>	S	29.96	8	ន	E0	8	Ę,	9 8	3
۳	6 Fire N.P.	***************************************	*************************************	8	12		8	15	7	57	F	37	9 •
4	7 Notere fatend N.P.						,		4	:			
22	5 Keumu Impala L.S.									. !	٠.	;	
¥	9 Kakamaga N.R.			+	2		ന	\$	4	£ 1	0	3	3
R	 Mount Egon N.P. 		250 (1.48)	,	17	- 40 read 601200000000000000000000000000000000000		16	4	82	9	EVI	Z.
N,	Sawa Swamp N.P.		. !	61	ο,		es (* 6 (∢ (2 1	,	8	Ē
Ŋ	2 Nesolot N.F.		200 (2.17)					<u>.</u>	.	P			
ěi	3 Kammarok N.P.		(40.57)				:	₽	N	ß			
č.	Pmo N.P.		(50,76)		;	-		•		:		: 8	ţ
N.	5 Lake Bogoria N.R.	***************************************		8	70 10	***************************************	91	18	. E.	9	***************************************	**************************************	3
K	S South Turkene 7. P.		•	,	1	9	:	:	c	ŝ			
4 5	Control lefter N. D.			-	3	Auro.	=	2	4	3			
18	Control Description					-			**	ç			
; 5	Nadaban S		250 (0.12)	ø	*	80	8	8	•	\$	t t	318	8
s i F	Losai N. H.	***************************************	(50(40)05)			0.46	***************************************	***************************************	*************		***************************************	#0000000000000000000000000000000000000	***************************************
H	Meke Mon N.P.		(80.00)			80							
H	Koanp		(8.0)	41.0	9	0.10	•	8 2	н	şş			
ð	4 Meru N.P.	3	220 (0.25)	ö	0		ន	Ą	7	5%	3	æ	8
В	5. Bisanadi N.R.		(0 0.08)			17.0	æ	41	2	z		***************************************	***************************************
ř	8 North Kitzus N.R.		50 (0.07)			ļ							
M.	7 Percent.		(000)	; •	; ن	50.0	•		•	1	:		
75	8 Azempie N.R.		(S) (S)	.	: R	8	: *	<u></u>	64 (ř	1	;	į
H	O Tana River Primate N.R.	:	(20,030)	-	Ξ,		c •	4	1 0 (P ^t	P	7 1	ā
¥	O SYLEGE MES N.R.		400 (2.09)	7	6	41.2221011111011111111111111111111111111	E	*	2	######################################	.0		3
•											٠		
4	C. Morrhage Marine N. P.						٠	•					
1	i.												
7	÷			6	42				•		Ó	F.	2
3		74 270 270 270 200 200 200 200 200 200 200	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	F080 664 64 64 64 644 1 F 0 F 0 F					***************************************				
Ç													
₹ :	9.							•			:		
\$		-				*					i •		
R i	CONTRACT.	arrested to be to the telephone that the tentes	() () () () () () () () () ()					***************************************	P4444444444444444444444444444444444444	*******************	***************************************	10000000000000000000000000000000000000	***********
5 9			(1)	.	,	g F							
1			•								-	-	
3		3	b 6000 (0.29)	b 16	3	(Esstem) 1.30	83	5	**	æ	50 4	6.429	025 4
				:				;					
	Ī	********	Ī	******	**********************	************************	*************	**********			**************************************	**************************************	

Note: The alphabets, a to e, indicate each group of NPMR to be calculated altogether for the columns.
+ existing, (+) probably existing, "underestimated
+ existing, (+) probably existing, "underestimated
Source; [Black Rhino/Elephant] KWS (1990), [Antelopes] R.East, IJCN/SSC Antelope Specialist Group (1988), [Large Ungulates] Dept. of Resource Surveys & Remote Sensing, Kenya (1989),
[Sp.No. of Mammats/Blirts] J.G. Williams (1981), The National Biodiversity Unit, Kenya & CDA, UK (1992), D.M. Nyeki (1993)

٤	National Pert,/ Reserve / Senduary and Local Sendumy	Nain Species & Thresternd / Endernic Species
	Neirods/N.P.	Lon, Leopart, Chaesan, Burbaile 2800a, Bless mnov, M.graffe, Buflako, Widobaed, Kongon, Mourian neobucke
	Take Case N.P.	Subtract Subtract Subtract Vision Subtract Control Subtract Control Super Subtract S
	Concept N.P.	ba. Bufab, Eard, Konyon, Crant Momeon's paces
	Aberdare N.P.	
	Laterie N.P.	Esphants, Butter's zeon, Butter, Elent, Meterouch, Kongon, Impale
	Margae N.S.	Lactional Gravity became B.O.F.y. Guerrherfutfitts diaditis, impale, Gravity gazaña
	Surface All Park	3
	Shaba N.P.	Leoped, Onedighs, Grey's zelone, B.Oyx, Guerther-Liferi, Ground, Gerenal, Grant gousde
	MOUNT KETYE IN.P.	uck, Bongos, Hervey's redibleck-fronte
	O-Dornyo Sabuk N.P.	Leopart, Buffaio, Bushloud, Bash prg. Bufferfies
	Mwga N.P.	Explants, Horbottom, Salaton, Washular, Nas drooms
	Anthosei N.P.	Access, programme, pass, interaction to pure. Variety, in a new Cheese Backwisse from United States States States (Propose Top), Workship resolvation (States Thomson's passes).
	Marke (ME) is 11, F., Servey, company of the com	
	Mem blood N P	HIDDOODGATHIS, MICHAEL SHALINGE, NING CHOOCHIE
	Kaumu Impala L.S.	Hippopolarus, Impala Hippopolarus, Impala
	Kelemets N.P.	od-sailed monkey, De Brazza's monkey*, Potto), Bushbuck, Blue-Weyns/Ye
	Mount Elgan N.P.	Leopard, Goldon cark, Electroning Rock hymx. Buffast, waterbuck, Bushbuck Bushbuck/droning/Weynal/Common duken, Bath, Goldon molef
	Sama Swart N.P.	Saturgs, De Brazza's moneoy
Ŋ	Nesolot N.P.	Elephantis, Richtelle, Bullelo, B.Chyx, Lesser habbs.
£,	Kamparok N.R.	Elephantir, Burthella zebra, Buffalo, Waterbuck, Greater Ruds
Z	Perco N.R.	
	Lake Bogoria N.R.	
8	South Turkans N.R.	
ы	SPEC-1. P.	Choesa's Carry's zooza' hoppoparium, B.O.Y., 10pt Utentoe's Ontole, Orien a pacies, ne outcome, nature, my on-y free, many on-
8	Central taland N.P.	POOCOGNITION IN THE PROPERTY OF THE PROPERTY O
A :	South Island N.P.	TOPOGOGINES, NIE GOODGE - PROTICULE SURVES Commenter III de la Commente - Com
	MASTERN (N.F.	
	COSE NA.	CANADA S CHICAN
3 8	Money I. Wall 19. P.	I sesser turtu. R. Oxo. Waterbuck, Kondoni, Guenthert Victor Stateback, Impalia, Generals, General pazzele.
7		Lon Loncart, Chestains, Sucharte, Grew/s zabrae, Lessen kudu, B.Ohry, Witsebuck, Kongon, Guenther elkidiks, Impala, Gerends, Grande
	Picaros (2.10)	Declarit Bullab.
	North Kaste N.R.	Higoodalama, Nie troockie
	Rabbie N.R.	Gray's zabrak , Lasser kudu, B.Oryx, Waterbuck, Kongoni, Guenthers/Kak's diction, Impela, Gerentik, Grant's pazake
	Azambo N.P.	Gaphanta, Hiroka, Gravy's zebrae.
	Tana River Primate N.R.	PHristos (Tara River mangabeys), Tara River coicobusé, Zerzabar gelegos), Tera River distontes
	Sharbe Kille N.R.	Beptant, Sable analoget
	Kara Marca N.P.	Pelajat brids (Roeacie/Sooy) terris). Caren turles! Marne aquatics
	Mountait Menne N.R.	Pelagic birts(RosaraSooty tems), Green turbel, Marrie aquatics
	Mombesa Marine N.P.	Marke aquatics(Cortes, Fishes)
	Monthees Mathe N.R.	
	Arabido Stoke N.P.	Science bush-tailed rowgoosel Bushtuck, Aler's dukent Colden-turped deptant-attent, Science spore parks, users a western contentines
	Maindi Martie N.P.	Werne aquatics
	Weterny Marks N.P.	
2		When the department of the second department of the second department of the second se
8:		VAS INTRAFES EDITOR IN PROVINCE AND ALTER A CHARGE TO THE PROPERTY OF THE PROP
7		Sylves interacting and services and services and services are also services and services and services and services are services and services and services are services are services and services are ser
3 :		Congressive Control Constitution of Constituti
3 1	Country.	
۲,		

Source: R. East, IUCNSSC Antalope Specialist Group (1998), The National Biodiversity Unit, Kerya & ODA, UK (1992), D.M. Nyek (1993), The World Bank (1993), KWS (1994 information)

Appendix 2.2 Mammal Species and Their Distributions in Main National Parks/Reserves

इम्हट्डड ६	AC NAME	AJE FA	\$ 5 PE	SEVT S																					
	N/Ai	HOL	NAK	A3E	BUF S	AM S	SHA KE	N 008	VWE.	AV3	HAS	PL/N	KAK (ila s	Ai KA	s KUM	BOG 5	9 5-5	KAR	KOR M	EA BIS	ARA I	A FAN S	94, TS	E TSW
t Sdestriped jerkel 2 Back backed jerkel	b 2		2	1	2	į	2 2			1	2						,	1	2		}		•		7
1 Golder jackel	•		-		1	!	i			į	Ş	•					-	1	. 1	_			•	•	
4 Wid tog 5 Batteaned for	1 Z		2	ş	ž	ž	2 2			į	5						2 .	ì	2 :	2	2 2		2		,
& Ratel	5	E+ EB+43 1 1	ž	1	ž	\$	1		• • • • • • • •	· · · · · · · · · · · · · · · · · · ·	5		41174144	1	i	*******	Ţ	3	<u>į</u>		į	*********	1	()	2
7. Alfrican divet 8. Small apolited genet	•		2	\$	ž	ž	1 2			2	ž	1		* 1	ı		2	1	2		?		1	1 1	,
1. Large-professioned			5	2	ł	ž	2 2			1	ŧ	1		2 1	1		-	1	2		ā		i	1 1	ž
16 Banded mongooss 11 E. dwarf mongooss	·····					. 	· , · · · · · ·	•••••			. ₹		••••		•••••			*********			<u> </u>		4	,i.	
12. Marsh monoposa I			ŧ	1	2	1	1 1			2	2	1		;	ı		•		•		ž		•	•	2
13. Standar mongrossa 14. Egyptan mongrossa 1	, ,		2	5	2	,	2 2			,	2	1					1		5) •		1	1	
15. White taked monocose	<u> </u>			2	2	į	1 2			ì	ż	1					2		Ĭ.		<u>.</u>		1		2
16 Aartwill 17, Spičed typera	. !	ś	2	,	2	,	: .			ż	2	,					2	1	Ž	2	2		1		. 2
18 Stiped haera		2	2	•	2	į	į			2	2	•		-			į	2	ź	•	2			1	
19 ton 29 teopará	1 Z	į	2	2	2	5	2 1		2	2			ž	•	2	2		2	2	2	2 2	2	3	2 2	
21. Checish	<u> </u>	····					·÷		-	·						·····.	···j·····	ş	.	<u>.</u>	į			š	·····•
22 Central 21 Servical					2	2	? .			2	1						ż	1	2	_	2		1	. :	2
24. African e3d call	. 2	•	ź	ź	ž	ž	5			ž	,	í		ž			ż	t	2	2	2 2 2		1	2 2	, ,
ZS AUTHORES DE SCORE	a 2	12	38	27	2	<u>}</u>	2	1		40	- 25	2	2	1	<u> </u>	2	2	2 2	2	10	2 1	2		2 1	
CARNVORES SIC SP. NO.	- 22	12	36 19	14			49 2 25 1	8 10 4 5	3	45 23	49 25	- 16 - 6	3		5 1	3	32 16	22 2 11 1	43		15 12 13 1	1	1)************************************	16 5 8 2	50
26. Walteg	2		1	1	5	1	2			1	ş	1				•	ž	1	1		ž —	_ -	Ť	1	2
27. Rush påg 28. Gjest kvest hog	. '			2			- 1	! !			į			2	2				1		Į		1	1	
29. Hippocolarius	2	\$	2		\$	2	2	2	\$	5	ž	ž		-	2	:		2 2		2	2 2	£ .	2	•	2
30. Grade 31. Common duAger	ţ <u>ţ</u> .	:				·	· • • • • • • • • • • • • • • • • • • •	·····	y			<u>.</u>	<u>.</u>			······-		ž			<u>; </u>	····	. .	·····	ţ
32 Havey's not dulkar		-		_	į	į	- 1	! -	-	2	5	•	-		2	•	-	•	-	•	- •	•	•	2 2	
31 Badder 31 Badderleid 18ar	i i			2	5	2	1	! !			ş		,	2	2						5			2 : 2	2
35 K45 463k	2.		2			2	.1				2	2	ž		2 2	7	2	2 2	2	. 2	2 2	1	ż	2 2	
A Cortor dell F. Switch	. ,	2	,	1	2	1	1			2	5				2		2		5	:	9				
36 Suni	. 5		-	2	-	•	Ė	!		•	2			2			•				ž		• .	2	į
39. Orbi 40. Kicspringer	. ,	. ,	,	,	,	,	, ,	,		*	2	. 5		,		•	,		si.		1		1	_	
40 Köpspinger 41, Burkbuck	ž ž		<u>}</u>	··•	·	·	·	······¥	·····y	<u>\$</u>		ž		· • • • • • • • • • • • • • • • • • • •	ž				…∳ູ້…		ž	····	•••••	2	
42 Statunga 43 Lesser kudu	•				,	2				2					2									·	; <u> </u>
U. Green Lake	Ĭ				•	•	•			•								2	Ş	2	•		2		
45. Bongo 46. Eard			····j····	2		· · · · · ·		<u>.</u> .,,						·	, <u></u>			·		,,.,.,.	1		بنيسي	· · ;	
47. Sebia antologa	• '	•	•	•	•	•	• •	•	•	•	•		ē	•	. 2	. 2			2	. Z	. 2	Z	Z	, ;	. 2
48, Roan antarige 49, Orga	:									ż	2	2											_		_
50. Bohar medisusk	. 2	<u></u>	2	2	2		į 1	2	2	2	2	2	2	2	2	2	2	2	2	2	2 2	2	2	2 1	2
57, Mountain reedouck 52, Waterbuck	e 2	5	1	2	•	1	2 1	<u> </u>		2		2		2	,.,.,,,,,			•	•••••				•••••	••••••	
SD Farebood	: ;	ž	•	•	•	•				2	į	ź		2	•		ž	,		2	2 2		5	2 : 2	2
S4. Hirola SS. Topi	•																					2		. 2	
56. WTS: 96#	· · · · · · · · · · · · · · · · · · ·						****	******	*******	····	.			•	·			ž	•••••		···		••••		
57, impela 58, Grand's gazzalia	. 2	. 2	2	2	ž	2	2	ż	2	ż	ş	2	2		2		_	2 2	2	_	2 2	2	2	1	2
59. Thorresoft gazette	• 2	2	į		•	2	•	2	s	2	2		\$		2	ž	2	2 1	2	2 :	2 2	2	2 .		2
60. Gereruik 61. Adrican burlako	<u>.</u>				<u></u>	2	2	······································		2						·······	<u>2</u>		į	2	<u> </u>				<u>.</u>
62 Bushelh zabn	: :	ź	ž	•	ž	2	2 1		5	ź	ž		į	•	2	2	2	, ,	: 2	7	7 Z	2	2	2 2	2
63, Gravy's zebra 64. Black Minorarpa	: .		,	2 .	2	2	٠,								_			2	2		?		2	i	2
65. King Ministers	•		2	E							٠.												:		2
66 Afficial playfield 67, Rock hyrist		3	2	2	2	2	2 1	!	2	2 .	2	•••••		· · · · · · ·	••••••	5,		***** · , · ·	2	2	5			2	·····
68. Tree hyrax	, į		2	5	į	į	2 1			í	ž			2			. 3	•			? ?			, 1	2
	b 2		2	\$	ž	2	2 1			2	2	1					2	1	3		į			i i i	2
UNGULATES DE SCORE	<u>3</u> 2	39	45	47	53	<u>2</u> 51	2 4	5 18	22	- <u>2</u>	- 2	29	20	32 1	6 A	20	36	29 14	40	36 5	1 i6 28	26	33 3	28 6	- 2
UNGULATES NE. SP. NO.	26 b ž	19	23	20	27	26	24 2			28	33				12			15	26		8 14	13	17 1	14 3	31
71, Lesser galago 72. Greater galago	p 5		3	2	\$	1	2 1	!		5	2		٠.				1				?		1 7	2 2	
73. Poto		_								_		-				_		2							
74. Babuon 75. Orașiei mangabey	. 2		2	2	2	2	2 1	! 2	2	2	5	. 2	2	2	2 2		2	5 S	2	2	2 2	2	2	2 2	2
76. Palas rigrikey	•					*****			••••		<u>š</u>	******			• • • • • • • • • • • • • • • • • • • •						ş	*******			
77. Red-tailed munkey 78. Stue monkey	: ,		2	2	2	į	, ,		2	ŧ	į		2		, ,	,		•	2	2 :	2 2				
79. De Brazza's monkey	•	-	-	-	-	-	•		٠.		Ţ.		Ž	2	,	_		•	•	•		2	ź	- 8	. ?
B0. Veryel monkey B1. E. black & wilde colobus	<u></u> ,		;	<u></u>		2	₹,			2					,	·· ·· · · · · · · · · ·	?	• • • • • • • • • • • • • • • • • • • •	3		<u> </u>		.!	2 2	
R2 W. Mach B white colors	•		-	-			•	•			-			•	•								2	z	
B3 Pad ookbus PRIMATES SCORE	10		10	10	16	10	10 1				16		1				<u> </u>	<u>, </u>		·			2	1	
PRIMATES SP. NO.		- 2	5	5	5	5	5 (2	i	4	ě	2:	i	<u>.</u>	; ;	1	3 -	2 2	_4 .	, 1	7 2			12 16 6 5	
YOTAL SCORE TOTAL SP. NO.	105 53		93 47	77 39			106 B			\$10 55	131 56	48 24			9 32 5 18			55 20	90	<u> </u>	15 44	36	Ē5 ?	6 12	125
						~	~ •	, ,,	10	- **				40	J 14	35	36	28 10	45	26 5	22	19	33 [M 6	B1

Note: This table was made to order to compare each NPANS in terms of mammat's diversities and distributions, thus, it may not reflect the present real distributions and the species numbers (SP, NO) are rather religive.

The species numbers were calculated to divide the accres by two, Score 1: possibly distributed, 2: carbinly or almost distributed.

NAL Named NP, HGE He're Gare Longonol NPs, NAC Lake Nakury NP, ABE: Abentare NP, BUF: Buffelo Springs NR, SAM, Samburu NR, SHA: Shaba NR, KEN: M, Kenye NP, ODS: O1 doby's Sabid, NP, MAVE: Marce NR, AMB, Arriboset NP, MAS: Nasciol NR, KAM: Karmatok NR, BOO: Lake Bogorta NR, SHB: Select NP, SHB: Salva Swamp NP, NAS: Nasciol NR, KAM: Karmatok NR, BOO: Lake Bogorta NR, SHB: Select NP, SHB: Sharard NR, TAN: Tana River Primate NR, SHB: Shimbe Hille NR, TSE: Tsavo East NP, TSW: Tsa vo West

Source (SRC): 4 Wildlife Conservation and Tourism in Kenya, O.M. Nyels (1993)

- b: The Costs, Benefits and Unmal Needs of Buildgical Diversity Conservation in Kenya, Annex 2, Species Diversity (Animals), The National Biodiversity Unit [1992]

 A Field Guide to the National Parks of East Africa, J.G. Williams (1981)
- e: The Costs, Benefits and Unmet Needs of Biological Diversity Conservation in Kenya, Amiex 2, Species Diversity (Animala). The National Biodiversity Unit (1992) A Field Oxide to the National Parks of East Africa, J.O. Vi

[&]quot;. The species numbers in these NP.NRs are possibly underestimated because of insufficient information on the species of which sources are shown as "b".

Appendix A. Interview Survey to KWS and County Council Offices

For each Tourism Region, interview surveys with KWS and County Council offices have been carried out between 21 November and 17 December, 1994 in order to determine present environmental problems, wildlife management/conservation measures, obstacles for their implementation and tourism development in NP/NR and its surrounding areas. A total of 21 offices were interviewed that is as for KWS, nine in the Central, five in the Western and five in the Coastal Tourism Region. As for County Councils, one in the Central and one in the Western Tourism Region were interviewed. In addition, field visits to a total of 21 NP/NRs and three other important areas were made, mostly with escort by KWS staff after the interviews.

In the case of Mombasa office of KWS, a questionnaire survey of the same contents was send its on behalf of the interview survey. Although the same questionnaires were sent to other three KWS offices located in these Tourism Regions, no replies were received.

Interviewees were senior officers like wardens and assistant wardens. The interviews took about one to two hours for completion. Mainly the following questions were ask.

1. Administration

- a) Number of outposts,
- b) Number of staff: senior warden, warden, assistant warden, ranger, and others.
- 2. Characteristics of Natural Environment/Ecosystem
- a) Climate, topography and so on,
- b) Vegetation types with dominant plant species,
- c) Dominant animal species with the population trend and the distribution,
- d) Special ecologically important or sensitive areas other than NP/NR; which could be proposed as protected or conservation areas.
- 3. Problems in the Natural Environment
- a) Nature caused problems, for example flood, drought,
- b) Human caused problems, for example illegal grazing, illegal tree felling, illegal hunting/fishing, soil erosion, siltation, pollution, wildlife conflict,
- c) Tourism caused problems, for example off-road driving, litter/sewage, wild animal harassment/feeding, over-use by visitors.

- 4. Problems in Administration for Implementation of Management/Conservation
- a) Administration, management policy, land use and so on,
- b) Shortage or bad conditions of infrastructure, facilities, equipment, transport and so on.

5. Conservation/Management Measures

- a) Planning or progress of the Five Year Management Plan for protected areas, Agreement for NR management between KWS and County Councils, Memorandum of Understanding for forest conservation between KWS and Forest Department and so on,
- b) NP/NR management/wildlife conservation programmes, for example anti-poaching, fire control, animal translocation/culling, fencing, specific species conservation,
- c) Community wildlife programmes, for example number/names of local communities involved, wildlife-based development (extension), environmental education, problem animal control, revenue sharing.

6. Tourism Development

- a) Present visitor condition: number/year,
- b) Expected visitor carrying capacity: number/year,
- c) Tourism potential/development direction, that is tourism resource, mass tourism or up-market (or eco-) tourism,
- d) Needs for tourism development, that is infrastructure development, visitor service/education, promotion/advertisement.

7. Other Information

- a) Land use and development activities in the surrounding areas of NP/NR,
- b) Foreign aid projects for NP/NR management/wildlife conservation,
- c) Security and so on.

The results of this survey are compiled in Appendix A(1)-A(13).

Appendix A (1) Results of Interview Survey to KWS and County Council Offices

Options Charter Charter <t< th=""><th>Interdesignated</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	Interdesignated							
SA-11_2-12_ Lamp Konga MNR (7)	Organizations/Offices	Charte	Districts	NP/NR/Others (sq.km) (* field visit)	Outpost (No.)	Staff (No.)	CimateTopography	Vegetation
SATI 22	[Coastal Tourism Region]			C. S.	•	(as)	Coastal ocean with	Mancrove forest
Decount Number Language L	1 KWS: Lamund	SK-11-22-122	2	NEIDE MINE	S :	(m)		(Dhisophon Connecate
SA-11-24 Kind Wholes 4- Macinin Machine With the properties With the With th				(220.0)	Sec.	Z Wardens	CORP ISSERVED,	Course of the Co
SALT 25 Sign Water Stands Wa				Dodon NR	Mokoe	4 Assistant Wardens	Wet and rugh temperature,	Concepts, ett.,
Security				(877.4)	Npeketon	60 ca. Rangers	Dry season: January-March,	the best preserved (total 46 sq.kr
Herical Scanner Herical Sc				LamuManda Islands	Mkokoni		Rainy season: April-June	Const reets,
Mainted Michighkieft (4)			•		Hindi			Coastal lowland forest
With Walkind Michael With Wit					Barmo			
1,11,24 Kini					With			
Water Wate	2 KWS: Malind/Watamu HO	94.11.24	X	Maindi MNP/MNR7	(4)	(47)	Coastal ocean with creek	Mangrove forest (Rhizophora, etc
Weight's Michael Weight Wei			•	(219.1)	Watamu	3 Wardens		Coral reefs,
SA-11-25 Kiwala (94.0) Earnba Cotass ocean with				Water MNP/MNR	Arabuko Sokoke	1. Assistant Warden		Coastal lowland forest with 6 dist
SA-11-25 Kwale Kize MVP Benge 2 vindens 2 coluis ocean with 2 coluis ocean 2				(6.49)	Ватра	43 Rangers		types (Afzella, Brachystegia, etc.)
SALILES Kwale Kidle MAP (Nove) (28) Coastal coses with Coastal coastal coastal with Coastal coastal with Coastal coastal coastal with Coastal coastal with Coastal coastal coastal with Coastal coastal coastal with Coastal coastal with Coastal coastal coastal with Coastal coastal with Coastal coastal with Coastal coastal with Coastal coastal coastal with Coastal coastal with Coastal coastal coastal with Co				Arabulas Sokoka NP*	Riserna	•		
Se, 11.25 Kviule Kate Mright (Nove) (20) (20) (20) (20) (1.0			\$. \$.	(6.0)				
1.00 1.00		94.11.25	Kwale	Kisite MNP"	(Nove)	(38)	Coastal ocean with	Coral reefs: the best preserved,
Houngoid MNR* Houngoid MNR* 1 Assistant Warden 1 Assistant Warden 1.2 Changes 1.2 Change				(38.0)	•	2 Wardens	coral islands,	Mangrove forest,
11.20 Washi Island* 12 Ohres 17 Ohre				Moundup MNR*		1 Assistant Wanden		(Rhizophora, Ceriops, etc.).
12 Others Washi Babor 12 Others 12 Others 12 Others 13 Others 14 Others 14 Others 15				(110)		23 Randers		Seagrass beds
Control of Set 11.26 Kwale Shimba kilis NR* (3) (45) Important water carchment Set 11.26 Kwale (192.5) Lunga kunge 1 Warden for Montasa Dan Set 1.4 Montasa MNP Manon 42 Pangers Assistant Warden Coastal coenn (questionnalin) (25) (37) Eastern highland with plant with carching and carc			-	Wasini Idano		12 Orless		
1925 Lunga lunga 1 Warden 19 Warden	CH slift stands - SWO A	94.11.26	Kwale	Shimba Hills NR	(E)	(45)	important water catchment	Coastal lowland (tropical rain) lore
Sec. 1.4 Mormbass				(192.5)	Lunca kunca	1 Warden	for Mombasa/Deni	Carbia pine forest (plantation),
Sec.14 Mombasea MNP/MNF* Makunon 2.Pangens					Kenando	2 Assistant Wardens		Fire-induced grassland
1 Servicy Warden 1 Servicy Warden					Makinon	42 Banders		
Guestionnaling Cartion Cartion	VI	7.30	Manh	Monther SMOAIND*	***************************************	proceedant and the contraction of the contraction o	Coastal ocean	Cord reefs
March Marc	5 KWS: Mombasa Hu	50.1.4 (mineralization)	MOTIDASA	COTO CITATION AND CITATION CONTROL CON		1 Senior Westley		
94.11_29 Luikoja I. Laikoja NR (5) (37) Eastem highland with planed some plane	THE RESIDENCE OF THE PROPERTY	(doesnourana)	-494 141 141 1414 1486 1484 141 141 141 141 141 141	(4:V.V)	***************************************			ne san per resultant de set per per per se set se es se
1 Warden 2.5 Rangers	Central Foundm Hegion)	8 11 8	Ladrinia	Lakina NR	6	(3)	Eastern highland with	Grassland,
Purnunt 3 Assistant Wardens Ngorbit 25 Rangers				(185.0)	Lonvek	1 Warden	plateaufiilis	Wooded grassland
Myen Isolo Shaba NR* Spill (35) Low plateau 94,11,30 Isolo Shaba NR* (35) Low plateau HQ Samburu (239.1) 1 Senior Warden Low plateau HQ Samburu (239.1) 1 Assistant Warden Low plateau HQ Samburu (239.1) 1 Assistant Wardens (KWS) 2 Assistant Wardens (KWS) 1 (155.0) Samburu (2) 2 Assistant Wardens (KWS) 2 Assistant Wardens (AS) 94,12.1 Nyen Art. Kenya NP (2) (45) 1 Warden Albude (3,200-5,200 m), albude (3,20					Rumund	3 Assistant Wardens		
Septil Special Shaba NR* Spil South NR* Spil South NR* Spil South NR* Spil South NR* South					Ngorbit	25 Rangers		
SA,11,30 Isolo Shaba NR* Spill Low plateau HQ Samburu (239.1) 1 Senior Warden Low plateau Rufato Spings NR* (1solo CC.) (1solo CC.) (1solo CC.) (13.0) Samburu NR* 2 Assistant Warden 2 Assistant Wardens (KWS) (155.0) 22 Rangers 13 Others (155.0) 22 Rangers Volcanic mountain with high albude (3,200-5,200 m), manual (>2,200-5,200 m), manu					Doidoi	8 Others		
Samburu (2091) Sonitor Warden Low plateeu					Spe:		## 44 100 100 100 100 100 100 100 100 100	***************************************
Comport Comp	7 KWS/Isido C.C.:	¥ 1.3	Sicko	Shaba NR*		(82)	Low plateau	Semi-and bushed grassland
Suffaio Springs NR* (1940 C.C.) Suffaio Springs NR* (1950) 1 Assistant Warden Sambur C.C.) 2 Assistant Warden (NVS) 1965.0) 22 Assistant Warden (NVS) 24.12.1 Nyen NA Kenya NP (2) (43) 34.12.1 Nyen 1 Warden 1 Warden 1 Warden 54.12.1 Nyen 2 Assistant Warden (19.200-5.200 m),	Isiolo/Samburu Complex HO		Samburu	(239.1)		1. Senior Warden		(Acada, Commission, Chors, et
(191.0) 1 Assistant Warden (191.0) 5amburu NR* (Samburu C.C.) (Samburu C.C.) 2 Assistant Warden (KWS) (165.0) 2 Pangers (13 Others (13 Others (13 Others (143) Meru (717.6) Sirmon 1 Warden (143) albude (12.000-6.200 m). Embu (191.00-6.200 m) 2 Pangers (191.00-6.200 m) 3 Assistant Warders (191.00-6.200 m) 4 High rainfall (> 2.000 m) 4				Suffalo Springs NR*		(Islolo C.C.)		. •
Sambur NR* (Sambur C.C.)				(131.0)		1 Assistant Warden		
(165.0) 2 Assistant Wardens (KWS)			٠	Sambuc NR.		(Samburu C.C.)		
22 Rangers 13 Others 13 Others Volcanic mountain with high 94,12.1 Men. Web. (717.6) Simon 1 Wanden Embu Chongoria 3 Assistant Wardens High rainfall (> 2,000 mm/yea), Krinnyaga 20 Pangers				(165.0)		2 Assistant Wardens (KWS)		
13 Others						22 Rangers		
94,12.1 Nyen At. Kenya NP (2) (43) Volcanic mountain with high subtract mountain with high subtract (3,200-5,200 m). Men. (717.6) Simmon 1 Wanden albude (3,200-5,200 m). Embu Chongoria 3 Assistant Wardens High rainfall (> 2,000 mm/yea), Krinnyaga 20 Pangers Important walter calchment					-	13 Others		
Men. (717.6) Simon 1 Wardon albude (3,200-5,200 m). Emb. Chorgona 3 Assistant Wardons High rainfall (> 2,000 mm/year), Krinyaga Important water calchment	8 KWS: Mt. Kenya NP HO	94 12 1	Nyen	Mt. Kenya NP	⊗	(43)	Volcanic mountain with high	Afro-aipine glacen/moorland,
Embu Chongoria 3 Assistant Wardons High rainfall (> 2,000 mm/year), Chongoria 20 Pangers Important water catchment			Men	(717.6)	Sirinon	1 Warden	altitude (3,200-5,200 m),	Highland forest
Krinyaga Important water calchment			Emb		Changoria	3 Assistant Wardens	High rainfall (> 2,000 mm/year),	(Cedar, Camphor, Podocarpus,
			Kirinyaga			20 Pangers	Important water catchment	Meru oak, etc.)

Appendix A (2) Results of Interview Survey to KWS and County Council Offices

Organizations/Offices Organizations/Offices		Conseponding		Administration		Netural Environment	
Organizations/Offices o your sharese NP Inc.					:		
9 MWS Abundan ND HO	å	Ostricts	NP/NR/Others (aq.km)	Outpost (No.)	Start (No.)	CametarTopography	- Ageletion
	94,12,1	Nyen	Aberdare NP*		(361)	Volcanic mountain with high	Montane moorland,
	i	Nesedonia	686		1 Contro Warden	althrefa (3,000-4,000 m)	Sambos forme
		- Prince of the second			O Windows		Helpford from
					2 April 100 Warfes		
					AN Description		
8 °					92 Others		
10 KWS: Lake Nakuru NP HO	94,12,1	Marcur	Lake Nakuru NP"	72501474 1777440044 147775 60000004A	1001) (100)	AND VALOR.	Woodand (Acade, Euphorie, et.),
			(188.0)		1 Senior Warden	Akaine soda lake	Wooded grassland
					9 Wardens/Assistant Wardens	(pH, 10.2-10.5).	
					90 Rengers/Others		
11 KWS: Helf's Gete NP HO	94.12.2	Nekun	Helf's Gate NP		() (2)	Rift Valley volcanic mountain	Bushland
			(68.0)		1 Warden	with craden/porped	
			Longonat NP		2 Assistant Wardens		
			(52.0)		14 Flangers		
	**********		***************************************		37 Opers		
12 KWS: Embu HO	94.122	Embu	Mwaa NA*	8	(%)	Eastern highland,	Articition businend
			(48.0)	Mwes	1 Warden	Kamburu Pepervaira	(Acadle, Grawie, Terminalie,
				Karnyage	2 Assistant Wardens		Commiphora, etc.),
				-	39 Rangers		Bushed grassland
		-	***************************************	77 17 23 24 24 24 24 24 24 27 27 27 27 27 27 27 27 27 27 27 27 27	11 Others		(Themeda, Chlorie, Cynodon, etc.)
13 KWS: Ol-domyo NP HQ	94,12.2	Machakos	Ol-doleyo Sabut NP	£	(82)	Eastern highland	Highland forest
			(18.4)	Kithimen	1 Warden		(Tabemsemontana, Croton, etc.)
					1 Assistant Warden		
	14				13 Pangers		
	Shuarouse to proper recordent		***************************************	M44124414444444444444444444444444444444	11 Colors	***************************************	144 044 040 0544 1244 1244 1244 044 1249 044 047 044 047 05 04 047 048 048 048 048 048 048 048 048 048 048
14 KWS: Narobi NP HO	94.12.8	Narob	Mandon NP			Eastern highland	Greatiend (95% of NP),
			(117.2)		1 Senior Warden		Highland forest (4% of NP:
					4 Assetsnt Wardens		Croton, Olea, Acada, etc.)
					40 Rangers		
Montes Tourism Barbori		***************************************	***************************************	***************************************	3/ Onera	***************************************	s processor contraction and the contraction of the
15 KWS: Kleumu HQ	94,1213	Kisumu	Note laterd NP	ව	3	Lake Victoria with latend	Woodland
		Saiya	Ą	estates.	1 Warden		Bushed grassland,
			Kisumu Impala LS*	Ndeie Island	2 Assistant Wardens		Swamps
			(6.0)	Keumu Impala	24 Flangers		
***************************************		10000000000000000000000000000000000000	***************************************		77 Officers		
16 KWS: Kakemege HQ	94.12.14	Kakamega	Kakamega NFP	Û	8)	Western Ingriend	- West African tropical rain forest
		Bushe	(44.7)	Port Victoria	1 Warden	High rainted (2,000 mm/year):	(remnent) with endemic flora
		VPanga		Š	2 Assistant Wardens	rainy season in 3/4 of a year,	(Abizie, Antevie, Croton, Prunus,
The second of the second of the second of					19 Rangers	Important water catchment,	Ficus, Oles, etc.)
***************************************	***************************************	***************************************	***************************************	***************************************	11 Others	Ishkidhu Falk	
17 KWS: NeBolot NR HQ	94.12.15	West Pokot	Nasolot NR*	£	(51)	Western highland/	Art-them bushand
		Turkene	(192.0)	Coboket	1 Warden	Northern plaintand,	(Acadia, Commiphora, etc.)
			South Turkana NR	(S.Turkana NH)	2 Assistant Wardens	Short rainy season:	
	•		(0,1901.0)		39 Pangers	October-December,	
					9 Others	Turkwel Gorge Arch Dem	

Appendix A (3) Results of Interview Survey to KWS and County Council Offices

Interviewed Organizations/Offices	Dette	Comesponding Districts	NP/NR/Others (sq.lon)	Administration Outpost (No.)	Staff (No.).	Natural Environment Climate/Topography	Уерекайол-
18 KWS: Mr. Elgen NP HC	94.12.15	Trans Nova	M. Bigon NP- (169.2) Salve Swenty NP- (5.5)	©	(109) 1 Warden 4 Assistant Wardens 70 Sampers 34 Others	Votganic mountain with high although (2,100-4,200 m) and caldens/caveshot springs	Mortene moorland, Bernboo toreste, Highward torest (Pootocarpus, Cadar, Croton, Fisus, etc.).
19 KWS: Kapumet Station	94.12.16	Beringo (Elgeyo Marakwet)	Kamerok NR (87.7) (Rimol NR: 65.7)	(4) Edama Favire Barvesa Mochangol Lake Baringo	(33) 1 Warden 2 Assistant Wardens 24 Rangers 6 Omers	Karo Valey, Lake Kammarok	Andronen bushlend (Acada, Balentes, Combretum, Cynodon, std.)
20 Berryo C.C.: Lake Bogorle Sation	4.2.17	Serrico	Lake Bogone NF" (107.1) Lake Bartngo"	(1) Laire Baringo	(36) 1 Warden 1 Assistant Warden 10 Rangers 24 Others	Rit Valley, Fresh-water lake, Alkaine social lake with hot springs/gaysens Plainy season: April-July (500-1,000 nmn/year),	Arichom bushland (Acacia, Sakedora, Terminalia, etc.), Swampa, Alcaine short gressland

Appendix A (4) Results of Interview Survey to KWS and County Council Offices

Interviewed Organizations/Offices	Natural Environment Animals	Ecologically Important Areas	Environmental Problems Nature Caused	Human Caused	Tourism Caused
(Coastal Toursm Region) 1 KWS: Lamp HQ	Elephant (crossing to Manda Island), Hippopolamus, Topi, Dugong, Crocodile, Sea buffes, Sea brits, Coral fishes	Ras Tenew, Tana Delta (proposed to protected areas). Manda Island, Witu Forest,		Hegalover-fishing by trawking, Water poblition by domestic sewage, Deterioration of coral reefs by sitration through Tana River and dredging works, Water secreaselsoit deterioration/flood at Tana Delta by dum construction on the river, lilegat tree felfing (mangroves), Wildlife conflict (crop damage by elephant, hippo)	Nove; because of tittle tourism development
2 KWS: Malind/Watamu HO	Elephant, Buffalo, Ader's chiker, Forest birds, Sea turbes, Coral fishes	Sabaki Rivor basin, Vuma Munarani		llegal/inteed/over-its/into by trawing, Sitration through Sabaid River in Malindi, Beach entsion in Melindi, Illegul tree folfing (mangroves), Subsistence poaching, Wildfile conflict (crop/human damage by elephant, buffalo, hippo, crocodile)	
3 KWS: Shimoni Station	Sable antelope, Roan antelope (7), Sea turtes, Sea birds, Coral fishes	Deni (proposed to protected area), Twi, Wasini Island, Majoreni (proposed to conservation areas) Ramisi River basin	Beach erosion on coral islands	Destruction of coral reeds by illegal dynamite fishing (1970%-80's)	
4 KWS: Shanba Hills HQ	Elephant (SOC ca.), Buffalo, Sable antelope (250 ca.?), Waterbuck, Bushbuck, Giraffe (introduced)	Kaya Forests (Shimbe, Lunguma, Longo-Magandi, etc.), Majimoto Spring	Pest insects (wetwe fly, fict), Invasion of exotic plants (Lantana) to NR, Tree felling by increasing elephant	llegal tree felting for binberthre-wood/ housing material, Subsistence poaching, Fire into NR, Widdile conflict (crops/human damage by elephant)	Off-cac/over-speed draing, Litters in high season by domestic visitors
5 KWS: Mombasa HO	Coral fahes (Parrol fahes, Puffers, Snappers, Sampens, Butterfly fahes, Groupens, etc.), Marine invertebrates (Boahe-Ger-men, Sae urchins, Shells, etc.)	Ali unprotected reef ecosystem	Flood by very heavy rains at a seasonal river, poor visibility at the entry point, kwering salinity, siliation, destruction of seaguass beds	Destruction of coral reefs by trawling. Decrease of sea turties by deterioration of nesting sies and mixed fistking by trawling	Destruction of corasis by stepping on by swimmers, Water pollution by sewage from hotels, Litters
(Central Toursm Region) 6 KWS: Nanyuki District	Sephent (2,500 ca.: increasing), B. rhinoceros (in private ranches), Bulfato, Band, Impala, Kongoni, Waterbuck, Giraffe, B. zebra, Lion, Leopard, Cheetah	Mukopodo area	Drought	Disruption of wildlife dispersal areas by fencing. Soil encision in the south, Subsistence poaching, Increase of wildlife conflict (crophrumen damage by slephant) by expansion of settlements.	None; because of no tourism development
7 KWSTISOG C.C.: IsioloSamburu Complex HO	G. zebra (>1,000; increazing). Band, Oyx, Gerenuk, Impala, G. gazele, Girafo, Bepharr, Lion, Leopert, Cheetan	Kidhich area, Chander Falls	Drought, Flood by heavy rains	Overgrazing by Inestock around NRs. Grazing competition between Investock/widdle, Disease infection from Investock to widdle, Subsistence poseching	Officed cliving. Animal harssment (lich, cheetah), Animal feeding (baboon), Litters

Appendix A (5) Results of Interview Survey to KWS and County Council Offices

Interviewed	Natural Environment Animals	Ecologically Important Areas	Environmental Problems Nature Caused	Human Caused	Tourism Caused
6 KWS: Mr. Kenya NP HO	Rodents, Rock hylax in NP, 98 % of animals inhabiting in the surrounding FR. Bephant, B. rhinoceros, Bulfalo, Eand, Waterbuck, Bushbuck, Bush pig, Babon, B. & w. colobus Trans Inhanding B. & w. colobus	Mt. Kanya FR. (indigenous farest zone)		Water decrease probably by deforestation, Fire fire montain montaind, lilegal the felling for fire-wood housing material in FR. Subsistence poaching/honey collecting, Wildrife conflict (crop damage by elephant, buffalo, bush pig, baboon)	Soll erosion along nature trais, Animal feeding with garbage; change of feeding behavior (*y/ax)
9 KWS: Aberdare NP HQ	Guntoceres (Stat.), Elephant, Bongo Guntocest log. S. & w. colobus, Trans famorican	***************************************		llegal tree-feling around the NP lences.	
10 KWS: Lake Naturu NP HQ	Buffab (500 ca.), Impela, Waterbuck, Warthocens (Introduced), G.A. flamingos (1.5 million: the largest population), Pelicans (2.000 ca.), Thense (introduced)	100 Maria 100 Ma	Docrease of water fevel: decrease of fishes/pelicans and increase of flamingos	Water polition by domestic sewage. Over-grazing by widdle by fencing around NP. Clearing of vegetation for the pipeline project by Netkoral Grid. Widdle conflict (crop damage by baboon, morkeys).	Off-road driving, Liters/garbage, Animal harassment to breoding activities (flamingos)
I KWS: Hel's Gate NP HO	Eland, Kongoni, G. gazelle, T. gazelle, Buffalo, Giraffe, B. zebra (micration between NPs)	Helf's Kitchin, Hot springs		Grazing competition between increasing livestnot/wildille.	
12 KWS: Enter HO	Elephart (50 cz.), Buffalo, Waterbuck, Hippopotamus, Leopart, Crocodile	West of Kambur Reservaire, North of Kambere Reservaire	Drought. Flood along rivers	Fire into NR, Soil erosion by agriculture around NR, Subsistence poaching, Illegal fishing, Illegal grazing by livestock, Illegal tree felling for fire-wood, Wildile conflict (crop clamage by elephant)	None; because of no tourism development
13 KWS: OHdoinyo NP HQ	Buffalo, Bushbook, Bush pig, Baboon, B. & w. colobus, Leopard	Fourteen Falls	Invasion of exotic plants (Lantana) to NP	liegal grazing by investrock, Illegal tree leiling/charcoal burning, Water pollution at Fourteen Falls through Atth/Nairobi Rivers, Wildaife conflict (crop damage by hippo, babbon)	None; because of little fourism development
4 KWS: Narodi NP HO	B. rhinocencs (60 cz.), Buffelo, Giraffe, B. zebra, Wildebeest (migration from the south of NP in dry season), Lion, Leopard, Cheetah	South of Narce NP (migration route)		Disruption of wicilite dispersal areas by fending, Litters by adjusting industries/fowns, illegal grazing by livestock in the south of NP, Water polytrion by industrial sewage through Athi River, Air polytron/offensive odor by industrial exhaust	Off-toad/over-speed chwing, Liters, Water pollution by sewage from hotels/restaurants through Athi Fiver

Appendix A (6) Results of Interview Survey to KWS and County Council Offices

			Economants Problems		
Interviewed Organizations/Offices	Netuce chyrromment. Animals	Ecologically Important Areas	Nature Caused	Human Caused	Tourism Caused
(Wostem Toursm Region) 15 KMS: Ksumu HQ	Impala (introduced), Siahunga, Hippoporanus, Legaard, Crocodie, Fishes (Nile porch (introduced), Cichid fishes, Lung fishes, etc.)	Lake Kanyabol, Yala Swamp		Decrease of water level and saintization at Yala Swamp by agricultural/migation works, lilegal tree felling/grass harvesturg for fine-woodhousing material, Water polition in the lake by industrial agricultural sewage; eutrophication, following increase of water hyachth, introduction of Nile perch and decrease of indigenous cichild fishes. Disease infection from liwestock to impala, Wildfle conflict (crophuman damage by hippo, balboon, monkeys, leopard, hyeere, crooodle).	Animal feeding (impala)
16 KWS: Kakamega HO	Morkeys (Reck-tailed morkey, B. & W. colobus, De-Brazza's morkey), Birds, Butterfies (endemic launa with threatened species)	Katamega Forest Yala Nature Reserve, Isecheno Nature Reserve		llegal the feling/grass harvesting for timberfile-woodhousing material. Fine/chaosal burning in FR. Soil erosion by gold mining along rivers. Subsistence poachinghoney collecting. Increase of livestock.	None; because of little tounsm development
17 KWS: Nasolot NR HQ	Elephant (500-500), Buttalo, G./L. kudus, Oryx, G.zebra, R. giraffe (introduced), Lion, Leopard	We wel River, Orwa Swamp, Kondgol Plain	Water decrease by drought	Sol erosion by gold mining along mens, Subsistence poeching, Illegal grazing by livestock, Wildfle conflict (cropihuman danage by elephant)	None; because of ittle toursm development
18 KWS. Mt. Egon NP HO	Elepharf (incressing), Waterbuck, Bushbuck, Statunga, Bush pig, De-Brazza's monkey, Bats		Invasion of exotic plants to Salva Swamp NP	Fire into NPs by posacines fromey collectors, Soil encison by over-grazing by livestock. lilegal the felling for fire-wood	None, because of little tourism development
1	Elephant, Buffalo, Waterbuck, Bushbuck, G. kudu, Giraffe, B. zebra, Leopard, Cheetah	Kero Valey (20 km from main road to NRs), Tugen Hills: Kabartonio, Kipsaran	Water decrease by drought. Soil erosion by hilly topography/ vokanic soils	Soil erosson on mountain slopes by over-grazing by livestock (goats/cattle) and no information to local people. Siltation in Lake Kamnarok, Poaching to protest living right of local people in NBs. Grazing competition between investockwhiddle	None; because of no lourism development
20 Banngo C.C.: Lake Bogona Station	Hippoparamus, Crocodie, Birds (> 500 spp.), Fishes (Lake Baringo), G. kudu, G./L. flamingos (0,7 million: increasing) (Lake Bogoria)	District FRs (28) around Tugen Hils, Lake Baringo (proposed to conservation area), Swamp in mouth of Moto River	Drought, Disease of famingos (by population increase?)	llegal grazing by livestock. Sitation in Lake Baingo by over-grazing by livestock. Wildife conflict (crop/human danage by hippo, crocodie)	

Appendix A (7) Results of Interview Survey to KWS and County Council Offices

ton Community Whalife Programmes (# planning)		Donation/kean of isshing gear/boats to fishemen's groups. Replantation of mangrove trees by focal communities.			Establishment of 2 community groups: Mombasa Boat Owners Association, Nyai Bamburi Urange Fishermen Group, Wildife extension: ostrich tarms, Environmental education for school children through Wildife Cubs, Information ponds for tourists/ local communities, Assistance/Conation/can for boat repaining to boat operators and fishing gear to fishemen
NP.NR Management/Wilditle Conservation Programmes (# planning)	Conservation of breeding/feeding sites of dugorg/sea furthes/sea birds#, Elephant programme for Manda Island's population#, Fencing around Lake Konyetta#	Patrol for liegal fishing, Innestigation of liegal trade in marine products. Environmental fencing by thom trees around NP#. Water monitoring in MNP/MNR, Instruction on guideline for sewage discharge to hotels.	inegrated conservation of martie ecosystem; establishment of Community Conservation Areas in Tiw/Shimoni/ Wasini Islande	Fire management for sable arteleose conservation survey, Vegetation survey, Elephant programme: fencing (40 km) along the north of NR and a comfort between NRPR, transportations, cullings, family plannings, Environmental lenking by thom trees (Cetapole) along the south of NRP, Control on tourist activities by spot check warning signs/dischee	Sea bude conservation programme, Water monitoring in MNP/MNR
Conservation/Management Measures Plant/Agreement/Memorandum	Memorandum of Understanding for forest conservation with Forest Department (Witu FR, etc.)	Memorandum of Understanding for forest conservation with Forest Department (Arabuko Sokoke FR, etc.). Arabuko Sokoke Forest Conservation Plan by KIFCON; no implementation because of withdrawn by KIFCON,	None	5 Year Management Pan for NR. (1983-97); draft and no implementation, Memorandum of Understanding for forest conservation with Forest Department (Shimba Hills FR, etc.); issues remained are fencing location and tree species for replantation	None
Administration Problems	litegal settlement in Manda Island. Location near the border to Somalia. Water shortage by high consumption. Officially in boat operation by tidal difference, Bed road condition (rainy season in the north of Malinds). Shortage of transport (2 vehicles, 3 boats, 1 aircraft). To visit harsement he handeres at hearth	Delicancy of water supply. Shortage of transport (1 vehicle, 2 boats)/ Squipment (buoys, life-saving jackets), Lack of scientific research/staff training, Communication problems with foreign visitors (fallen, German, French).	Land privatization, Location near the bonder to Tanzania, Shortage of transport (1 vehicle, 1 boat), Deficiency of water supply/clinics, Lack of staff training	Difference of policy between KWS/Forest Department for implementation of the MOU, Occupation by private land in a part of NR, NR status; should be NP, Shortage of transport (4 vehicles)/plant (gradens), Deficiency of othoes/accommodation/ water supply, Lack of staff	Shortage of transport (boats, lequipment (radios), No single entrance gate to MNP, Unperfect entrance fee collection, Location of the MO in the town far from MNP, Tourist harassment by hawkers at beach
Interviewed Organizations/Offices	(Coassal Tourism Region) 1 KWS: Lamu HQ.	2 KWS: Maind/Watanu HO	3 KWS: Shimoni Station	4 KWS: Shamba Hils HQ	5 KWS: Mombasa HQ

Appendix A (8) Results of Interview Survey to KWS and County Council Offices

interviewed Organizations/Offices	Offices	Administration Problems	Conservation/Management Measures Plan/Agreement/Memorandum	NP/NR Management/Wildife Conservation.	Community Wildlife Programmes
				Programmes (# pianning)	(# planning)
12	<u> </u>			Southed the section of the section o	Set Managed of Section with the set of the s
DE CANOT NEMYLIO FICE	2		Out of the management of the control	detretion factors	Modern of Paints Width Engage
		Land Sub-drivision for private ranches,	(1827-30); no imperingulation.	Ohion processors: taits actabilishment of	Cultion of refers in parents markets
		Little information on tourism activities by	Agreement for NH: management with C.C.	Anna Anna A Delate Disco Commission	Catha a comment of some Laurence for the distance
		private ranches,	Memorandum of Understanding for Torest	ASSOCIATION OF THE CHARLE CONTINUES	
		Shortage of transport (2 vehicles, 1 forly)/	conservation with Forest Department	Dy NW Storenge	TOTAL SECTION SET IN PROCESSION OF SECTION O
		equipment (radios)	(Mukogodo FR, etc.)	Conservation Area in Mulcocodo area#	
7 KWS/kedo C		Whitasy travillo in the north of Shaha NR	A kind of NR manacement acreement	None; because of fack of fund	Use of 10% of NR revenue for
leislo/Samhan	Of velocity Complex HO	Rad mad condition			development of public facilities as
		Charles of transmit (2 uplides 1 ings)	KWS: windiaholeston con mix and achieve		Isiolo District Wildlife Bursary Fund,
		change of parapol (4 concess, 1 only).	on wikilife macanement to C.C.s.		Grants for school children by C.C.
		traction campion county	C.C. vill management/davalonment		
		Deficiency of offices/accommodation/			
		Corporator Supply			
	٠.	Lack of research staff			
8 KWS Mt Kerva NP HO	NA NP HO	Control on tourist activities and rescue of	5 Year Management Plan for NP	Establishment of resourcest patrol	Community Afforestation Programme,
	!	sick/suffering founds.	(1993-98): little implementation because	teams	Establishment of Association of Mt. Kenya
		Control on porter/cuide activities.	of lack of fund.	Construction of a lodge in NP	Operators (by lodges, tourism agencies,
		Checatefactions with no direct compensation	Merrycandien of Understanding for forest	(Signor date) with agreement between	porters, cuides, KWS, MOTW, C.C.s., etc.)
		for crossing the demand of the second of the	conservation with Forest Department	KWS and private developer.	for tourism control/management,
		Rad-mad promitting	MA Kena FR	Fencing around NP/FR#	Support for school improvement/road
		Lack of Pained staff	issues remained are location/fund for		Chipero Chipero
			fancing		Problem animal control by shooting
					(Egypkian goose)
9 KWS: Aberdare NP HO	8 NP HO	Deficiency of plant	5 Year Management Plan tor NP	Rhino programme: ecological research,	ista prekkariora i l'archerant istockal e deponta de laborno des labardos de centrales de constanta de populación de
	• •		(1991-96)	fencing (78 km) around NP including the	
	٠	-		most important salient.	
			:	Restriction on visitor No.:	
				canacity of camping sites (12 persons)	
				Annias (30 bets) and transport.	
				special buses to lodges and 4WD vehicles	
-				in NP with permission by the warden	
10 KWS: Lake Nakuru NP HO	akuru NP MO	andra de la coloca del la coloca de la coloca de la coloca del la coloca d	5 Year Management Plan for NP;	Fencing around NP,	
			in progress	Monitoring of animal populations,	
			•	Water monitoring at 8 offluent points in	
				the lake	
11 KWS: Helf's Gate NP HO	ATO HO	Encreachment to NPs by Masai people	5 Year Management Plan for NP		
			(1992-97).		
	:		Hell's Gate NP HQ: administration HQ for		
***************************************	***************************************	(1241) 1240 PP 1277 1277 1277 1277 1277 1277 1277 1	both Hell's Gate/Longonot NPs		144. 144849 14784 694 49 194 67 57 61 61 649 649 647 647 647 647 647 647 647 647 647 647
12 KWS: Embu F	₽	Very bad road condition (rain season),	Agreement for NR management with C.C.;	Re-introduction of animals (minos, giratte,	
	f	Shortage of transport (2 vehicles, 1 boat),	in progress;	eland, kongon, zabra, etc. #.	
		Deficiency of oncess accommodations	AWS: NH menagement covered primer.	i ransiotzacon or eleginamis. Conniem/dicebies necessar Milas	
	-	Water Supply,			

Appendix A (9) Results of Interview Survey to KWS and County Council Offices

	A desired and the second secon	Consolisting Manager Manager		
intervewed Organizations/Offices	ALTHROUND TOURNET IN	PlanyAgreement/Memorandum	NP/NR Management/Widdle Conservation	Community Wildlife Programmes (# planning)
13 KWS: Ottomyo NP HO	Bad tradi condition, Shortage of transport/plant/equipment (grass-cutting machine), Deficiency of offices/accommodation/ water surppy,	None	Fording around NPP, Re-introduction of animalist	Environmental educations, Support for school constructions. Problem animal control by culting/ driving/ditching
14 KWS: Narco NP HO	Little NP revenue by few visitors Land use control on the south of NP, expansion of agricultural land/sertiements/ industries with land sub-division. Shortage of equipment (indics)	5 Year Management Plan for NP, in progress	Fencing around IVI) except the south, Construction of water holes for animals, Rhino programme: 24 hr. observation by rangers and translocation, Monitoring of animal populations per 2 months, Clearing of excels trees and plantation of indigenous trees,	Cooperation with Embakasi Land Owner Association, Kitengele Land Owner Association, Support for school/accommodation/ water supply construction
		***************************************	Cleaning of litters in dry season	
Western Tourism Region] 15 KWS: Ksumu HQ	Expansion of agricultural land/sertrements with land privatization . Shortage of transport (1 vehicle, 1 boat), Lack of fund	5 Year Management Plan for Kaumu Impala LS; in progress A kind of LS management agreement with C.C.; KWS; LS management/development in cooperation with C.C.	Establishment of LS for stratunga conservation with re-introductions, introduction of other animals#, improvement of Animal Orphanages#.	Establishment of Nosee Island Community Group, Problem animal control by shooting/ trapping
16 KWS: Kakamega HQ	Human encroadment to FR, NR status; should be NP because of the state land, Difference of structure/policy between KWS/Forest Department for implementation of the MOU, Bad road/nature trail condition, Shortage of transport (1 vehicle), Lock of staff/scentific recearch	Memorandum of Understanding for forest conservation with Forest Department (Yakamega FR, etc.), Yakamega Freest Conservation Plan by KIFCON, no implementation because of withdrawn by KIFCON, A kind of NR management agreement with C.C.; KWS: NR management/development	Estaukshment of hature traus/ camping sites	forest conservation with attention of traditional file styles. apprelionestry, zero-grazing by livestock. fish farming, bee keeping, etc., Support of school supplies#
17 KWS. Nasouring HQ	Shortage of transport (2 vehicles, 1 lony)/ plant/equipment (fire-arms), Very bad condition on game viewing road, Deliciency of water supply, Lack of staff (mechanics)	5 Year Management Plan for MRs (1991-96); no implementation because of lack of fund, Agreement for NR management with C.C.s. (1993); KWS: NR management/development, Nasokot NR HC; administration HC for both Nasokot South Tuntana NRs	None; because of lack of fund	Construction of wells/wailar holes for local communities/investod/wildifle#
18 KWS: Mt. Egon NP HQ	Human encreatment to NP, Location along the border to Uganda, Bad road condition (rainy season), Shortage of transport (2 vehicles, 2 lonies), Deficiency of offices/accommodation, Difficulty in access/material supply by location in the remote area	Mr. Eigon NP HG: administration HG for both Mr. Eigon/Saiwa Swamp NPs	Anti-poactung by Wikdide Protection Unit	

Appendix A (10) Results of Interview Survey to KWS and County Council Offices.

interviewed Organizations/Offices	Administration Problems	Conservation/Management Measures Plan/Agreement/Memorandum	NP/NR Management/Wildite Conservation Programmes (# planning)	Community Wildlife Programmes (# olanning)
19 KWS: Kabamet Station	Human settlement in NRs: 685 households 5,000 persons (1990), 650 households (1994), Difference of administrating authorities (C.C.) for the adjacent NRs. Very bad noad condition, Shortage of transport (1 vehide)/plant/equipment (fifre-arms, radios), No agreement for NR management between KWS/C.C.	Agreement tor NR management for Rimoi NR with C.C.; KWS: NR management/development	Nons: because of leck of fund and no agreement with Baringo C.C.	Development of schools/drincs/cultural centre/cattle dips/water holes/ ostrich farms# s
20 Barmpo C.C.: Lake Bogonia Station	No conservation toursm development plan with no fund for Lake Baringo, Bad road condition, Shortage of transport (1 vehicle, 1 lony)/ plant/equipment (radice), Lack of scientific research/staff training (wildlife conservation/management, tourism)	5 Year Managament Plan for NR (1991-96); made by C.C.	Research on vegetation/soldmanngos, Monitoring of animal populations#, Special conservation programme for G. kudu#	

Appendix A (11) Results of Interview Survey to KWS and County Council Offices

(Coastal Tourism Region) 1 KWS: Lamu HQ High season: August-December August-December August-December No over-use No over-use No over-use NWS: Standori Station 30,000 (1990-93 Av.), High season: March-July, MHP season: March-July, MHP season: August-January, Low season: March-July, MHP season: August-January, A KWS: Shindba Hills HQ 22,377 (19939-4), High season: August-January S KWS: Monrbasa HQ Resumption of Marine Resumption of Marine		Up-market tourism. Conservation of sensitive Islamic profitional culture in Lamu/Pate Islands Dispersal of visitors within MNP/MNR Econtumism based on local communities, Conservation of sensitive Islamic traditional culture in Washin Islands, Enhancement of souba diving and discouragement of scoke-ling	Visitor service/oducation. Removal of toulist harassment	Private ranches in inland, Settlement scheme in Mpekatoni/
iama Ho abon 15 Ho		Up-market tourism, Conservation of sensitive Islamic praditional culture in Lanu/Pate Islands Dispensel of visitors within MNP/MNR Econourism based on local communities, Conservation of sensitive Islamic traditional culture in Washin Islands, Enhancement of scuba diving and discouragement of scuba diving and	Visito servosiocucation. Removal of fourist harassment	Settlement scheme in Mpekatoni/
KWS: Maintot/Watanu HQ KWS: Shimba Hills HQ KWS: Shimba Hills HQ		Conservation of sensitive Islamic traditional culture in Lamu/Pate Islands Dispersal of visitors within MNP/MNR Eco-tourism based on local communities, Conservation of sensitive Islamic traditional culture in Washin Islamic traditional culture in Washin Islands, Enhancement of souba diving and discouragement of snorkeling	Removal of fourlet harbssment	Settlement scheme in Mpekalony
KWS: Shimba Hils HO KWS: Shimba Hils HO KWS: Shimba Hils HO		traditional culture in Lamu/Pate Islands Dispersal of visitors within MNP/MNR Econourism based on local communities, Conservation of sensitive Islamic traditional culture in Washi Islamic traditional culture in Washi Islands, Enhancement of souba diving and discouragement of souba diving and discouragement of souba diving and		
KWS: Maimot/Watamu HQ KWS: Shimon Station KWS: Shimba Hills HO KWS: Mombasa HQ		Dispersal of visitors within MNP/MNR Econourism based on local communities, Conservation of sensitive islamic traditional culture in Washi Islands, Enhancement of scuba diving and discouragement of shorkeling		Hindi Mitaminani by GTZ
KWS: Maimor/Watanu HQ KWS: Shimon Station KWS: Shimba Hils HQ		Dispersal of visitors within MNP/MNR Eco-tourism based on local communities, Conservation of sensitive Islamic traditional culture in Washin Islands, Enhancement of scuba diving and discouragement of snorkeling		Kunga MNP/Dodon NR management
KWS: Maintof Waterus HQ KWS: Shintok Hils HQ KWS: Shintok Hils HQ		Dispersal of visitors within MNP/MNR Eco-tourism based on local communities, Conservation of sensitive Islamic traditional culture in Washin Islands, Enhancement of souba diving and discouragement of souba diving and		project by Holland/Germany/WWF
KWS: Mainrof Waternu HQ KWS: Shimba Hills HO KWS: Shimba Hills HO		Dispersal of visitors within MNP/MNR Eco-tourism based on local communities. Conservation of sensitive Islamic traditional culture in Washin Islands, Enhancement of souba diving and discouragement of souba diving and		(planting)
KWS: Shimba Hills HO KWS: Shimba Hills HO KWS: Shimba Hills HO		Dispersal of visitors within MNP/MNR Eco-tourism based on local communities, Conservation of sensitive Islamic traditional culture in Washin Islamds, Enhancement of souba diving and discouragement of souba diving and		Receptation as Kinna Manne
KWS: MainckWatamu HQ KWS: Shimon Station KWS: Shimba Hills HO KWS: Mombasa HQ		Dispersal of visitors within MNP/MNR Eco-tourism based on local communities, Conservation of sensitive Islamic traditional culture in Washi Islamds, Enhancement of souba diving and discouragement of snorkeling		Biocohem Reserve
KWS: Shimon Station KWS: Shimon Hils HO KWS: Shimba Hils HO KWS: Mombasa HO		Dispersal of visitors within MNP/MNR Econourism based on local communities, Conservation of sensitive Islamic, traditional culture in Washi Islands, Enhancement of souba diving and discouragement of snorkeling		
KWS: MaimofWatanu HQ KWS: Shimba Hils HO KWS: Shimba Hils HO KWS: Mombasa HQ		Economism based on local communities, Conservation of sensitive lateraic traditional culture in Washi Islands, Enhancement of scuba diving and discouragement of snorkeling	Wester concentration of the first	Receptation as Maind/Watamu
		Ecotourism based on local communities, Conservation of sensitive Islamic traditional culture in Washin Islands, Enhancement of scuba diving and discouragement of snorkeling		Biosohere Reserve.
	***************************************	Ecorbursm based on local communities, Conservation of sensitive Islamic traditional culture in Washin Islands, Enhancement of scuba diving and discouragement of snorkeling		Bamburi Nature Trad
		Ecotourism based on local communities, Conservation of sensitive Islams, traditional culture in Washin Islands, Enhancement of scuba diving and discouragement of snorkeling		(private company)
		Consentation of sensitive Islamic traditional culture in Washi Islamic, Enhancement of souba diving and discouragement of snorkeling	4 ++++++++++++++++++++++++++++++++++++	Supportrom Eden Wikdite Trust (NGO)
	***************************************	Conservation to conserve includes, Enhancement of soubs diving and discouragement of snorkeling		
	More than the present	Transcribe driver in tream issues, Enhancement of scube diving and discouragement of snorkeling		
	More than the present	Enhancement of scuoa cwing and discouragement of snorkeling		-
	More than to present	discouragement of snorkeling		
	Wore than the present	g programme was be broken to reserve the second of the sec		
	More than the present		++++++++++++++++++++++++++++++++++++++	Commence (C. C. C
	men decreased with	Eco-tourism based on local communities,		Control of the Contro
	navo marracement sur	No need for iodges but camping sites/		COO CONTRACTOR OF THE PARTY OF
	betrembled	bandas		See the steed these
_	(possibly 40,000?)	***************************************		
Resumption of Marine		Very high potential.	Infrastructure perendement	
		No strategic development direction at	(needs, water supply, garbage	
Consequation Fee: 50		present	collection, etc.),	
			Deach cleaning,	
			Removal of tourist harassment	***************************************
(Central Tourism Region)				Chamber and the same than
6 KWS; Nanyulo HQ Almost no visitors in NR		Up-market tourism,	Infrastructure devotopment.	hot of the district some
		Environmentally sound tourism in private	COMPUBLICATION DELWORK WILL	
		ranches,	private renches	The name of "Numon INK", unstead
		Examination of re-introduction of sport		of Lakipia NR, was planned to be
		prating		used once,
		•		Support for the widdle community
				programme from USAID: COBRA project
AND THE THE PARTY AND THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PARTY OF THE PROPERTY OF THE PROPERTY OF THE PARTY OF THE PAR	annessana mendebahan sementahan bahan baha		Construction of Information Centre.	Pasture (must land) but no ranches
•			uncrovement of clame viewing road	around NRs,
Sciolo/Samburu Complex MO			with ploas of minor mad	IBRD project by the World Bank
			December 1997	(1982-83): almost no aid/development
			TIGHTON STATE OF THE STATE OF T	atheritat
				Carlo and
				GOOD UNDERSTREAM TOT WILDING
		-		conservation by local communities,
	:			No security problem by intensification

Appendix A (12) Results of Interview Survey to KWS and County Council Offices

Interviewed	Tourism Development				Other Information
Organizations/Offices	Visitor Condition (No./Year)	Visitor Camying Capacity (No./Year)	Tourism Potential/Direction	Needs for Tourism Development	
8 KWS: Mt. Kenya NP HO	15,000-16,000	Presibly 2 times more than	Diversity of rounger activities:	Construction of Information Centre.	Large-scaled agricultural land around
	200101 - 200101	the present in this case	mountain elimbine forset traktine	increase of camping sites and	Mr. Kerna FB.
		the property of the	the solito Cabino ata	remains of terresons by the	Desirentia of Chambs system" on
		0.0 0 100 100 100 100 100 100 100 100 10	よう はっこうこうけい	Constitution of south to flow	Alastotion ones in 18th Monte FIR
		וואמומעסנות אווים אומים אווים		Change and in Marchia late	ACCOUNT A Line of children with section
				ביים הישל שנים לישל מישל מישלים יים	Designation on Lift Manual
					Biosphere Reserve
9 KWS: Aberdare NP HQ	67,510 (1994, 1-10)	Possibly 2 times more than	Control on visitor No.		
		the present	·		
10 KWS; Lake Nakuru NP HO	170,000		Economic contribution to local		Registration as Lake Nakuru
			communities		Ramsar Site
11 KWS; Helf's Gate NP HO	42,211 (1993);				Expansion of agricultural land by
	Domestic visitors 70 %,				private company (planning),
	Mountain climbing > 50 %,		-		Expansion of geo-thermal electric plant
	Low season: April-May,				(planning)
	November-January				
KWS: Embu HQ	300-400		High potential (?),	infrastructure development	Small-scaled agricultural land
	:		Eco-tourism,	(roads, bridges, lodges, etc.),	around NR,
			Diversity of tourism activities:	Construction of water holes and	Tana-Athi River Development Authority
:			fishing, boating, etc.	clearing of a part of vegetation for	project,
	•			visitor's attraction/facilities,	Large-scaled inigation scheme by
-				Promotion/advertisement	private developer in the north of NR,
					Degazettement of a part of NR:
					from 68 to 48 sq.km,
			-		Support from Mwea NR Trust (NGO)
13 KWS: Ol-domyo NP HO	2,800 (1989)	Much more than the present	Eco-tourism	Construction of lodges	No security problem by intensification
4 has mare removate a sales a cases proces of poster and a sales and		12 14 11 14 14 14 15 15 15 15 15 15 15 15 15 15 15 15 15		COMPANY TO BY PROPER A REPORT OF A CONTROL OF A REPORT OF THE SECOND SEC	of patrol
14 KWS: Nairoo NP HO	150,000-160,000,	More than the present	Possibility of mass tourism,	Construction of lodges/Masai Borna	Industrial/agricultural development
	No over-use	if facilities improved	Environmental education/extension for	and camping/viewing sites with tollets,	in the south of NP,
			Kenyans/school children	Improvement of Animal Orphanage/	Good condition on road network with
				Information Centre,	sign posts in NP
				Visitor education with pamphiets,	
				Promotion/advertisement to change	
				the present image of 200/transit	
[Western Tourism Region]	48 000 H S (4002):		Emissional advertisation of	Tetablichmont of Education Cantal	i aka Vistoda Basin Davalcomast
	Desident adult 15 000		local records in \$	Astron fraithraditional fiething court	As though period
	Non-meidon ad it 2000		Welling soften to valid a partitle	Pines contains saint	Commence land in 100 to width along
	MATERIAL CAROLINES		נו מוניוני את מוני ונס גם וניים למוזימונים	Indian reasonable position	Corporation and the second and and and and and and and and and a
	Chicagn 21,000,			improvement or Animal Orphanage.	The lake sixore
	Clears to deep in ND			Promotionacyerusement	
	WAS INTO THE STATE OF THE				

Appendix A (13) Results of Interview Survey to KWS and County Council Offices

intervewed Organizations/Offices	Toursm Development Visitor Condition (No Mean)	Visitor Carrying Capacity (No.7Year)	Tourism Potential Direction	Needs for Tourism Development.	
16 KWS: Kakamega HQ	800 (1993); mostly naturalists/ Bord (1993); mostly naturalists/ bird watchensfentomologists, More visitors in FR (Nature Reserves), Free entrance; will be charged	Possibly more than the present	Eco-foursm with environmental education	Construction of 2 camping slies/ 1 office3 gates/2 bridges, Promotion/acher/laement with use of the Western Tourism Circuit	Agroutural tandisettlements around NR, Permission to livestock grazing by the Presidential instruction
17 KWS: NESOICH NA HO	(Cantony) lee only) 2.400, Free entrance: will be charged after development		High potential, All year available to tourism. Scenic beauty on the way from Keno Valley/Lake Beringo to NRs, Eco-fourism, Co-fourism, Diversity of tourism activities: safart, trakding, rock dirthing, water sports, sport fishing, etc.	Establishment of todges/bandes/ special campa/camping sites/gates, Improvement of game viewing road, Participation of private developers	Pasture (trust land) around NPs, Inrigation acheme by private developer in the south of NPs and by the government along Turkwel River (planning). Operation of hydro-electric plant with settlements by Kenya Power/Keno Valley Development Authority, Inclusion of Turkwel Gong Arch Dem anea (100 ca. sq.km) to NR (1993), Good condition on main road in Nasolot NR.
18 KWS: Mt Eigen NP HG.	5,300 in Mr. Elgon NP (1989), 2,300 in Saiwa Swamp NP (1989) 50 in Kamnarok NR, Close to toursm		Diversity of rourism activities: mountain dimbing, caving, bird watching, etc.	Constitution of todges/camping sites, improvement of roads (unin NPs, Hemoval of illegal settlements from NPs.	Pasture (trust land) around NRs, Antipathy for gazettement of NP/NR by local communities. No security problem
20 Bampo C.C.: Lake Bogoria Station	40,000-50,000 in Lake Bogona NR, High season, July-August, December		High potential: one of the most scenic beauty in Africa, Cultural diversity of traditional life with-archeological sities: Kipchese, Bosoi, Kipsaran. All year available to tourism. Local tourism and no mass sourism; gradual development by local administration. Develsity of tourism activities: camelihorse safaris, hidh watching, star watching, hidhoff watching, star watching, hidhoff watering, souris, sooting/canoeing/rathing, sauna, filmnotichological.	Construction of Information Education Centres and boat jetty/ tented todga/camping sites, Premotion/advertsement in the set of Lake Berngo/Lake Bogoria NR	Pasture (frust/private lands) around NR, Good understanding for wildlife conservation by local communities. Hot injury of tourists by hot springs

(Note) The blanks do not necessarily mean that there are nothing for these subjects but mean that there were simply no or lack of information obtained.

As for the subjects for "Natural Environment", information obtained through field visits as well as interview surveys was used to fill in the blanks.

(Source) Interviews to KWS and County Council offices and field visits to NPAR and other important areas by JICA Study Team.

Appendix B. Field Survey: (a) Mammal Species and Numbers by Driving Counts, (b) Bird Species Observed through Field Visits

When the interview survey was made and time was allowed, NP/NR or other important areas were visited and field surveys, mainly driving counts and observations for mammals/birds, were carried out in most of these areas. In addition to this, the same kind of field surveys were made in several NP/NRs in other Tourism Regions and Tanzania.

(a) Mammal Species and Numbers by Driving Counts

The driving counts for mammals, especially large ones, were made in most of the total 16 NP/NRs (one in the Coastal, seven in the Central, three in the Western, one in other Tourism Region and four in Tanzania) during the short rainy season from the October, 1994 to early January, 1995. All animals seen on both sides along a road as far as 300 to 400 m were counted by at least two observers from a vehicle, which was driven at 30 to 40 km/hr. As for Mt. Kenya NP and Kakamega NR, observation from a fixed point and by walking were alternatively used for reference, because of its forest habitat.

However, these data cannot be strictly compared with each other, because of variety of survey period, time and area. In other words the data indicate only a tendency of relative abundance in mammals. The areas which indicated abundant animals in number as well as species number were Masai Mara NR and Serengeti NR (Tanzania), followed by Lake Nakuru NP and Buffalo Springs NR. A total of 37 species were recorded in Kenya.

(b) Bird Species Observed through Field Visits

Bird species observed during the field visits were recorded in a total of 17 areas (two in the Coastal, four in the Central, five in the Western, two in other Tourism Regions and four in Tanzania) from late October to the middle of December, 1994.

Since the species were recorded whenever there was an opportunity for observing birds and time allowed, it depended rather on the remarkability of the species. As a result of this approach, forest or small birds were not well recorded. Thus, these data show only an example of the relative diversity of avifauna. A total of 113 species were recorded in Kenya and the areas where birds were abundant in species' number were Samburu/Shaba/Buffalo Springs NRs and Lake Baringo.

The results of this survey are compiled in Appendix B(1)-B(7).

Appendix B.(1) Results of Field Survey (a): Mammal Species and Numbers by Driving Counts

Section Sect								,								
8411.25	Area	Shimba &	N SI	Lake Naki	dN DI	Shaba NR		Samban	g	Puffalo Core	ON SO	Mark No.	014 014			٠.
Section 1500-1745, Section		¥ 138		94 10 28	95.1.3	8		200		04.55 E	<u> </u>	Mil. Nonya NP	MWOR NA		N GOILS	_
Total Tota		8:45-10:00		16:00-17:	15, 8:40-11:00	10:30-12-20	_	16:20-18:0	5.8:30-9:10	9-15-11-50		18.60, 6.20	12.77.17.61		96.12.8	
75 7105 71	(minutes)	3		(5 4 5)		(110)		(145)		(155)		(240 cs.)	(35)		(48) (48)	
Main	Minutes Distance (km)	۶۶ ۶		بر 19		110	:		145	\$5) B		3	
S COAT TO	Species	SO.	(No./km)		(No./cm)	(No.)	/No Am	282	(A) (A)	4.4		(fixed point)	8.7		42.7	
2 5 0.07 7 0.00 1 144 129	Red-tailed Monkey						(I I POSE)	(1)	(MODAII)	(100)	(NOJKH)	(%0.)	(<u>Ş</u>	(Mo/kg)	<u>Ş</u>	(No./km
8 5 0.07 7 0.00	Blue Monkey											,				
## 5 0.077	Vervet Montey											¥ .			:	
78 134 7 0.00	Stack White Colobus		•	5	0.07								-			
1 0.006	Baboons (Olive/Yellow)	***************************************	***************************************	8	\$	7	0.30		:	-			5	115	89	990
1 0.05	Arde-striped Jacker								***************************************	***************************************	M40004 P4040 D46444.		***************************************			
(i) — 6 0.17 (ii) — 6 0.17 (ii) — 6 0.17 (iii) — 6	Social vector						e.						,			
1 0.06	Statement Com														64	900
1	Lamenoned Cacana						٠									
14 0.17 (6) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.18 (7) — 6 0.18 (7) — 6 0.18 (7) — 6 0.18 (7) — 6 0.18 (7) — 7 (8) 0.19 (7) 0.12 (7) 0.13 (7) 0.13 (7) 0.18 (7) 0.19		***************************************		***************************************	***************************************	*************	*************				,	•-				
144 189 2 0.09 2 0.05 67 17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.17 (7) — 6 0.19 (7)	White-toiled Monorce							£	ı				H0000000000000000000000000000000000000		*****	
144 1.89 144 1.89 144 1.89 144 1.89 14 0.17 (1)	Spotted Hyaena						-					+ -				•
1 0.06	Cheetah	:				,	: 1	-								
1 0.006	Lion					ŧ	``.	Ę		-						
1 0.006 176 2.22 2 0.09 2 0.05 83 2.41 7 (Ro) 0.009 3 (Re) 0.13 1 (Re) 0.03 6 (Re) 0.17 7 (Ro) 0.009 3 (Re) 0.13 1 (Re) 0.03 6 (Re) 0.17 7 89 10.12 1 0.04 89 2.59 150 4.36 20 2.30 30 1.89	Leopard	***************************************	***************************************		Pete (17414141417141714141	***************************************	************		***************************************	İ	0.17	100 D4 1 4 1 4 1 4 4 4 4 4 4 4 4 4 4 4 4 4	******************	***************************************	***************	**********
1 0.06	African Elephant							} ∢	g 6		ç					
1 0.06 176 2.32 2 0.09 2 0.05 83 2.41 7 (Ro) 0.09 3 (Ro) 0.13 1 (Ro) 0.03 6 (Ro) 0.17 (1) 7 (Ro) 0.09 3 (Ro) 0.13 1 (Ro) 0.03 6 (Ro) 0.17 (1) 7 (Ro) 0.09 3 (Ro) 0.13 1 (Ro) 0.03 6 (Ro) 0.17 (1) 30 1.89 2.17 3 0.13 3 0.13 5 0.13 16 0.47 30 1.89 202 (D) 2.66 3 (D) 0.13 36 (D) 0.26 104 3.02 30 1.80 1.85	Burchelfs Zebra			<u>‡</u>	1.89				: :		į. 5					
1 0.06	Grevy's Zebra					N	90.0	2	0.05		176					
7 (Ro) 0.09 3 (Re) 0.13 1 (Re) 0.03 6 (Re) 0.17 (1) — 7 (Ro) 0.09 3 (Re) 0.13 1 (Re) 0.03 6 (Re) 0.17 (1) — 7 (Ro) 0.09 3 (Re) 0.13 1 (Re) 0.03 6 (Re) 0.17 (1) — 89 10.12 1 0.04 89 2.59 150 4.36 20 2.30 39 0.51 3 0.13 5 0.13 16 0.47 50 1 0.03 20 1	White Phinoceros		***************************************	80	0.11	-					: i					
7 (Ro) 0.09 3 (Re) 0.13 1 (Re) 0.03 6 (Re) 0.17 (1) — 789 10.12 1 0.004 89 2.59 150 4.36 20 2.30 39 0.51 3 0.13 5 0.13 16 0.47 89 30 1.89	Warthog	-	90:0	178	232	2	60.0	2	0.05	3	600	***************************************	4 *****************	***********	15	35.0
7 (Ho) 0.09 3 (Re) 0.13 1 (Re) 0.03 6 (Re) 0.17 (1) 769 10.12 1 0.04 39 2.59 150 4.36 20 2.30 39 0.51 39 0.17 3 0.13 5 0.13 16 3.47 36 1 0.03 20 1	hppopolamus			•		-								٠	2	3
(1) — 769 10.12	define (Windre)			7 (Ro)	800	(He)	6.13	1 (Re)	0.03		0.17				8	050
769 10.12 1 0.04 89 2.59 150 4.36 20 20 3.49 20 20 150 1.20 3.49 20 20 150 1.20 3.49 20 20 150 1.20 3.49 20 20 150 1.30 20 2.50 1.30 20 2.50 2.50 2.50 2.50 2.50 2.50 2.50	Midebeest Midebeest												€	ı	88	208
769 10.12 1 0.004 99 2.59 150 4.36 20 39 0.51 3 0.13 5 0.13 16 0.47 30 1.89 10 202 (D) 2.66 3 (C) 0.13 3 6 (C) 0.94 11 0.03 20 12 1.96 11518 19.37 114 4.34 2.20 6.02 5.00 14.53 52 50 12 0.004 14.53 52 0.13 56 (C) 0.94 12 0.005 104 3.02 13 1.95 1.156 19.37 114 4.34 2.20 6.02 5.00 14.53 52 50	do		7 17 17 17 17 17 17 17 17 17 17 17 17 17	************	***************************************	***************	***************************************	***************************************	444444444444	***************************************	***************************************	***************************************		***************************************		
39 0,51 23 0,13 5 0,13 16 0,47 36	mpala			769	10.12	•-	\$	83	2.59		7.38			2.30	7	3.8
39 0.51 3 0.13 5 0.13 16 0.47 56 1.17 59 1.17 50 1.12 1.17 5. 0.13 16 0.47 5. 0.13 16 0.47 5. 0.13 20 1.18 19.37 1.14 4.34 2.20 6.02 5.00 14.53 52 30 50 50 50 50 50 50 50 50 50 50 50 50 50	Ments Sakelle			. ;		83	<u>전</u>	ო	90.0		3.49				3	S
Table 1997 114 434 239 602 500 1453 50 013 16 0,47 56 56 11	Inombons Gazelle			8	0.51	4									a	250
75 1.96 1518 19.37 114 4.34 2.30 6.02 5.00 14.53 92 30	Incan Buffalo	*************	***************************************	90	***************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.13	5	0.13	į	0,47					
75 1.96 16.18 19.37 114 4.94 2.20 6.02 5.00 14.53 92 30	Jand			3	=					-		8			9	20.0
20 (1) (1) (1) (1) (1) (2) (2) (3) (4) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Sreater Kudu								-		3:	1 1			ξ	93
73 1.89 (1)	Sushbuck			:						•						
30 1.89 (1) 264 2 0.05 104 3.02 (2) (2) (3) (3) (3) (3) (3) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	lawey's Red Duiker											3 E				2.1
thers) 202 (D) 2.66 3 (C) 0.13 36 (C) 0.34 7 (C) 0.20 12 (D) Squirrel 31 1.95 15.18 19.37 114 4.34 220 6.02 5.00 14.59 92 30	able Antelope	8	1.89	***************************************	***************************************	***************************************	******	**************	************	***************************************	939799101107100110	***************************************	***************************************	***************************************	***************************************	lhasespeedbee
Petrs) 202 (D) 2.66 3 (C) 0.13 36 (C) 0.34 7 (C) 0.20 12 (D) Squirrel 31 1.95 15.18 19.37 114 4.34 220 6.02 5.00 14.59 92 30	жж (B)			٠.		5	264	~	. 90.0		302		-			
Squirred 202 (D) 2.66 3 (C) 0.13 36 (C) 0.34 7 (C) 0.20 12 (D) 31 1.95 15.18 19.37 114 4.34 220 6.02 500 14.59 92 30	Archies (Funca/Gunthers)							ĸ	36:							
3; 1,95 15;8 19,37 114 4,94, 230 6,02 550 14,53 92 30	varerbuck (CID) Instriped Ground Squirret			305(D)		(j) E	0.13	8 8	760		0.20	12 (D)				
25 30 14,33 32 30	otal No. & No.Jkm	55	1.95	1518	19.97	Į	70.0	086	400	ı	9		-			
2	Species No.	2		2		:	į	} ç	0.00		3	81		345	416	9.74

Appendix B (2) Results of Field Survey (a): Mammal Species and Numbers by Driving Counts

		Kakamaca ND Nazalat ND		ON Spoone NO		Mana Mana MD	QN QN	(Terczania)		:					
Area	N COOLEGE					2000	9	CIN THE PL				:			
	CA-40 11	ווא איז איז איז איז איז איז איז איז איז אי		15500 0000	110	Master Master	<u> </u>				0.20	Accommonder	ť	Company	9
	4 1/14	\$ 12.15		2,12.17		94.10.29.30	94.10.29-30/12.31, 95.1.1	7		2	<u> </u>		5	15 000 b.o.	Ŀ
	14:30-16:00	13:10-15:00		11:05-12:45		15:00-16:40	15:00-16:40 8:40-11:50	A. 7. 7. 7.		24.00 ap. ap.		6.11.9		13,51	
_	(Q)	(110)		207		000	200 47.10 44.00	000 most		00:00-13:00		900-130		14:15-17:30	8.45-16.00
Minutes		g.		Ş		0.50-50	0001/100/(400)	(A)		(12) (3)		(150)		9:00-11:30	780)
(Fg)	(walking)	33.5		3 8		\$: 	:	<u>8</u>		85		8	200
	(No.)	(No.)	(Mo/lon)	(No.)	(No Am)	100	(N) Grant	3		37	ŀ	61		252	
Rec-tailed Monkey	89			(init)	(incording)	(IMD:)	(NO./Km)	(NO.)	(NO/ON)	(No.)	(No.frm)	(No.)	(No./km)	(SV)	(No./km)
Blue Monkey									-						
Vervet Monkey				Ś						9	0.16				
Black & White Colobus	6			ો	ı					N	0.05			•	
Baboons (Olive/Yellow)				\$. 4		ļ								
Sidestroed Jackal	***************************************	***************************************		N		8	0.05	***************************************		8	2.16			8	600
Golden Jackal												1	20.0	11 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	***************************************
Black-backed Jackal							į							-	
Bat-eared Fox							0.01							•	
ame-spotted Genette														M.	8
Owarf Monomose	***************************************	***************************************	******************		***************************************	***************************************	***************************************								400
White-tailed Monorose									· · · · · · · · · · · · · · · · · · ·	***************************************		***************************************	***************************************	***************************************	***************************************
Contract Houses															
Character I years						61	10.0		-				800	8	6
						7	100					•		3	Š
		****************************				16	0.10			٠		•	***	;	
pando						***************************************			***************************************	***************************************	***************************************	**************	0.0/	16	90'0
						K	0.43			8	į	•	4	ı	
concrete 2 ceors				15	0.74	\$	2,65			3 i	35.0	ė į	8 8	rs	0,0
Grewy's Zeora			:							3	6,70	8	0.82 24	867	265
White Filthoceros	***************************************	**************							:						
Manuag				Ê	ı	3	0.38			16	0.43				***************************************
Giraffa /Mittacho)						x	921			ଝ	35	4 8	9 6	3	000
Martehoner (Konowi)						(¥) 6	0,05	43 (M)	54.	12 (M)	S. S.	3	3	25 (5)	4
Wildehoper						¥	SS SS				ļ		900	3	2 6
Tool	******************		***************************************			447	27.23			8	230	- 80	7 70	- t	200
Tube:						150	0.91	****************	***************************************		***************************************		4.04	4271	16.95
Fripata General Consults	ē			SH.	2.56	\$5	280	φ	0.20	8	28	•		5 8	420
All S CORT CALLS				R	88.	9	0.10			:	į	ş	. 6	g	2
CONTESTINE CARGONIC						££	1.69					2 5	9	3	23
Cerenak	***************************************				:							120	207	1382	5.52
Amean comago						15	0.09	157	5.13	O.	623	**************************************		***************************************	
Catalog K. d.										•	ř	\$ =	0.00	ò	ž
District.				•	0.05							· •			
and Dod Puller	:				:			က	0.10						
Solda Astronomican	***************************************	*******************	************************						•						
One (B)								***************************************	***************************************		****************	************	400444444444444444444444444444444444444	***************************************	***************************************
Charles (Calaborates and										. :					
ons (Ninks/Goraners)				-	0.05				0,10	Ġ	, S			•	
Institute Contact						(Q)	0,02	13(5)	5	. 6	800			n (5 6
Cotal No. 2. No. Am	3											:		3	0.00
Species No.	۰ ۵	.	2000	<u>.</u>	5.27	9209	37,05	3	5.43	372	10,05	573	9.39	7031	27.90
0		•		0				•							

Total No.*means all animals counted only in the census time/routes, "Species No.* includes species observed out of the census time/routes."

(Source) JICA Study Team

Appendix B (3) Results of Field Survey (b): Bird Species Observed through Field Visits

Tourism Region/Country	Coastal		[Central]				[Western					[Others]		Tanzania	<u>(a)</u>		-
Area	WOW.	3	¥	Š	SSB	¥	SE	₹	NAS	BAR	8	MAS	7 <u>5</u>	ARO	MAN	8	SEB EB
Date (94.)	11.23	11.21	10.28	12.1	11.30	12.8	12.13	12.15	12.16	12.16	12.17	10.28	11.26	11,7	.	6.11	6. F
	1126	# 23		12.2	12.1	÷	12.14	1		12.17							11.11
[OSTRICH]																	
Ostrich					+	+		100000000000000000000000000000000000000	***************************************		47 447 47 47 47 47 47 47 47 47 47 47 47	+	*45************************************	***************	***************************************	***************************************	+
[PELICANS]	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,														•		
White Pelican						•				***************************************		***************************************	704000000000000000000000000000000000000	***************************************	+		***************************************
[CORMORANT]																	
Greater Cormorant							+					***************************************	@UH(####################################	******************	*************************		***************************************
(HERONS/EGRETS)	***************************************	*****	***************************************										•				•
Grey Heron					:		+										+
Goliath Heron										+							
Black-headed Heron			+														
Squacco Heron										+							
Cattle Egret					+												
Little Egret		+										***************************************	***************************************		***************************************		***************************************
(HAMERKOP)																	
Hamerkop					+	+		+	***************************************	+	+	***********	***************************************	**************	******	***************************************	100 101 101 101 101 101 101 101 101 101
STORKS																	
Open-billed Stork							+				-						
White Stork											+					. •	
Marabou			+		- 1-					+		+				+	
Yellow-billed Stork		+				-	***************************************		***************************************			***************************************				***************************************	***************************************
[IBISES]																	
Sacred Ibis				***************************************		***************************************	***************************************		***************************************	H-1440724744111111111111111111111111111111			-		+	+	***************************************
[FLAMINGOS]											,				•	•	
Lesser Flamingo											+.				+ -	┾ •	
Greater Flamingo			***************************************		**************		***************************************	***************************************	*************		+	**********		1876194119419419419419	+	+	7777774444 M 10071110
(DUCKS/GEESE)																	
White-taced Whistling Duck										+							
Egyptan Goose				+						+	+;	+,			+		1.
Spur-winged Goose					٠				:						+		
Red-billed Teal				***************************************	***************************************	***************************************					+			***************************************			
(SECRETARY BIRD)			-			•					÷	-				-	-
Secretary Bird				:		+						+-				+	+

Appendix B (4) Results of Field Survey (b): Bird Species Observed through Field Visits

Tourism Racion/Country	Coastall		Centrall				[Western]				,	Cothers		[Tanzania]			
Area	MOM	LAM LAM		KEN KEN	888	NA!	\$₽	Ž.	NAS	BAR	80g	MAS	73E	ARU	MAN	NGO	SER
WIII TURES/EAGLES!							ŧ		;								
African White-backed Vulture	0					+				÷		+					
Egyptian Vulture												-					
Lappet-faced Vulture			+				4								:		+
White-headed Vulture																	+
Bateleur			+						+		:						
Tawny Eagle			,		+						+		+				+
Augur Buzzard							+								٠.		
Long-crested Eagle			+														
Dark Chanting Goshawk					+												
Fish Eagle			-				+			+	+						
Black Kie		+															
Black-shouldered Kite										+		***************************************	-			***************************************	***************************************
[FALCONS]		***************************************	*****			**************************************											
Peregrine Falcon					+								:				
White-eyed Kestrel											7	24.000000000000000000000000000000000000			7		+
[FRANCOLINS]		***************************************															
Yellow-necked Spurfowl					+								+				
Scaly Francolin												+					
[GUINEAFOWL]																	
Vulturne Guineafow					+												
Helmeted Guineafowl				***************************************	+	111111111111111111111111111111111111111	***************************************				+	1011010101010101010101010101010101010101	+	+	***************************************	***************************************	+
[CRANES]																	
Crowned Crane				+		+					+	+	***************************************		***************************************	+	*******************
[BUSTARDS]									-			·					
Black-bellied Bustard												+	•				
White-bellied Bustard						+											
Kon Bustard					+	+					3				***************************************		+
(JACANAS)		·			·												
Jacana							+										
[PLOVERS]		\$ 799 948 HB 100000000000000000000000000000000000				***************************************									:		
Kitlitz's Sandplover		+															
Blacksmith Prover			+								: : :				+	+	+
Crowned Piover	f				. · ·				Te.	: •	•					+	+
Spur-winged Plover		,			+					+	+				:		

Appendix B (5) Results of Field Survey (b): Bird Species Observed through Field Visits

Tourism Region Country Coastal Contral Western Contral Wastern Coastal Contral Wastern Coastal Contral Wastern Coastal Contral Coastal	YEN \$38 NAI NS BAR BOG + + + + + + + + + + + + + + + + + + +
MOM LAM NAK KEN SSS NAI NSS KAK NAS BAR BOO MAS + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + +
S	+++++++++++++++++++++++++++++++++++++++
Wood Dove + + + + + + + + + + + + + + + + + + +	+++++++++++++++++++++++++++++++++++++++
Wood Dove	+ + + + + + + + + + + + + + + + + + + +
S	+++++++++++++++++++++++++++++++++++++++
Signature + + + + + + + + + + + + + + + + + + +	+++++++++++++++++++++++++++++++++++++++
Signal + + + + + + + + + + + + + + + + + + +	+ + + +
# + + + + + + + + + + + + + + + + + + +	+ + +
A Bird + + + + + + + + + + + + + + + + + + +	++
# + + + + + + + + + + + + + + + + + + +	+ +
# + + + + + + + + + + + + + + + + + + +	+++++++++++++++++++++++++++++++++++++++
A Bird + + + + + + + + + + + + + + + + + + +	+ + + +
+++	++
+++++++++++++++++++++++++++++++++++++++	++
+ + +	+ +
+ + +	
+ + + + + + + + + +	+
Hed Parnot Strango St Go-away Bird StCOUCALS) AC Cockoo Act Cours	+
St Go-away Bird St Go-away Bird AC Cockoo + + Act Coucal + + Act Coucal + +	+
Turaco ad Go-away Bird SICOUCALS] Ad Cockoo Fed Coucal + + + + + +	+
SCOUCALS] AC Cockoo Ad Coucal + + + + +	+ +
SCOUCALS] AC Cockoo Act Coucal A A A Cockoo A A Cockoo A A A A A A A A A A A A A A A A A A	+
# 6d Coucal + + + + + + + + + + + + + + + + + + +	+ +
red Coucal + + +	÷
Acad Studie	
- Indiana mose Swith	
Palm Swit	
Specked Mousebird + + The Specked Mouse The The The The The The The The The Th	
,	
Brown-hooded Kingfisher +	
Carmine Bae-eater + +	

Appendix B (6) Results of Field Survey (b): Bird Species Observed through Field Visits

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							A Lines	_				5	İ	Tanzani	~		
Tourism Region/Country	Coasta		Sentra:				[western]	_ ;	•	ć					(C) 18 18 18 18 18 18 18 18 18 18 18 18 18	9	g
Area	WOW OM	AM.	NAK	KEN	SSB	NAI	₹ 8	₹	3	Ä	3	MAS.	Ž,	Ş	MAIN	1	5
[HOOPOES]													•		:		
Hoopoe						1	***************************************	***************************************		+	400001409914099417400	***************************************	**************************************	4007148555555555555555555555555555555555555	100000000000000000000000000000000000000	***************************************	*******
[HORNBILLS]															-		
Silvery-cheeked Hombill				+				,		-			٠		+		
Stack & White Casqued Hombill	潭							+									
Von der Decken's Hombill					+												
Red-billed Hombill			,		- -												
Yellow-billed Hombill		:			+												
Ground Hombill							1	402000000000000000000000000000000000000	T0404040000000000000000000000000000000		***************************************	+	141444444444444444	***************************************	***************************************		
[SWALLOWS]													•				
Striped Swallow								***************************************				***************************************	+	***************************************	***************************************		*************
DRONGOS	10110000000000000000000000000000000000																
Drongo	:						***************************************		+	***************************************	P\$ ****************		***************************************			***************************************	*******
▼ [ORIOLES]							:						•				
Black-headed Oriole							***************************************	***************************************	404411444	***************************************		***************************************	+	***************************************		***************************************	900000000000000000000000000000000000000
CROWS]	747.47777777777777777777777777777777777																
		+									-						
Indian House Crow	+																
Fan-tailed Raven								***************************************	***************************************	+			***************************************	10 H 44 ***** T **************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	***************************************	
[CUCKOO SHRIKES]																	
Black Cuckoo Shrike		+					1	******	***************************************							***************************************	
BUBULS																	
Common Bulbui	+		+		+	+	***************************************	***************************************		+		***************************************	***************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			***************************************
[THRUSHES/ROBINS]											:						
White-browed Robin Chat		+				+											•.
Northern Olive Thrush				٠		+								:			
Bare-eyed Thrush		+			+		**********	100000000000000000000000000000000000000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			***************************************		74.000000000000000000000000000000000000			
FLYCATCHERS									-	:			-				
Southern Black Flycatcher				9	+	5-2000 D D D D D D D D D D D D D D D D D D	***************************************	***************************************	141000000000000000000000000000000000000	7	789444444444444444444444444444444444444	***************************************		***************************************		71.4444.040.0111177777777777777777777777	
[WAGTAILS]		-								•							
African Pied Wagtail		+						+		+	. · •						
Yellow Wagtail		***************************************			******		***************************************		***************************************		+	***************************************			***************************************		
(BUSH SHRIKES)																	
Black-headed Gonolek					4		+										٠
המאלקמים מוואפ																	

Appendix B (7) Results of Field Survey (b): Bird Species Observed through Field Visits

Area			3.	ç	NAI	Š	787	O V N	Q V Q	Ç	VVV	L V		NAN	Ç	7
	WOM WOM	¥	NAK KEN	3	NA	2	ž	3	5	3	3		200			
(SHRIKES)																
Grey-backed Fiscal							***************************************		+	************	***************************************	***************************************	***************************************			***************************************
[HELMET SHRIKES]							-							٠		
White-crowned Shrike							***************************************	***************************************	+	***************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		***************************************	**********	437777744444444444444	
STARLINGS/OXPECKERS]																
Blue-eared Glossy Starling					+											
Ruppell's Long-tailed Grossy Starling			+						+	+						
Superb Starting			+	+					+	+	ŧ		+	+	+	+
Yellow-billed Oxpecker					+							***********	*****************		***************************************	
SUNBIRDS	***************************************															
Mariqua Sunbird											+					
Variable Sunbird					+	-				000000000000000000000000000000000000000	***************************************	100000000000000000000000000000000000000	999944444	1404444444	***************************************	**************
[WEAVERS, etc.]																
Red-headed Weaver										+						
Red-naped Widowbird				٠	+											
Yellow Bishoo				+												
Badlafecht Weaver			+		+											
Golden Palm Weaver	+															
Black-headed Weaver									+							
Masked Weaver									+							
Spectacled Weaver	+															
Golden Weaver		+														
White-billed Buffalo Weaver								-	+					٠		
White-headed Buffalo Weaver				+						+						
White-browed Sparrow Weaver									+	+		+				
Grey-headed Sparrow	+			+												
Rufous Sparrow	+															
Jamesons Firefinch Indigobird					+									***************************************		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
[WAXBILLS, etc.]																
Red-billed Firefinch					+											
Red-cheeked Cordon-bleu	+				+	٠										
Black & White Mannikin					+	+										
Species No.	<u>က</u>	15	13 5	8	83	∞	က	~	8	∞	7	7	Ċ	თ	თ	<u>n</u>
Regional/Country Total	(Coastal) 26	38	(Central) 58			(Western) 47)TL) 47				(Others) 21	2	(Tanzania) 22:	ia) 23		

(Note) MOM: Mombasa, LAM: Lamu/Manda Islands, NAK: Lake Nakuru NP, KEN: Mt. Kenya NP, SSB: Samburu/Shaba/Buffalo Springs NRs, NAI: Nairobi NP/Nairobi, KIS: Kisumu, KAK: Kakamega NR, NAS: Nasolot NR, BAR: Lake Baringo, BOG: Lake Bogoria NR, MAS: Masai Mara NR, TSE: Tsavo East NP, ARU: Arusha NP, MAN: Manyara NP, NGO: Ngorongoro CA, SER: Serengeti NP

(Source) JICA Study Team

