

Reference

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- F.22 MOPND, Infrastructure Inventory. 1987

TABLES

Table F1.1 Livestock Population

unit:1,000

District	Cattle				Sheep/Goats				Camels				Donkeys			
	DDP*1	DRSRS*2	MoLD*3	Estimated	DDP	DRSRS	MOLD	Estimated	DDP	DRSRS	MOLD	Estimated	DDP	DRSRS	MOLD	Estimated
			6.6	6.6			7.7	7.7								
110 Nairobi																
210 Kiambu	181.9	166.5	174.2	174.2	111.2	161.7	161.7	136.5								
220 Kirinyaga	110.0	88.9	99.4	99.4	63.7	109.5	86.6									
230 Muranga	167.6	196.0	181.8	181.8	87.6	77.6	82.6								8.8	8.8
240 Nyandarua	212.5	215.0	213.7	213.7	241.9	237.1	239.5									
250 Nyeri	135.4	149.7	142.5	142.5	74.8	161.7	118.3									
310 Kilifi	10.6	77.2	219.9	102.6		45.4	211.5	128.4							0.1	0.1
320 Kwale	274.2	205.1	239.7	239.7	245.8	199.1	222.4									
330 Lamu	53.8	8.6	49.0	37.1	26.0	21.0	15.9									
340 Mombasa	3.0	5.0	4.0	4.0	10.5	8.6	9.5									
350 Taita Taveta	148.5	149.4	149.0	149.0	205.0	400.0	302.5								0.3	0.3
360 Tana River															2.3	10.5
410 Embu	98.1	305.2	521.1	413.1	130.3	402.8	528.8	33.1								6.4
420 Isiolo	149.2	122.5	246.2	172.6	306.0	136.9	133.6	0.2								
430 Kitui	271.6	334.5	303.0	303.0	513.2	351.8	360.5	27.1							2.3	87.3
440 Machakos	370.5	445.9	408.2	408.2	318.7	688.1	600.7	6.7								28.0
450 Marsabit	314.5	125.4	346.0	261.9	835.8	923.9	433.7									
460 Meru	295.1	685.8	490.4	490.4	583.3	961.2	907.0	186.1							8.0	23.5
510 Garissa	477.7	257.9	600.4	445.3	424.4	273.1	575.0	2.7							2.7	4.5
520 Mandera	105.8	61.3	151.0	106.0	418.3	308.9	375.7	57.8							4.0	3.7
530 Wajir	250.0	130.4	264.3	214.9	400.0	497.1	527.3	104.7							3.6	3.5
610 Kisii	583.0	583.0	583.0	583.0	197.9	197.9	197.9	159.8							3.4	5.1
620 Kisumu	251.9	259.5	255.7	255.7	287.2	287.2	287.2									
630 Siaya	387.6	421.3	404.4	404.4	261.1	390.5	325.8									
640 South Nyanza																
710 Kajiado	662.3	475.8	670.1	602.7	1000.0	639.0	961.4								12.2	12.2
720 Kencho	700.0	534.3	617.2	150.4	150.4	297.7	224.1									
730 Laikipia	242.4	254.5	219.8	563.2	244.2	609.6	472.3									
740 Nakuru	153.3	425.5	289.4	316.1	319.3	316.1	319.3	0.8							0.7	0.8
750 Narok	813.4	565.9	1180.1	831.1	2274.9	437.2	1675.8									
760 Trans Nzoia			189.3	189.3			59.0	128.6							13.3	159.0
770 Uasin Gishu	272.0	272.9	272.5	272.5	125.0	129.5	127.2									
810 Baringo	205.0	141.8	179.9	179.9	776.0	311.7	661.6									
820 Elg. Marakwet	146.3	138.6	152.4	152.4	328.9	299.6	314.2									
830 Nandi	341.3	386.2	363.8	363.8	61.5	66.5	64.0									
840 Samburu	154.7	146.4	155.4	155.4	415.3	460.0	451.1	13.6							5.8	8.1
850 Turkana	210.0	298.6	235.3	1800.0	1446.3	2169.8	1805.4	102.1							54.1	54.1
860 West Pokot	180.0	124.2	205.0	169.7	296.5	133.5	370.0	0.5							1.2	1.2
910 Bungoma	287.0	302.0	294.5	294.5	108.4	97.4	102.9									
920 Busia	156.0	157.3	156.6	156.6	81.8	67.1	74.4								0.1	0.1
930 Kakamega	441.7	445.6	443.6	443.6	97.8	13.4	55.6									
Total	9817.9	2902.1	12800.0	11255.0	13659.7	6547.4	15066.7	695.7	565.6	586.5	678.8	695.7	272.7	110.9	359.6	320.2

Source: *1=Ref.F.3.*2=Ref.f.11.*3=Ref.f.19

Table F1.2 Present Livestock Development Projects

District No	Code	Project Title	Source of finance
1	000	MINISTRY HEADQUARTERS	ODA/UK/GK
2	000	REHABILITATION OF KMC	EDF/EEC
3	000	LIVESTOCK SECTOR MANAGEMENT PROJECT	IDA/GOK
4	000	REHABILITATION OF A.I.SERVICES	SIDA/GOK
5	000	REHA.OF COAST HOLDING GROUNDS& STOCK ROUTES	EDF/EEC
6	700	HOLDING GROUNDS IMPROVEMENT ISIOLO	DANIDA
7	600	LIVESTOCK IMPROVEMENT(ASAL)TURKANA	NORAD/GOK
8	700	SHEEP & GOATS DEV.PROJECT	GOK/UNDP
9	900	NATIONAL DAIRY DEV. PROJECT	NTLANDS/GK
10	300	RURAL DAIRY DEV. PROJECT	FINLAND
11	900	NATIONAL POULTRY DEV. PROJECT	NTLANDS
12	700	MEAT INSPECTORATE PROGRAMMES HQS	GOK
13	900	TSETSE CONTROL	GOK
14	350	FOOT AND MOUTH DISEASE CONTROL	GK/UK
15	740	RANGELAND MANAGEMENT SERVICES	GK/UNDP/UK
16		PASTORAL TRAINING CENTRE NAROK	GK
17	000	FARMERS TRAINING CHEBORARWA	GK
18		GRIFTU PASTORAL TRAINING CENTRE WAJIR	GK
19	430	AHITI NDOMBA	GOK
20	620	AHITI NYAHURURU	GOK
21	810	AHITI KABETE	GOK
22	000	MEAT TRAINING SCHOOL-ATHI RIVER	GOK
23	900	DAIRY TRAINING SCHOOL-NAIVASHA	GOK
24	700	CAMEL EXTENSION PROJECT-MARSABIT	FRG
25	420	VETERINARY LABORATORY KABETE	EDF/EEC/GK
26	900	REHABILITATION OF VETERINARY FARMS	EDF/EEC/GK
27	360	LIVESTOCK IMPROVEMENT CREDIT HEADQUARTERS	GOK
28	360	BARINGO ASAL PROJECT	IDA/GK
29	510	NATIONAL EXTENSION PROJECT	IDA/GK
30	610	ANIMAL HEALTH REHABILITATION PROJECT	IFAD/FAO/OPEC
31		BEE KEEPING PROJECT	GK
32	820	MBEERE THARAKA SHEEP AND GOATS PROJECT	GOK/UK
33	850	EMI LIVESTOCK IMPROVEMENT ISIOLO	GK/UK
34	860	RANGE MANAGEMENT HANDBOOK	EDF/GK/EEC
35	900	CHEMERON CATCHMENT AREA PROJECT	GK
36	700	PASTORAL AREA VETERINARY SERVICES	GK
37	200	RINDERPEST-VACCINE PRODUCTION & CONTROL	UK
38	200	RABBIES CONTROL	GK
39	310	MACHAKOS INTEGRATED LIV. PRODUCTION	GK/EDF/EEC
40	440	LIV.PRODUCTION IN NOTHERN RANGELANDS	EDF/EEC
41	210	FARMERS GROUP & COMMUNITY SUPPORT SIAYA	GOK
42		NOTHERN RANGELANDS(ASAL)	EEC
43		ASAL PROGRAMME KAJIADO	NTLANDS
44	810	ASAL PROGRAMME E/MARAKWET	NTLANDS
45	000	WEST POKOT ASAL PROJECT	NTLANDS
46	110	TURKANA CAMEL DEV. PROJECT	NORAD
47	310	TICK CONTROL	IDA/IFAD/GK
48	930	RANGE DEVELOPMENT LAMU	GK
49	000	VETERINARY INVESTIGATIONS LAB.MARIAKANI	EDF/EEC
50		PROJECT MANAGEMENT SERVICES	IFAD
51		LIVESTOCK CENSUS SERVICES	EDF/EEC
52		KWALE/KILIFI RURAL DEV. PROJECT KILIFI	IFAD
53		MACHAKOS TICK CONTROL & ANIMAL HUSBANDRY	EDF/EEC/GK
54		KISII VALLEY BOTTOM DEV. PROJECT	EDF/EEC/GK
55		EXTENSION PROJECT UASIN-GISHU	DANIDA
56		VETERINARY CLINICAL PROGRAMMES	IFAD/IDA/GK
57		MANAGEMENT SUPPORT & TRAINING	IDA/GK/OPEC/UNDP
58		DISEASE AND PEST CONTROL PROGRAMME	IFAD/OPEC/GK
59		VETERINARY LABORATORY SERVEILLANCE	IFAD/IDA/UNDP/OPEC/GK

Source: Ref. F.20

Table F.1.3 (1) Projected Livestock Population (Cattle) (1/72)

Unit: 1000

District	1988			1990			2000			2010		
	Dairy Cattle	Beef Cattle	Total	Dairy Cattle	Beef Cattle	Total	Dairy Cattle	Beef Cattle	Total	Dairy Cattle	Beef Cattle	Total
110 Nairobi	436	2.21	6.57	4,507	2,292	6,799	5,319	2,75	8,069	6,277	3,3	9,577
210 Kiambu	145,879	28,325	174,204	150,792	29,377	180,169	177,954	35,253	213,207	210,008	42,304	252,312
220 Kinnyaga	68,702	30,734	99,436	71,016	31,875	102,891	83,808	38,25	122,058	98,904	45,9	144,804
230 Muranga	156,570	25,216	181,786	161,844	26,152	187,996	190,996	31,383	222,379	225,399	37,66	263,059
240 Nyandarua	208,808	4,938	213,746	215,84	5,121	220,961	254,718	6,145	260,863	300,599	7,374	307,973
250 Nyeri	137,059	5,465	142,524	141,675	5,668	147,343	167,194	6,802	173,996	197,31	8,162	205,472
310 Kilifi	13,762	101,485	115,247	14,226	105,254	119,48	16,788	126,306	143,094	19,812	151,568	171,38
320 Kwale	2,207	237,464	239,672	2,282	246,284	248,566	2,693	295,545	298,236	3,178	354,654	357,832
330 Lamu	3,912	47.5	51,412	4,044	49,264	53,308	4,772	59,117	63,889	5,632	70,941	76,573
340 Mombasa	1.99	3,002	4,992	2,057	3,114	5,171	2,423	3,737	6,165	2,865	4,484	7,349
350 Taita Taveta	8.95	140	148.95	9.251	145.199	154.45	10.917	174.24	185.157	12.883	209.089	221.972
360 Tana River		260.54	260.54	0	270.216	270.216	0	324.261	324.261	0	389.116	389.116
410 Embu	37,633	62,024	99,657	38,901	64,327	103,228	45,908	77,193	123,101	54,177	92,632	146,809
420 Isiolo	0.15	197,588	197,738	0.155	204,927	205,082	0.183	245,914	246,097	0.216	295,099	295,315
430 Kitui	6.7	299,743	306,443	6,926	310,875	317,801	8,174	373,052	381,226	9,646	447,665	457,311
440 Machakos	36,559	371,627	408,186	37,791	383,429	423,22	44,598	462,518	507,116	52,631	555,025	607,656
450 Marsabit		330,232	330,232	0	342,497	342,497	0	410,999	410,999	0	493,202	493,202
460 Meru	115,002	375,435	490,437	118,876	389,378	508,254	140,289	467,256	607,545	165,559	560,711	726,27
510 Garissa	0.37	538.85	539.22	0.382	558.862	559.244	0.451	670.639	671.09	0.532	804.772	805.304
520 Mandera	0.04	128.391	128.431	0.041	133.159	133.2	0.048	159.792	159.84	0.057	191.752	191.809
530 Wajir		257.155	257.155	0	266.705	266.705	0	320.048	320.048	0	384.06	384.06
610 Kisii	153	430	583	158.153	445.97	604.123	186.64	535.167	721.807	220.259	642.204	862.463
620 Kisumu	3,435	252,267	255,703	3,551	261,636	265,187	4,191	313,965	318,156	4,946	376.76	381,706
630 Siaya	1,102	403.3	404.402	1,139	418.278	419.417	1,344	501.937	503.281	1,586	602.328	603.914
640 South Nyanza	1.68	247	248.68	1,737	256.173	257.91	2,05	307.409	309.459	2,419	368.893	371,312
710 Kajiado		666,224	666,224	0	690,967	690,967	0	829,165	829,165	0	995,004	995,004
720 Kencho	491,985	125,165	617,15	508,555	129,813	638,368	600,159	155,777	755,936	708,263	186,934	895,197
730 Laikipia	26.34	235,294	261,634	27,227	244,032	271,259	32,131	292,84	324,971	37,919	351,41	389,329
740 Nakuru	251,57	168.76	420.33	260,043	175,028	435,071	306,883	210,035	516,918	362.16	252,044	614,204
750 Narok	37,396	959,329	996,725	38,656	994,957	1,033,613	45,619	1,193,956	1,239,575	53,836	1,432,756	1,486,592
760 Trans Nzoia	156	16.65	172.65	161,254	17,268	178,522	190.3	20,772	211,022	224,578	24,867	249,445
770 Usuin Gishu	250.46	22	272.46	258,895	22,817	281,712	305,529	27,381	332,91	360,563	32,857	393,42
810 Baringo	56,345	142,625	198,97	58,243	147,922	206,165	68,734	177,507	246,241	81,115	213,01	294,125
820 Elg. Marakwet	46,835	105.6	152,435	48,412	109,522	157,934	57,132	131,427	188,559	67,423	157,713	225,136
830 Nandi	189,74	174,262	364,002	196,13	180,794	376,864	231,458	216,882	448,34	273.15	260,26	533,41
840 Sumburu		160,031	160,031	0	165,974	165,974	0	199,17	199,17	0	239,005	239,005
850 Turkana		254,275	254,275	0	263,718	263,718	0	316,464	316,464	0	379,759	379,759
860 West Pokot	11,772	180.75	192,522	12,169	187,463	199,632	14,361	224,957	239,318	16,948	269,95	286,898
910 Bungoma	27.75	266,725	294,475	28,685	276,631	305,316	33,852	331,959	365,811	39,95	398,533	438,303
920 Busia	2.06	154,365	156,625	2,129	160,305	162,434	2,512	192,367	194,879	2,964	230,842	233,806
930 Kakamega	50,446	393,201	443,647	52,145	407,804	459,949	61,538	489,368	550,906	72,623	587,245	659,868
Total	2706,575	8805,9515	11512,526	2797,729	9132,987	11930,716	3301,671	10959,653	14261,32	3896,387	13151,664	17048,051

Source: Ref. F.19

Table F1.3 (2) Projected Livestock Population (Camel, Sheep/Goats) (2/2)

Unit : 1000

District	Camel				Sheep/Goats			
	1988	1990	2000	2010	1988	1990	2000	2010
110 Nairobi					7.7	8	9.6	11.5
210 Kiambu					136.5	141.6	169.9	203.9
220 Kirinyaga					86.6	89.8	107.8	129.4
230 Muranga					82.6	85.7	102.8	123.4
240 Nyandarua					239.5	248.4	298.1	357.7
250 Nyeri					118.3	122.7	147.2	176.6
310 Kilifi					128.4	133.2	159.8	191.8
320 Kwale					222.4	230.7	276.8	332.2
330 Lamu					15.9	16.5	19.8	23.8
340 Mombasa					9.5	9.9	11.9	14.3
350 Taita Taveta					302.5	313.7	376.4	451.7
360 Tana River	33.148	34.264	40.436	47.72	528.8	548.4	658.1	789.7
410 Embu	0.2	0.207	0.244	0.288	133.6	138.6	166.3	199.6
420 Isiolo	27.059	27.97	33.008	38.954	360.5	373.9	448.7	538.4
430 Kitui					600.7	623	747.6	897.1
440 Machakos					433.7	449.8	539.8	647.8
450 Marsabit	186.067	192.334	226.978	267.863	907.0	940.7	1128.8	1354.6
460 Meru	2.74	2.832	3.342	3.944	579.2	600.7	720.8	865
510 Garissa	57.811	59.758	70.522	83.225	415.8	431.2	517.4	620.9
520 Mandera	104.739	108.266	127.767	150.781	375.7	389.7	467.6	561.1
530 Wajir	159.787	165.168	194.919	230.029	527.3	546.9	656.3	787.6
610 Kisii					197.9	205.2	246.2	295.4
620 Kisumu					287.2	297.9	357.5	429
630 Siaya					325.8	337.9	405.5	486.6
640 South Nyanza					408.5	423.7	508.4	610.1
710 Kajiado					961.4	997.1	1196.5	1435.8
720 Kericho					224.1	232.4	278.9	334.7
730 Laikipia	0.791	0.818	0.965	1.139	472.3	489.8	587.8	705.4
740 Nakuru					319.3	331.2	397.4	476.9
750 Narok					1675.8	1738	2085.6	2502.7
760 Trans Nzoia					59.0	61.2	73.4	88.1
770 Uasin Gishu					127.2	131.9	158.3	190
810 Baringo	3.012	3.113	3.674	4.336	661.6	686.2	823.4	988.1
820 Elg. Marakwe	3.7	3.825	4.514	5.327	314.2	325.9	391.1	469.3
830 Nandi					64.0	66.4	79.7	95.6
840 Samburu	14.026	14.498	17.109	20.191	451.1	467.9	561.5	673.8
850 Turkana	102.078	105.516	124.522	146.952	1805.4	1872.4	2246.9	2696.3
860 West Pokot	0.541	0.559	0.66	0.779	266.7	276.6	331.9	398.3
910 Bungoma					102.9	106.7	128	153.6
920 Busia					74.4	77.2	92.6	111.1
930 Kakamega					55.6	57.7	69.2	83
Total	695.699	719.128	848.66	1001.53	15066.6	15626.4	18751.3	22501.9

Source: Ref. F.3, F.11, F.19

Table F1.4. Average Live-weight

Head Composition	Grade Cattle		Local Cattle		Sheep Goat	Camel
	Proportion (%)	Live- weight (kg)	Proportion (%)	Live- weight (kg)	Live- weight (kg)	Live weight (kg)
Bull	2	400	2	280		
Cow	45	320	28	220		
Heifer	17	240	25	160		
Heifer Calves	14	140	10	100		
Bull Calves	11	140	10	100		
Steer	11	240	25	160		
Average Live- weight LU/head		254 0.56		167 0.37	30 0.07	300 0.67

Source: Ref.F.19

Table F1.5 Projected Livestock Unit

Unit: 1000 LU

District	1990						2000						2010								
	Grade Cattle		Local Cattle		Sheep Goat		Grade Cattle		Local Cattle		Sheep Goat		Grade Cattle		Local Cattle		Sheep Goat		Total LU		
110 Nairobi	4.51	2.29	8.00	3.93	5.32	2.75	9.60	4.67	6.28	3.30	11.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.54
210 Kiambu	150.79	29.38	141.60	105.23	177.95	35.25	169.90	124.59	210.01	42.30	203.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	147.53
220 Kirinyaga	71.02	31.88	89.80	57.85	83.81	38.25	107.80	68.63	98.90	45.90	129.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.43
230 Muranga	161.84	26.15	85.70	106.31	191.00	31.38	102.80	125.77	225.40	37.66	123.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	148.80
240 Nyandarua	215.84	5.12	248.40	140.15	254.72	6.15	298.10	165.78	300.60	7.37	357.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.10
250 Nyeri	141.68	5.67	122.70	90.02	167.19	6.80	147.20	106.45	197.31	8.16	176.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	125.88
310 Kibiki	14.23	105.25	133.20	56.23	16.79	126.31	159.80	67.32	19.81	151.57	191.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.60
320 Kwale	2.28	246.28	230.70	108.55	2.69	295.54	276.80	130.23	3.18	354.65	352.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	156.26
330 Lamu	4.04	49.26	16.50	21.65	4.77	59.12	19.80	25.93	5.63	70.94	23.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.07
340 Moribasa	2.06	3.11	9.90	3.00	2.43	3.74	11.90	3.58	2.87	4.48	14.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.26
350 Taia Taveta	9.25	145.20	313.70	80.86	10.92	174.24	376.40	96.93	12.88	209.09	451.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	116.20
360 Tana River	0.00	270.22	548.40	161.32	0.00	324.26	658.10	193.14	0.00	389.12	789.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	231.22
410 Embu	38.90	64.33	138.60	55.43	45.91	77.19	166.30	66.07	54.18	92.63	199.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	78.78
420 Isiolo	0.16	204.93	373.90	120.82	0.18	245.91	448.70	144.62	0.22	295.10	538.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	173.09
430 Kitui	6.93	310.88	623.00	162.51	8.17	375.05	747.60	194.94	9.65	447.67	897.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	233.83
440 Machakos	37.79	385.43	449.80	195.26	44.60	462.52	539.80	233.89	52.63	555.03	647.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	280.18
450 Marsabit	0.00	342.50	940.70	321.44	0.00	411.00	1,128.80	383.16	0.00	493.20	1,354.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	280.18
460 Meru	118.88	389.38	600.70	283	140.29	467.26	720.80	304.14	165.56	560.71	865.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	363.37
510 Garissa	0.38	558.86	431.20	277.21	0.45	670.64	517.40	331.86	0.53	804.77	620.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	397.29
520 Mandera	0.04	133.16	389.70	149.11	0.05	159.79	467.60	177.49	0.06	191.75	561.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	211.28
530 Wajir	0.00	266.71	546.90	247.63	0.00	320.05	656.30	294.95	0.00	384.06	787.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	351.35
610 Kisii	158.15	445.97	205.20	267.94	186.64	535.17	246.20	319.76	220.26	642.20	295.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	381.64
620 Kisumu	3.55	261.64	297.90	119.65	4.19	313.97	397.50	143.54	4.95	376.76	429.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	172.20
630 Siaya	1.14	418.28	397.90	179.05	1.34	501.94	405.50	214.85	1.59	602.33	486.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	257.81
640 South Nyanza	1.74	256.17	423.70	125.42	2.05	307.41	508.40	150.48	2.42	368.39	610.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	180.55
710 Kajiado	0.00	690.97	997.10	325.45	0.00	829.17	1,196.50	390.55	0.00	995.00	1,435.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	468.66
720 Kericho	508.56	129.81	232.40	349.09	600.16	153.78	278.90	413.25	708.26	186.93	334.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	489.22
730 Laikipia	27.23	244.03	489.80	140.37	32.13	292.84	587.80	168.14	37.92	351.41	705.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	201.40
740 Nakuru	260.04	175.03	331.20	233.57	306.88	210.04	397.40	413.25	362.16	252.04	476.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	329.45
750 Narok	38.66	994.96	1,738.00	511.44	45.62	1,193.96	2,085.60	613.30	53.84	1,432.76	2,502.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	735.46
760 Trans Nzoia	161.25	17.27	61.20	100.98	190.30	20.72	73.40	119.37	224.58	24.87	88.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	141.13
770 Uasin Gishu	258.90	22.82	131.90	162.66	305.33	27.38	158.30	192.31	360.56	32.86	190.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	227.37
810 Baringo	58.24	147.92	686.20	137.47	68.73	177.51	823.40	164.27	81.12	213.01	988.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.31
820 Elg. Marakwet	48.41	109.52	325.90	93.01	57.13	131.43	391.10	111.02	67.42	157.71	469.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	132.53
830 Nandi	196.13	180.73	66.40	181.35	231.46	216.88	79.70	215.44	273.15	260.26	95.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	255.95
840 Samburu	0.00	165.97	467.90	103.88	0.00	199.17	561.50	124.46	0.00	239.01	673.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	149.13
850 Turkana	0.00	263.72	1,872.40	299.34	0.00	316.46	2,246.90	357.80	0.00	379.76	2,696.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.71
860 West Pokot	12.17	187.46	276.60	95.91	14.36	224.96	331.90	114.95	16.95	269.95	398.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	137.78
910 Bungoma	28.69	276.63	106.70	125.89	33.35	331.96	128.00	150.74	39.95	398.35	153.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	180.51
920 Busia	2.13	160.31	77.20	65.91	2.51	192.37	92.60	79.06	2.96	230.84	111.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	94.85
930 Kakamega	52.15	407.80	57.70	184.13	61.54	489.37	69.20	220.37	72.62	587.25	83.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.76
Total	2,797.73	9,152.99	15,626.40	6,521.60	3,301.67	10,959.65	18,751.30	7,785.20	3,896.39	13,151.66	22,501.90	1,001.53	9,294.25	1,001.53	9,294.25	1,001.53	9,294.25	1,001.53	9,294.25	1,001.53	9,294.25

Source: Ref. F.3, F.11, F.19

Table F1.6 (1) Stocking Rate of Managed Pasture and Grassland (1/3)

Unit: ha/LU

District AEZ	Managed Pasture	Grass Land Wet Season	Grass Land Dry Season	District AEZ	Managed Pasture	Grass Land Wet Season	Grass Land Dry Season
Kiambu				Kwale			
UH1		0.6		L2	0.15	0.5	0.5
LH1		0.5		L3	0.18	0.8	0.8
LH2	0.5	0.7	1.1	L4	0.35	2.15	
LH3	0.7	0.9	1.8	L5		2.5	4
LH5		4	6	L6		5	
UM1	0.15	0.5	0.7	Lamu			
UM2	0.2	0.6	1	L2	0.225		1
UM3	0.25	0.7	1.1	L3	0.3	1	2.2
UM4	0.325	1.2	1.75	L4	0.55	1.5	3.3
UM5		1.6	3	L5		3	
LM3		1.5	3.5	L6		5	
LM4			2.5	Taita Taveta			
Kirinyaga				LH2	0.6	1	
LH1		0.5		UM3	0.25	0.7	1.2
UM1	0.15	0.5	0.6	UM4	0.3	1	2.0
UM2	0.18	0.6	0.9	LM4		1.5	3.0
UM3	0.23	0.7	1.1	LM5	0.8	3.75	5.5
UM4	0.25	0.85	1.35	LM6		4.5	
LM3	0.265	0.85	1.4	L5		3.333	5.167
LM4		1.2	3	L6		4.5	
LM5		2	3	Tana River			
Muranga				LM3	0.2		
UH1		0.5		LM4	0.3		
LH1		0.5		LM5	0.5		
UM1	0.15	0.5	0.7	L3		1	
UM2	0.2	0.6	0.9	L4		1.5	
UM3	0.25	0.7	1.1	L5		3	3
UM4	0.28	0.933	1.467	L6		4	
LM3	0.28	0.9	1.5	Embu			
LM4		1.5	3.5	LH1		0.5	0.5
Nyandarua				UM1	0.15	0.5	0.55
UH1		0.6		UM2	0.2	0.6	0.6
UH2		0.8	0.9	UM3	0.25	0.7	0.9
UH3	1	1.3	2	UM4	0.26	0.8	1.0
LH3	0.7	1.5		LM3	0.28	0.8	1.2
LH4		1.667	4	LM4		1.3	2.2
LH5		5	6.0	LM5		2.5	3
Nyeri				L5		4	4
UH1		0.5		Kitui			
UH2		0.8		UM3	0.25	0.9	1.5
UH3		1	2	UM4	0.25	1	2.0
LH1		0.4		LM4	0.65	2	4.0
LH2	0.4	0.6	1.2	LM5	0.8	3.6	5.5
LH3	0.7	1	2	L5		3.6	5.5
LH4		1.277	4.333	L6		4.5	
LH5		4	5.0	Machakos			
UM1	0.15	0.5	0.7	LH2	0.4	1	
UM2	0.2	0.6	1.0	UM2	0.2	0.6	1
UM3	0.25	0.7	1.1	UM3	0.25	0.7	1.2
UM4	0.28	0.8	1.2	UM4	0.25	1	2

Table F1.6 (2) Stocking Rate of Managed Pasture and Grassland (2/3)

Unit: ha/LU

District AEZ	Managed Pasture	Grass Land Wet Season	Grass Land Dry Season	District AEZ	Managed Pasture	Grass Land Wet Season	Grass Land Dry Season
Kibbi				Machakos			
L3	0.4	0.833		UM5		2.25	3.5
L4	0.27	1.5	1.5	UM6		4	
L5	0.6	2.875	3.5	LM3	0.3	0.8	1.9
L6		5		LM4	0.4	2.25	3.85
Meru				LM5	0.8	3.267	5.333
UH2		0.8		LM6		4	6
UH3		1	2	L6		4.5	
UH4		2		UM4		1	1.5
LH1		0.5		LM2	0.15	0.6	
LH2		0.7	1	Laikipia			
LH3	0.9	1	2	UH2		1.2	
LH4		2	4	LH3	0.7	1.35	
LH5		4	6	LH4	1	2.667	5
UM1	0.35	0.5		LH5		4.5	
UM2	0.7			UM5		3.667	
UM3	0.25	0.7	1.1	UM6		4.8	
UM4	0.3	1	2	Nakuru			
UM5	0.5	2.5		UH1		0.8	1.2
UM6		5		UH2	0.5	0.8	
LM3	0.3	0.9	1.3	LH2	0.6	1.2	
LM4		1.2	3	LH3	0.675	1.45	2
LM5	0.7	3.167	4.75	LH4	1.4	2	
LM6		4		LH5	2	3	
L5		3	5	UM3	0.525	1.2	
L6		4.5		UM4	0.675	2.167	
Kisii				UM5	1.2	2.65	4.5
LH1		0.5	0.7	UM6		3.75	
LH2	0.6	0.8	1	Narok			
UM1	0.15	0.6	0.8	UH1		0.6	1.2
Kisumu				UH2	0.5	0.8	
UM3	0.15	0.7	1.2	UH3		1	
LM2	0.15	0.6	1.2	LH1		0.6	0.8
LM3	0.23	0.8	1.1	LH2	0.6	0.8	1
LM4		1.0	2	LH3	0.75	1.6	
Siaya				LH4	0.8	1.4	2.5
LM1	0.13	0.5		LH5		2.5	
LM2	0.15	0.6	0.8	UM1	0.15	0.8	
LM3	0.23	0.8	1.15	UM2	0.325	0.6	1
LM4	0.8	1.0	2	UM3	0.41	1	1.2
South Nyanza				UM4		1	1.5
UM2	0.325	0.6	1.1	UM5		2.167	
UM3	0.425	1	1.2	UM6		4	
UM4	0.3	1	1.5	LM2	0.15	0.6	1.2
LM1	0.135	0.55		Trans Nzoia			
LM2	0.15	0.6	1	LH2	0.6	1	
LM3	0.21	0.767	1.133	LH3	0.7	1.2	1.5
LM4	0.3	1.3	2				
LM5	1.5	2.5	4				

Ref.F.17

Table F1.6 (3) Stocking Rate of Managed Pasture and Grassland (3/3)

Unit: ha/LU

District AEZ	Managed Pasture	Grass Land Wet Season	Grass Land Dry Season	District AEZ	Managed Pasture	Grass Land Wet Season	Grass Land Dry Season
Kajiado				LH4	1	2	
UM3		0.7	1.1	UM2	0.33	0.7	1
UM4	0.25	1.2	2.5	UM3	0.39	1	1.2
UM5	0.3	2	3	UM4	0.45	1.167	
LM4		1.3	3	Uasin Gishu			
LM5		3.5	4.833	UH2	0.5	0.8	
LM6		5		UH3		1	
Kericho				LH2	0.6	1	
UH1		0.5	1.2	LH3	0.75	1.35	1.75
UH2	0.5	0.8		LH4	1	2	
LH1		0.4	0.8	UM4	0.498	1.25	1.7
LH2	0.6	1		Baringo			
LH3	0.7	1.2		UH2		0.8	
UM1		0.6		LH2	0.5	0.6	1
UM2	0.325	0.6	1	LH3	0.7	1	
UM3	0.39	1	1.2	UM3	0.25	1	
Elg Marakwet				UM4	0.55	1.2	2
UH1		0.5	1.2	UM5		1.8	4
UH2		0.9		LM4		2	
LH2	0.6	1		LM5		5	8.667
LH3	0.7	1.2	1.5	LM6		10	
UM4	0.55	1.3	2	West Pokot			
LM4		2		UH1		0.6	1.3
LM5		5	8.667	LH1		0.5	0.8
Nandi				LH2	0.6	1.05	
LH1		0.4	0.8	LH3		1.5	3
LH2	0.45	1		LH4		3	
LH3	0.7	1.2		UM3	0.475	1.2	
UM1	0.12	0.6		UM4	0.49	1.4	2
UM2	0.5	0.6	1	UM5		2	4
LM2	0.15	0.6	1.2	LM4		2	
Samburu				LM5		5.167	
LH3		2	3	LM6		10	
LH4		3.5	4.5	Bungoma			
LH5	4	5	6	LH1		0.6	
UM5		5		LH2	0.3	1	
LM5		5.5	7.5	UM1	0.125	0.6	
LM6		12		UM2	0.325	0.6	1
				UM3	0.39	1	1.2
				LM1	0.12	0.5	
				LM2	0.15	0.5	0.7
				LM3	0.18	0.7	1
				Busia			
				LM1	0.13	0.5	
				LM2	0.15	0.5	0.7
				LM3	0.22	0.8	1.1
				LM4		1	2
				Kakamega			
				UM1	0.12	0.6	
				UM4	0.4	1.2	
				LM1	0.125	0.55	
				LM2	0.15	0.5	0.7

Table Fl.7 District Average Carrying Capacity

District	Managed Pasture	Unit:LU/ha Grass Land	
		Wet Season	Dry Season
110 Nairobi	2.220	0.664	0.483
210 Kiambu	4.013	1.408	0.816
220 Kirinyaga	4.915	1.280	0.780
230 Muranga	4.620	1.538	0.924
240 Nyandarua	1.080	0.930	0.660
250 Nyeri	3.998	1.281	0.599
310 Kilifi	2.552	0.456	0.454
320 Kwale	4.520	0.491	0.636
330 Lamu	2.017	0.598	0.323
340 Mombasa	2.036	0.509	0.342
350 Taita Taveta	1.793	0.319	0.259
360 Tana River	1.438	0.291	0.333
410 Embu	4.393	0.719	0.570
420 Isiolo	0.300	0.066	0.063
430 Kitui	1.386	0.299	0.204
440 Machakos	2.055	0.474	0.282
450 Marsabit	0.279	0.072	0.060
460 Meru	2.436	0.715	0.427
510 Garissa	0.738	0.120	0.088
520 Mandera	0.080	0.044	0.043
530 Wajir	0.096	0.047	0.045
610 Kisii	5.679	1.723	1.277
620 Kisumu	5.416	1.376	0.828
630 Siaya	5.176	1.494	0.885
640 South Nyanza	4.706	1.302	0.807
710 Kajiado	3.627	0.290	0.288
720 Kericho	2.321	1.628	1.096
730 Laikipia	1.095	0.263	0.200
740 Nakuru	1.247	0.630	0.443
750 Narok	2.334	0.646	0.739
760 Trans Nzoia	1.958	0.880	0.740
770 Uasin Gishu	1.466	0.777	0.575
810 Baringo	2.036	0.442	0.229
820 Elg.Marakwet	1.678	0.847	0.469
830 Nandi	3.873	1.474	1.094
840 Samburu	0.250	0.223	0.186
850 Turkana	1.110	0.154	0.113
860 West Pokot	1.994	0.462	0.408
910 Bungoma	5.492	1.622	1.123
920 Busia	6.524	1.748	1.124
930 Kakamega	6.635	1.573	1.429

Source : Ref. F.17

Table F1.8 Estimated Crop Residue Area and Carrying Capacity

Code District	1985	1986	1987	1988	1989	Average of 5 years	Estimated Carrying Capacity
	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(LU)
110 Nairobi	0	0	0	0	0	0	0
210 Kiambu	37,380	44,950	52,757	31,333	63,582	46,000	13,800
220 Kirinyaga	50,656	64,700	55,667	59,636	55,937	57,319	17,196
230 Muranga	60,397	62,247	82,177	82,673	83,497	74,198	22,259
240 Nyandarua	37,531	41,630	35,359	41,443	39,686	39,130	11,739
250 Nyeri	51,300	69,936	63,361	63,118	54,994	60,542	18,163
310 Kitifi	37,505	41,694	39,215	51,118	39,393	41,785	12,536
320 Kwale	23,762	20,986	10,204	12,050	23,791	18,159	5,448
330 Lamu	2,174	2,146	1,744	1,826	1,921	1,962	589
340 Mombasa	806	700	630	1,866	688	938	281
350 Taita Taveta	10,497	10,833	8,729	8,981	7,860	9,380	2,814
360 Tana River	2,840	4,152	3,016	1,855	4,426	3,258	977
410 Embu	77,181	97,302	93,419	85,989	101,847	91,148	27,344
420 Isiolo	779	841	596	396	742	671	201
430 Kitui	175,545	188,009	135,284	154,015	162,420	163,055	48,916
440 Machakos	348,580	342,881	257,060	230,762	273,398	290,536	87,161
450 Marsabit	8,262	8,994	8,315	9,785	13,798	9,831	2,949
460 Meru	168,856	152,216	141,277	141,994	155,264	151,921	45,576
510 Garissa	229	428	83	350	338	286	86
520 Mandera	1,504	1,642	2,116	1,587	0	1,370	411
530 Wajir	1,544	1,768	499	1,230	2,838	1,576	473
610 Kisii	80,618	92,602	94,588	92,800	53,509	82,823	24,847
620 Kisumu	30,987	36,095	38,385	58,503	30,199	38,834	11,650
630 Siaya	79,474	74,193	82,593	88,063	91,759	83,216	24,965
640 South Nyanz	105,642	97,087	52,990	105,986	103,701	93,081	27,924
710 Kajiado	36,591	45,887	59,447	18,035	74,173	46,827	14,048
720 Kericho	87,113	87,446	86,330	97,079	105,560	92,706	27,812
730 Laikipia	28,960	36,345	35,675	37,949	36,086	35,003	10,501
740 Nakuru	125,012	128,423	133,863	141,458	132,787	132,309	39,693
750 Narok	57,849	75,417	73,885	105,205	105,575	83,586	25,076
760 Trans Nzoia	70,976	70,563	87,083	84,713	103,915	83,450	25,035
770 Uasin Gishu	110,978	112,406	109,516	105,204	121,161	111,853	33,556
810 Baringo	16,386	21,964	23,477	26,927	27,277	23,206	6,962
820 Elg. Marakw	30,531	41,859	43,940	40,050	48,150	40,906	12,272
830 Nandi	68,254	84,302	68,708	72,407	81,076	74,949	22,485
840 Samburu	2,900	3,961	4,340	4,970	5,090	4,252	1,276
850 Turkana	5,410	6,117	5,463	5,865	4,680	5,507	1,652
860 West Pokot	20,017	16,794	17,716	34,362	27,991	23,376	7,013
910 Bungoma	124,174	129,409	117,297	120,445	134,833	125,232	37,569
920 Busia	70,770	71,700	99,300	57,765	67,509	73,409	22,023
930 Kakamega	189,450	177,579	209,324	212,175	184,410	194,588	58,376

Source : Socio-economic Survey

Note : Crop residue remained in harvested areas of maize, sorghum, beans and potatoes can be counted as supplemental feed sources with carrying capacity of 0.3 LU/ha

Table F1.9 Estimated Carrying Capacity in Each District

Code	District Name	Agriculture Land			Land for Livestock			Unit Carrying Capacity			Carrying Capacity			Estimated			Carrying Capacity for			Total Carrying Capacity			
		Crop (km ²) (A)	Others (km ²) (B)	Managed Pasture (ha) (C)	Managed Pasture (ha) (D)	Grass Land (ha) (E)	Managed Pasture (LU/ha) (F)	Grass Land (LU/ha) (G)	Grass Land (LU/ha) (H)	Wet (LU) (I)	Dry (LU) (J)	Total (LU) (K)	Fallow Land (ha) (L)	Wet (LU) (M)	Dry (LU) (N)	Total (LU) (O)	Crop Residue (ha) (P)	(K)+(L) (Q)	(M)+(N)+(Q) (R)	Wet (LU) (S)	Dry (LU) (T)	Total (LU) (U)	
110	Nairobi	63	281	2,183	25,917	2.22	0.66	0.48	4,846	17,105	12,440	630	0	189	22,140	17,475	0	18,774	16,580	46,000	22,140	17,475	46,443
210	Kiambu	1,658	69	6,900	0	4.01	1.41	0.82	27,669	0	0	16,580	0	18,774	46,443	19,581	0	19,581	7,950	57,319	46,443	19,581	19,581
220	Kirinyaga	795	0	0	0	4.92	1.28	0.78	0	0	0	7,950	0	19,581	19,581	26,495	0	26,495	14,120	74,198	19,581	26,495	173,573
230	Muranga	1,412	481	27,791	20,309	4.62	1.54	0.92	128,394	31,276	18,684	17,500	0	16,989	186,165	70,665	0	16,989	17,500	39,130	186,165	70,665	70,665
240	Nyandarua	1,750	497	49,700	0	1.08	0.93	0.66	53,676	0	0	12,250	0	22,060	20,665	139,173	0	22,060	12,990	60,542	20,665	139,173	139,173
250	Nyeri	1,299	374	27,845	9,555	4	1.28	0.6	111,380	0	5,733	14,170	0	16,787	420,386	412,823	0	16,787	14,170	41,785	420,386	412,823	412,823
310	Kihii	1,417	7,781	21,853	756,247	2.55	0.46	0.45	55,725	347,874	340,311	11,770	0	8,979	337,955	420,495	0	8,979	11,770	18,159	337,955	420,495	420,495
320	Kwale	1,177	5,634	13,129	550,271	4.52	0.49	0.64	59,343	269,633	352,173	2,350	0	1,294	229,570	132,107	0	1,294	2,350	1,962	229,570	132,107	132,107
330	Lamu	235	3,577	9,617	348,083	2.02	0.6	0.32	19,426	208,850	111,387	0	0	311	229,570	132,107	0	311	0	938	229,570	132,107	132,107
340	Mombasa	10	0	0	0	2.04	0.51	0.34	0	0	0	100	0	311	229,570	132,107	0	311	0	938	229,570	132,107	132,107
350	Taita Taveta	941	5,042	15,344	488,856	1.79	0.32	0.26	27,466	156,434	127,103	9,410	0	5,637	189,537	160,206	0	5,637	9,410	9,380	189,537	160,206	160,206
360	Tana River	281	33,024	74,701	3,227,699	1.44	0.29	0.33	107,569	936,033	1,065,141	2,810	0	1,820	1,045,422	1,174,530	0	1,820	2,810	3,258	1,045,422	1,174,530	1,174,530
410	Embu	2,407	0	0	0	4.39	0.72	0.57	0	0	0	24,070	0	34,565	34,565	34,565	0	34,565	24,070	91,148	34,565	34,565	34,565
420	Isiolo	259	21,923	49,983	2,142,317	0.3	0.07	0.06	14,995	149,962	128,539	2,590	0	978	165,935	144,512	0	978	2,590	671	165,935	144,512	144,512
430	Kitui	1,139	21,411	52,231	2,088,869	1.39	0.3	0.2	72,601	626,661	417,774	11,390	0	52,334	751,596	542,709	0	52,334	11,390	163,055	751,596	542,709	542,709
440	Machakos	5,253	6,716	29,243	642,357	2.05	0.47	0.28	59,948	301,908	179,860	52,550	0	102,920	464,776	342,728	0	102,920	52,550	290,536	464,776	342,728	342,728
450	Marsabit	100	20,775	46,993	2,030,507	0.28	0.07	0.06	13,158	142,135	121,830	1,000	0	3,249	158,542	138,237	0	3,249	1,000	9,831	158,542	138,237	138,237
460	Meru	3,263	3,559	45,167	309,833	2.44	0.72	0.43	110,207	223,080	133,228	32,630	0	55,365	388,652	298,800	0	55,365	32,630	151,921	388,652	298,800	298,800
510	Garissa	14	40,098	91,096	3,918,704	0.74	0.12	0.09	67,411	470,244	352,683	140	0	128	537,783	420,222	0	128	140	286	537,783	420,222	420,222
520	Mandera	65	24,504	55,825	2,394,575	0.08	0.04	0.04	4,466	95,783	95,783	650	0	606	100,855	100,855	0	606	650	1,370	100,855	100,855	100,855
530	Wajir	29	54,353	122,950	5,312,350	0.1	0.05	0.04	12,295	265,618	212,494	290	0	560	278,473	225,349	0	560	290	82,823	278,473	225,349	225,349
610	Kisii	688	1,468	24,545	122,255	5.68	1.72	1.28	139,416	210,279	156,486	6,880	0	26,911	376,606	322,813	0	26,911	6,880	38,834	376,606	322,813	322,813
620	Kisumu	930	336	1,260	32,340	5.42	1.38	0.83	6,829	44,629	26,842	9,300	0	14,440	65,898	48,111	0	14,440	9,300	38,834	65,898	48,111	48,111
630	Siaya	941	137	477	13,223	5.18	1.49	0.88	2,471	19,702	11,636	9,410	0	27,788	49,961	41,895	0	27,788	9,410	83,216	49,961	41,895	41,895
640	South Nyanza	1,765	2,815	6,649	274,851	4.71	1.3	0.81	31,317	357,306	222,629	17,650	0	33,219	421,842	287,165	0	33,219	17,650	93,081	421,842	287,165	287,165
710	Kajiado	2,067	14,150	32,008	1,382,992	3.63	0.29	0.29	116,189	401,068	401,068	20,670	0	20,249	537,506	537,506	0	20,249	20,670	46,827	537,506	537,506	537,506
720	Kericho	2,741	682	68,200	0	2.32	1.63	1.1	158,224	0	0	27,410	0	36,035	194,259	194,259	0	36,035	5,250	35,003	194,259	194,259	194,259
730	Larikipia	525	7,899	36,909	752,991	1.09	0.26	0.2	40,231	195,778	150,598	5,250	0	12,076	248,085	202,905	0	12,076	5,250	35,003	248,085	202,905	202,905
740	Nakuru	4,023	0	0	0	1.25	0.63	0.44	102,842	876,240	997,566	40,230	0	51,762	1,008,745	1,130,071	0	51,762	40,230	132,309	1,008,745	1,130,071	1,130,071
750	Narok	1,529	13,922	44,138	1,348,062	2.33	0.63	0.74	102,842	876,240	997,566	40,230	0	51,762	1,008,745	1,130,071	0	51,762	40,230	132,309	1,008,745	1,130,071	1,130,071
760	Trans Nzoia	1,792	0	0	0	1.96	0.88	0.74	202,346	9,867	7,211	17,920	0	30,411	30,411	30,411	0	30,411	17,920	83,450	30,411	30,411	30,411
770	Uasin Gishu	1,467	1,503	137,650	12,650	1.47	0.78	0.57	202,346	9,867	7,211	14,670	0	37,957	250,170	247,514	0	37,957	14,670	111,853	250,170	247,514	247,514
810	Baringo	1,268	7,474	38,669	708,731	2.04	0.44	0.25	78,885	311,842	163,008	12,680	0	10,766	401,493	252,659	0	10,766	12,680	23,206	401,493	252,659	252,659
820	Elgeyo Marakwet	1,562	106	10,600	0	1.68	0.85	0.47	17,808	0	0	15,620	0	16,958	34,766	34,766	0	16,958	15,620	40,906	34,766	34,766	34,766
830	Nandi	201	2,124	43,436	168,964	3.87	1.47	1.09	168,097	248,377	184,171	2,010	0	23,088	439,562	375,356	0	23,088	2,010	74,949	439,562	375,356	375,356
840	Samburu	59	13,877	31,392	1,356,308	0.25	0.22	0.19	7,848	298,388	257,699	590	0	1,453	307,689	267,000	0	1,453	590	5,507	307,689	267,000	267,000
850	Turkana	81	45,875	103,770	4,483,730	1.11	0.15	0.11	115,185	672,560	493,210	810	0	1,895	789,640	610,290	0	1,895	810	5,507	789,640	610,290	610,290
860	West Pokot	1,729	5,015	16,005	485,495	1.99	0.46	0.41	31,850	223,328	199,053	17,290	0	12,200	267,378	243,103	0	12,200	17,290	25,376	267,378	243,103	243,103
910	Bungoma	2,073	0	0	0	5.49	1.62	1.12	11,860	118,267	75,691	20,730	0	23,628	133,755	111,179	0	23,628	20,730	73,409	133,755	111,179	111,179
920	Busia	535	694	1,819	67,581	6.52	1.75	1.12	11,860	118,267	75,691	5,550	0	65,747	65,747	65,747	0	65,747	5,550	73,409	65,747	65,747	65,747
930	Xataamega	2,457	0	0	0	6.63	1.57	1.43	0	0	0	24,570	0	65,747	65,747	65,747	0	65,747	24,570	194,588	65,747	65,747	65,747
Kenya		52,000	368,167	1,340,078	35,476,622	2,181,973	8,242,457	7,022,031	8,242,457	8,242,457	7,022,031	520,000	2,512,178	909,656	11,234,086	10,173,660	0	909,656	520,000	2,512,178	11,234,086	10,173,660	10,173,660

Table FI.10 Balance of LU between Projected and Total Carrying Capacity

Code	District Name	District Projected	District Total Carrying Capacity		Balance	
		LU (LU)	Wet (LU)	Dry (LU)	Wet (LU)	Dry (LU)
110	Nairobi	5,541	35,940	31,275	30,399	25,734
210	Kiambu	147,530	49,839	49,839	-97,691	-97,691
220	Kirinyaga	81,427	24,644	24,644	-56,783	-56,783
230	Murang'a	148,796	175,645	163,053	26,849	14,257
240	Nyandarua	196,103	77,089	77,089	-119,014	-119,014
250	Nyeri	125,876	140,043	133,546	14,167	7,670
310	Kilifi	80,601	413,298	405,735	332,697	325,134
320	Kwale	156,256	333,096	415,636	176,840	259,380
330	Lamu	31,068	229,262	131,799	198,194	100,731
340	Mombasa	4,264	2,844	2,844	-1,420	-1,420
350	Taita Taveta	116,196	187,700	158,369	71,504	42,173
360	Tana River	231,224	1,071,789	1,200,897	840,565	969,673
410	Embu	78,778	7,422	7,422	-71,356	-71,356
420	Isiolo	173,095	214,651	193,228	41,556	20,133
430	Kitui	233,835	789,840	580,953	556,005	347,118
440	Machakos	280,179	380,564	258,516	100,385	-21,663
450	Marsabit	456,775	201,169	180,864	-255,606	-275,911
460	Meru	363,369	343,162	253,310	-20,207	-110,059
510	Garissa	397,287	538,108	420,547	140,821	23,260
520	Mandera	211,280	100,917	100,917	-110,363	-110,363
530	Wajir	351,354	302,847	249,723	-48,507	-101,631
610	Kisii	381,639	363,409	309,616	-18,230	-72,023
620	Kisumu	172,201	79,213	61,426	-92,988	-110,775
630	Siaya	257,812	52,920	44,854	-204,892	-212,958
640	South Nyanza	180,552	407,966	273,289	227,414	92,737
710	Kajiado	468,657	551,270	551,270	82,613	82,613
720	Kericho	489,222	176,948	176,948	-312,274	-312,274
730	Laikipia	201,397	277,277	232,097	75,880	30,700
740	Nakuru	329,449	37,145	37,145	-292,304	-292,304
750	Narok	735,457	1,008,704	1,130,030	273,247	394,573
760	Trans Nzoia	141,131	38,932	38,932	-102,199	-102,199
770	Uasin Gishu	227,372	223,576	220,920	-3,796	-6,452
810	Baringo	196,310	406,803	257,969	210,493	61,659
820	Elgeyo Marakwet	132,531	44,979	44,979	-87,552	-87,552
830	Nandi	255,952	418,353	354,147	162,401	98,195
840	Samburu	149,126	308,065	267,376	158,939	118,250
850	Turkana	427,710	795,001	615,651	367,291	187,941
860	West Pokot	137,775	297,935	273,660	160,160	135,885
910	Bungoma	180,515	28,242	28,242	-152,273	-152,273
920	Busia	94,848	190,108	147,532	95,260	52,684
930	Kakamega	263,760	7,371	7,371	-256,389	-256,389
Kenya		9,294,250	11,334,086	10,113,660	2,039,836	819,410

Table FI.11 Sub-basin Livestock Water Demand

Unit : l/sec

Subbasin	1990	2000	2010	Subbasin	1990	2000	2010	Subbasin	1990	2000	2010
IAA	7.40	8.87	10.60	2AA	28.64	34.19	40.68	4AA	8.05	9.61	11.32
IAB	5.69	6.78	8.11	2AB	25.33	30.31	36.31	4AB	10.47	12.49	14.73
IAC	3.05	3.63	4.34	2BA	9.40	11.23	13.42	4AC	6.94	8.27	9.73
IAD	7.80	9.42	11.27	2BB	11.29	13.50	16.13	4AD	7.53	8.96	10.55
IAE	1.76	2.13	2.55	2BC	26.75	31.97	38.14	4BA	5.68	6.73	7.93
IAF	10.14	12.17	14.54	2BD	40.33	48.25	57.75	4BB	4.57	5.48	6.44
IAG	9.03	10.84	12.96	2CA	9.59	11.47	13.74	4BC	5.44	6.57	7.72
IAH	12.45	15.06	18.01	2CB	32.40	38.40	46.12	4BD	13.31	15.68	18.47
IBA	13.65	16.16	19.34	2CC	53.29	63.45	76.14	4BE	13.05	15.42	18.17
IBB	16.74	19.83	23.65	2D	49.84	59.49	71.28	4BF	9.20	10.83	12.76
IBC	14.26	16.97	20.21	2EA	6.40	7.63	9.06	4BG	6.64	7.85	9.35
IBD	18.56	22.03	26.26	2EB	9.15	10.90	13.00	4CA	12.66	14.97	17.64
IBE	26.89	32.00	38.05	2EC	13.86	16.52	19.59	4CB	7.67	9.03	10.64
IBG	22.32	26.59	31.67	2ED	5.62	6.66	7.94	4CC	17.09	20.19	23.89
IBH	14.66	17.47	20.87	2EE	4.60	5.46	6.55	4DA	14.94	18.09	21.29
ICA	17.62	20.83	24.77	2EF	2.94	3.50	4.20	4DB	9.72	11.78	13.85
ICB	17.83	21.08	25.07	2EG	6.66	7.94	9.42	4DC	4.19	4.99	6.01
ICC	17.90	21.17	25.16	2EG	11.84	14.08	16.82	4DD	5.21	6.18	7.48
ICD	18.34	21.80	25.84	2EH	4.77	5.67	6.80	4DE	6.29	7.50	9.02
ICE	7.02	8.37	9.97	2FJ	11.45	13.65	16.42	4EA	11.39	13.64	16.28
IDA	14.80	17.69	21.12	2EK	4.45	5.31	6.39	4EB	17.47	20.90	24.98
IDB	18.28	21.78	26.04	2FA	10.30	12.27	14.55	4EC	7.07	8.40	10.16
IDC	10.96	13.08	15.64	2FB	2.56	3.05	3.62	4ED	19.19	22.90	27.56
IDD	9.60	11.46	13.70	2FC	26.91	32.10	38.12	4FA	30.32	36.31	43.32
IEA	13.15	15.73	18.79	2GA	6.67	7.94	9.39	4FB	40.78	48.85	58.29
IEB	11.27	13.48	16.12	2GB	22.42	26.60	31.34	4GA	13.93	16.71	19.92
IEC	6.82	8.16	9.75	2GC	18.16	21.52	25.34	4GB	16.78	20.18	24.14
IED	4.38	5.24	6.26	2GD	20.61	24.59	29.20	4GC	5.13	6.17	7.38
IEE	15.77	18.83	22.60	2H	88.29	105.84	126.61	4GD	33.66	40.51	48.45
IEF	12.08	14.47	17.36	2I	72.92	87.25	104.53	4GB	42.62	51.26	61.27
IEG	21.64	25.82	30.99	2KA	83.78	100.47	120.54	4GF	17.04	20.51	24.54
IFA	6.17	7.28	8.66	2KB	24.70	29.63	35.55	4GG	38.02	45.50	54.48
IFB	14.58	17.35	20.54	2KC	24.05	28.87	34.63	4HA	18.47	22.19	26.53
IFC	10.60	12.61	14.94					4HB	20.45	24.61	29.42
IFD	17.34	20.62	24.43	3AA	5.14	6.32	7.41	4JA	41.44	49.73	59.57
IFE	22.22	26.52	31.58	3AB	15.11	18.14	21.75	4JB	12.04	14.41	17.26
IFF	8.47	10.13	12.11	3AC	7.31	8.80	10.44	4KA	28.04	33.53	40.17
IFG	35.84	42.77	51.38	3BA	11.22	13.60	15.75	4KB	33.02	39.37	47.17
IGA	15.60	18.53	21.97	3BB	5.74	6.79	8.01				
IGB	19.70	23.50	27.92	3BC	11.54	13.62	16.09	5AA	21.24	25.24	29.89
IGC	32.86	38.90	46.07	3BD	7.49	8.85	10.44	5AB	9.32	11.06	13.06
IGD	26.59	31.77	38.00	3CB	9.74	11.50	13.58	5AC	9.02	10.80	13.03
IGE	13.84	16.44	19.53	3DA	7.80	9.30	11.11	5AD	4.73	5.65	6.79
IGF	8.56	10.27	12.34	3DB	5.74	6.86	8.22	5BA	2.97	3.55	4.22
IGG	14.80	17.54	20.81	3EA	7.01	8.37	10.01	5BB	6.67	7.96	9.39
IHA	28.12	33.72	40.42	3EB	6.34	7.57	9.08	5BC	18.89	22.55	26.87
IHB	25.08	30.09	36.21	3EC	5.46	6.52	7.82	5BD	7.72	9.21	10.99
IHC	22.10	26.35	31.66	3ED	4.49	5.36	6.43	5BE	14.40	17.24	20.63
IHD	23.80	28.39	33.92	3FA	81.87	98.22	117.80	5CA	12.96	15.53	18.68
IHE	23.15	27.62	33.00	3FB	28.17	33.67	40.38	5CB	6.90	8.28	9.88
IHF	10.92	13.02	15.56	3G	33.54	40.21	48.19	5CC	6.64	7.96	9.51
IHG	3.77	4.49	5.37	3HA	2.52	3.00	3.59	5DA	29.66	35.53	42.43
IJA	23.31	27.64	32.74	3HB	6.78	8.07	9.68	5DB	9.70	11.62	13.99
IJB	10.00	11.84	14.01	3HC	7.78	9.20	11.09	5DC	9.94	11.90	14.35
IJC	12.37	14.65	17.35	3HD1	1.65	1.95	2.35	5DD	5.38	6.46	7.71
IJD	8.46	10.01	11.85	3HD2	1.04	1.22	1.48	5BA	67.17	80.32	95.35
IJE	28.94	34.35	40.81	3HD3	1.11	1.31	1.58	5EB	84.86	101.43	120.50
IJF	39.76	47.15	55.94	3J	7.83	9.33	11.17	5EC	84.26	100.75	119.91
IJG	13.00	15.51	18.52	3K	34.22	40.74	48.88	5FA	83.64	100.29	119.60
IKA	20.59	24.57	29.36	3L	20.71	24.57	29.51	5FB	37.08	44.46	53.15
IKB	105.80	126.25	150.88	3MA	21.55	25.67	30.75	5G	63.98	76.60	90.77
IKC	50.18	59.97	71.74	3MB	10.62	12.63	15.16	5H	33.48	40.10	47.49
ILA	25.22	29.95	35.55	3MC	7.89	9.40	11.28	5J	77.63	92.68	110.24
ILA	17.32	20.76	24.89	3MD	8.04	9.16	10.62				
ILA	43.97	52.74	63.28	3N	27.04	32.50	38.97				
ILB	28.85	34.39	41.00								
ILB	43.75	52.47	62.96								

Table F1.12 Livestock Water Demand

District	Unit:m ³ /sec		
	1990	2000	2010
110 Nairobi	0.002	0.003	0.003
210 Kiambu	0.061	0.072	0.085
220 Kirinyaga	0.033	0.04	0.047
230 Muranga	0.062	0.073	0.086
240 Nyandarua	0.081	0.096	0.113
250 Nyeri	0.052	0.062	0.073
310 Kilifi	0.033	0.039	0.047
320 Kwale	0.063	0.075	0.09
330 Lamu	0.013	0.015	0.018
340 Mombasa	0.002	0.002	0.002
350 Taita Taveta	0.047	0.056	0.067
360 Tana River	0.093	0.112	0.134
410 Embu	0.032	0.038	0.046
420 Isiolo	0.07	0.084	0.1
430 Kitui	0.094	0.113	0.135
440 Machakos	0.113	0.135	0.162
450 Marsabit	0.186	0.222	0.264
460 Meru	0.147	0.176	0.21
510 Garissa	0.16	0.192	0.23
520 Mandera	0.086	0.103	0.122
530 Wajir	0.143	0.171	0.203
610 Kisii	0.155	0.185	0.221
620 Kisumu	0.069	0.083	0.1
630 Siaya	0.104	0.124	0.149
640 South Nyanza	0.073	0.087	0.104
710 Kajiado	0.188	0.226	0.271
720 Kericho	0.202	0.239	0.283
730 Laikipia	0.081	0.097	0.117
740 Nakuru	0.135	0.161	0.191
750 Narok	0.296	0.355	0.426
760 Trans Nzoia	0.058	0.069	0.082
770 Uasin Gishu	0.094	0.111	0.132
810 Baringo	0.08	0.095	0.114
820 Elg. Marakwet	0.054	0.064	0.077
830 Nandi	0.105	0.125	0.148
840 Samburu	0.06	0.072	0.086
850 Turkana	0.173	0.207	0.248
860 West Pokot	0.056	0.067	0.08
910 Bungoma	0.073	0.087	0.104
920 Busia	0.038	0.046	0.055
930 Kakamega	0.107	0.128	0.153
Total	3.774	4.507	5.378

Table F2.1 (1) Population of Major Species (1/2)

No	Species/Districts	Baringo	Garissa	Isiolo	Kajiado	Kilifi	Sub-total *A
1	African Elephant		176	905	567		1,648
2	Giraffe		9,067	1,848	5,820	565	17,300
3	Burchell Zebra	354	1,215	1,094	24,699	2,789	30,151
4	Grevy Zebra		387	509			896
5	Thomson's Gazelle				8,712		8,712
6	Grant's Gazelle	253	1,602	11,447	19,502	1,215	34,019
7	Gerenuk	84	3,134	2,867	378	86	6,549
8	Impala	236	317	830	10,375	3,251	15,009
9	Coke's Hartebeest				2,230	120	2,350
10	Hunter's Hartebeest		1,585				1,585
11	Topi		26,797				26,797
12	Waterbuck		651	113	397	308	1,469
13	Eland	34	229	151	4,857	548	5,819
14	Orix		1,479	1,339	926	565	4,309
15	Wildbeest				22,791		22,791
16	Lesser Kudu	17	616			188	821
17	Greater Kudu		35	19			54
18	Warthog		2,359	471	454	582	3,866
19	African Buffalo		317		1,436		1,753
20	Orstrich	67	1,761	3,187	5,443	120	10,578
Sub-total		1,045	51,727	24,780	108,587	10,337	196,476

No	Species/Districts	Laikipia	Lamu	Mandera	Marsabit	Narok	Sub-total *B
1	African Elephant	2,492			219	1,543	4,254
2	Giraffe	1,238	429	941	3,392	5,199	11,199
3	Burchell Zebra	26,315	531		109	59,139	86,094
4	Grevy Zebra	292			2,225		2,517
5	Thomson's Gazelle	6,188				90,849	97,037
6	Grant's Gazelle	3,369		19	33,133	17,545	54,066
7	Gerenuk	481	69	1,499	5,489		7,538
8	Impala	5,311				81,792	87,103
9	Coke's Hartebeest	1,959				5,218	7,177
10	Hunter's Hartebeest		291				291
11	Topi		42,036		2,316	28,642	72,994
12	Waterbuck	413	1,731			698	2,842
13	Eland	2,956			164	2,150	5,270
14	Orix	808		865	7,805		9,478
15	Wildbeest					44,828	44,828
16	Lesser Kudu			922	274		1,196
17	Greater Kudu						0
18	Warthog	877	257	173		2,058	3,365
19	African Buffalo	3,266	8,023		201	15,451	26,941
20	Orstrich	877	154	365	6,765	900	9,061
Sub-total		56,842	53,521	4,784	62,092	356,012	533,251

Source : Ref. F.11

Table F2.1 (2) Population of Major Species (2/2)

No	Species\Districts	Samburu	Tana Riv.	Turkana	Wajir	W.Pokot	Sub-total *C
1	African Elephant	470	1,053	39			1,562
2	Giraffe	2,015	4,212		5,460	105	11,792
3	Burchell Zebra	4,585	6,991	58			11,634
4	Grevy Zebra	621	224		18		863
5	Thomson's Gazell	823					823
6	Grant's Gazelle	3,813	6,370	15,884	7,064		33,131
7	Gerenuk	2,570	2,434	193	4,180		9,377
8	Impala	319	1,174			227	1,720
9	Coke's Hartebeest		17				17
10	Hunter's Hartebeest		35				35
11	Topi		2,693	19			2,712
12	Waterbuck	50	3,073	58			3,181
13	Eland	269	397	1,142			1,808
14	Orix	1,931	5,455	871	2,108		10,365
15	Wildbeest						0
16	Lesser Kudu	504	1,554	464	757	192	3,471
17	Greater Kudu	34		19	18	35	106
18	Warthog	420	2,037	310	469	157	3,393
19	African Buffalo	252	2,417				2,669
20	Orstrich	521	1,070	948	1,784		4,323
	Sub-total	19,197	41,206	20,005	21,858	716	102,982

No	Species\Districts	Sub-total *A	Sub-total *B	Sub-total *C	Total
1	African Elephant	1,648	4,254	1,562	7,464
2	Giraffe	17,300	11,199	11,792	40,291
3	Burchell Zebra	30,151	86,094	11,634	127,879
4	Grevy Zebra	896	2,517	863	4,276
5	Thomson's Gazell	8,712	97,037	823	106,572
6	Grant's Gazelle	34,019	54,066	33,131	121,216
7	Gerenuk	6,549	7,538	9,377	23,464
8	Impala	15,009	87,103	1,720	103,832
9	Coke's Hartebeest	2,350	7,177	17	9,544
10	Hunter's Hartebee	1,585	291	35	1,911
11	Topi	26,797	72,994	2,712	102,503
12	Waterbuck	1,469	2,842	3,181	7,492
13	Eland	5,819	5,270	1,808	12,897
14	Orix	4,309	9,478	10,365	24,152
15	Wildbeest	22,791	44,828	0	67,619
16	Lesser Kudu	821	1,196	3,471	5,488
17	Greater Kudu	54	0	106	160
18	Warthog	3,866	3,365	3,393	10,624
19	African Buffalo	1,753	26,941	2,669	31,363
20	Orstrich	10,578	9,061	4,323	23,962

Source : Ref. F.11

Table F2.2 Estimated Water Consumption of Each Species

No	English Name	Scientific Name	Weight(Kg)		Water Consumption *
			Range	Average	
1	African Elephant	<i>Loxodonta africana</i>	2,750-5,440	4,100	205 lit/day
2	Giraffe	<i>Girafa camelopardalis</i>	700-1,270	990	25
3	Burchell Zebra	<i>Equus burchelli</i>	230-320	280	14
4	Grevy Zebra	<i>Equus greveyi oustalet</i>	355-430	390	20
5	Thomson's Gazelle	<i>Gazella thomsoni</i>	20-30	25	1
6	Grant's Gazelle	<i>Gazella granti</i>	35-80	60	2
7	Gerenuk	<i>Litocranius walleri</i>	34-50	40	1
8	Impala	<i>Aepyciros melampus</i>	45-65	55	2
9	Coke's Hartebeest	<i>Alcelaphus buselaphus cokii</i>	135-180	160	4
10	Hunter's Hartebeest	<i>Damaliscus hunteri</i>	around 75	75	2
11	Topi	<i>Damaliscus funatus jimela</i>	115-135	125	3
12	Waterbuck	<i>Kobus defassa</i>	160-270	215	11
13	Eland	<i>Tragelaphus oryx</i>	500-800	650	17
14	Orix	<i>Orix beisa</i>	160-205	180	5
15	Wildbeest	<i>Connochaetes taurius</i>	160-250	205	11
16	Lesser Kudu	<i>Tragelaphus imberbis</i>	55-105	80	4
17	Greater Kudu	<i>Tragelaphus strepsiceros</i>	180-320	250	13
18	Warthog	<i>Phacochoerus aethiopicus</i>	50-110	80	4
19	African Buffalo	<i>Syncerus caffer</i>	500-800	650	33
20	Orstrich	<i>Struthio camelus</i>	around 80	80	4

Source: Ref. F.15, F.16

Table F2.3 (1) Water Demands for Major Species (1/4)

No	Species/Districts	Water	Baringo Distr.		Garissa District		W.Demand
		Consump.	Nos	Demand	Nos	Demand	Sub-total
		(lit/day)	(m3/day)		(m3/day)		(m3/day)
1	African Elephant	205		0.0	176	36.1	36.1
2	Giraffe	25		0.0	9,067	226.7	226.7
3	Burchell Zebra	14	354	5.0	1,215	17.0	22.0
4	Grevy Zebra	20		0.0	387	7.7	7.7
5	Thomson's Gazelle	1		0.0		0.0	0.0
6	Grant's Gazelle	2	253	0.5	1,602	3.2	3.7
7	Gerenuk	1	84	0.1	3,134	3.1	3.2
8	Impala	2	236	0.5	317	0.6	1.1
9	Coke's Hartebeest	4		0.0		0.0	0.0
10	Hunter's Hartebeest	2		0.0	1,585	3.2	3.2
11	Topi	3		0.0	26,797	80.4	80.4
12	Waterbuck	11		0.0	651	7.2	7.2
13	Eland	17	34	0.6	229	3.9	4.5
14	Orix	5		0.0	1,479	7.4	7.4
15	Wildbeest	11		0.0		0.0	0.0
16	Lesser Kudu	4	17	0.1	616	2.5	2.5
17	Greater Kudu	13		0.0	35	0.5	0.5
18	Warthog	4		0.0	2,359	9.4	9.4
19	African Buffalo	33		0.0	317	10.5	10.5
20	Orstrich	4	67	0.3	1,761	7.0	7.3
District Water Demand(m3/day)				6.9		426.3	433.3

No	Species/Districts	Water	Isiolo District		Kajiado Distr.		W.Demand
		Consump.	Nos	Demand	Nos	Demand	Sub-total
		(lit/day)	(m3/day)		(m3/day)		(m3/day)
1	African Elephant	205	905	185.5	567	116.2	301.8
2	Giraffe	25	1,848	46.2	5,820	145.5	191.7
3	Burchell Zebra	14	1,094	15.3	24,699	345.8	361.1
4	Grevy Zebra	20	509	10.2		0.0	10.2
5	Thomson's Gazelle	1		0.0	8,712	8.7	8.7
6	Grant's Gazelle	2	11,447	22.9	19,502	39.0	61.9
7	Gerenuk	1	2,867	2.9	378	0.4	3.2
8	Impala	2	830	1.7	10,375	20.8	22.4
9	Coke's Hartebeest	4		0.0	2,230	8.9	8.9
10	Hunter's Hartebeest	2		0.0		0.0	0.0
11	Topi	3		0.0		0.0	0.0
12	Waterbuck	11	113	1.2	397	4.4	5.6
13	Eland	17	151	2.6	4,857	82.6	85.1
14	Orix	5	1,339	6.7	926	4.6	11.3
15	Wildbeest	11		0.0	22,791	250.7	250.7
16	Lesser Kudu	4		0.0		0.0	0.0
17	Greater Kudu	13	19	0.2		0.0	0.2
18	Warthog	4	471	1.9	454	1.8	3.7
19	African Buffalo	33		0.0	1,436	47.4	47.4
20	Orstrich	4	3,187	12.7	5,443	21.8	34.5
District Water Demand(m3/day)				310.0		1,098.5	1,408.6

Table F2.3 (2) Water Demands for Major Species (2/4)

No	Species\Districts	Water	Kitifi Distret		Laikipia Distr.		W.Demand
		Consump.	Nos	Demand	Nos	Demand	Sub-total
		(lit/day)	(m3/day)		(m3/day)		(m3/day)
1	African Elephant	205		0.0	2,492	510.9	510.9
2	Giraffe	25	565	14.1	1,238	31.0	45.1
3	Burchell Zebra	14	2,789	39.0	26,315	368.4	407.5
4	Grevy Zebra	20		0.0	292	5.8	5.8
5	Thomson's Gazelle	1		0.0	6,188	6.2	6.2
6	Grant's Gazelle	2	1,215	2.4	3,369	6.7	9.2
7	Gerenuk	1	86	0.1	481	0.5	0.6
8	Impala	2	3,251	6.5	5,311	10.6	17.1
9	Coke's Hartebeest	4	120	0.5	1,959	7.8	8.3
10	Hunter's Hartebeest	2		0.0		0.0	0.0
11	Topi	3		0.0		0.0	0.0
12	Waterbuck	11	308	3.4	413	4.5	7.9
13	Eland	17	548	9.3	2,956	50.3	59.6
14	Orix	5	565	2.8	808	4.0	6.9
15	Wildbeest	11		0.0		0.0	0.0
16	Lesser Kudu	4	188	0.8		0.0	0.8
17	Greater Kudu	13		0.0		0.0	0.0
18	Warhog	4	582	2.3	877	3.5	5.8
19	African Buffalo	33		0.0	3,266	107.8	107.8
20	Orstrich	4	120	0.5	877	3.5	4.0
District Water Demand(m3/day)				81.8		1,121.6	1,203.3

No	Species\Districts	Water	Lamu District		Mandera District		W.Demand
		Consump.	Nos	Demand	Nos	Demand	Sub-total
		(lit/day)	(m3/day)		(m3/day)		(m3/day)
1	African Elephant	205		0.0		0.0	0.0
2	Giraffe	25	429	10.7	941	23.5	34.3
3	Burchell Zebra	14	531	7.4		0.0	7.4
4	Grevy Zebra	20		0.0		0.0	0.0
5	Thomson's Gazelle	1		0.0		0.0	0.0
6	Grant's Gazelle	2		0.0	19	0.0	0.0
7	Gerenuk	1	69	0.1	1,499	1.5	1.6
8	Impala	2		0.0		0.0	0.0
9	Coke's Hartebeest	4		0.0		0.0	0.0
10	Hunter's Hartebeest	2	291	0.6		0.0	0.6
11	Topi	3	42,036	126.1		0.0	126.1
12	Waterbuck	11	1,731	19.0		0.0	19.0
13	Eland	17		0.0		0.0	0.0
14	Orix	5		0.0	865	4.3	4.3
15	Wildbeest	11		0.0		0.0	0.0
16	Lesser Kudu	4		0.0	922	3.7	3.7
17	Greater Kudu	13		0.0		0.0	0.0
18	Warthog	4	257	1.0	173	0.7	1.7
19	African Buffalo	33	8,023	264.8		0.0	264.8
20	Orstrich	4	154	0.6	365	1.5	2.1
District Water Demand(m3/day)				430.4		35.2	465.6

Table F2.3 (3) Water Demands for Major Species (3/4)

No	Species/Districts	Water	Marsabit Distr.		Narok District		W.Demand
		Consump.	Nos	Demand	Nos	Demand	Sub-total
		(lit/day)	(m3/day)		(m3/day)		(m3/day)
1	African Elephant	205	219	44.9	1,543	316.3	361.2
2	Giraffe	25	3,392	84.8	5,199	130.0	214.8
3	Burchell Zebra	14	109	1.5	59,139	827.9	829.5
4	Grevy Zebra	20	2,225	44.5		0.0	44.5
5	Thomson's Gazelle	1		0.0	90,849	90.8	90.8
6	Grant's Gazelle	2	33,133	66.3	17,545	35.1	101.4
7	Gerenuk	1	5,489	5.5		0.0	5.5
8	Impala	2		0.0	81,792	163.6	163.6
9	Coke's Hartbeest	4		0.0	5,218	20.9	20.9
10	Hunter's Hartbeest	2		0.0		0.0	0.0
11	Topi	3	2,316	6.9	28,642	85.9	92.9
12	Waterbuck	11		0.0	698	7.7	7.7
13	Eland	17	164	2.8	2,150	36.6	39.3
14	Orix	5	7,805	39.0		0.0	39.0
15	Wildbeest	11		0.0	44,828	493.1	493.1
16	Lesser Kudu	4	274	1.1		0.0	1.1
17	Greater Kudu	13		0.0		0.0	0.0
18	Warthog	4		0.0	2,058	8.2	8.2
19	African Buffalo	33	201	6.6	15,451	509.9	516.5
20	Orstrich	4	6,765	27.1	900	3.6	30.7
District Water Demand(m3/day)				331.0		2,729.6	3,060.6

No	Species/Districts	Water	Samburu Distri.		Tana Riv. Distr.		W.Demand
		Consump.	Nos	Demand	Nos	Demand	Sub-total
		(lit/day)	(m3/day)		(m3/day)		(m3/day)
1	African Elephant	205	470	96.4	1,053	215.9	312.2
2	Giraffe	25	2,015	50.4	4,212	105.3	155.7
3	Burchell Zebra	14	4,585	64.2	6,991	97.9	162.1
4	Grevy Zebra	20	621	12.4	224	4.5	16.9
5	Thomson's Gazelle	1	823	0.8		0.0	0.8
6	Grant's Gazelle	2	3,813	7.6	6,370	12.7	20.4
7	Gerenuk	1	2,570	2.6	2,434	2.4	5.0
8	Impala	2	319	0.6	1,174	2.3	3.0
9	Coke's Hartbeest	4		0.0	17	0.1	0.1
10	Hunter's Hartbeest	2		0.0	35	0.1	0.1
11	Topi	3		0.0	2,693	8.1	8.1
12	Waterbuck	11	50	0.6	3,073	33.8	34.4
13	Eland	17	269	4.6	397	6.7	11.3
14	Orix	5	1,931	9.7	5,455	27.3	36.9
15	Wildbeest	11		0.0		0.0	0.0
16	Lesser Kudu	4	504	2.0	1,554	6.2	8.2
17	Greater Kudu	13	34	0.4		0.0	0.4
18	Warthog	4	420	1.7	2,037	8.1	9.8
19	African Buffalo	33	252	8.3	2,417	79.8	88.1
20	Orstrich	4	521	2.1	1,070	4.3	6.4
District Water Demand(m3/day)				264.3		615.5	879.8

Table F2.3 (4) Water Demands for Major Species (4/4)

No	Species/Districts	Water	Turkana Distri.		Wajir District		W.Demand
		Consump.	Nos	Demand	Nos	Demand	Sub-total
		(lit/day)	(m3/day)		(m3/day)		(m3/day)
1	African Elephant	205	39	8.0		0.0	8.0
2	Giraffe	25		0.0	5,460	136.5	136.5
3	Burchell Zebra	14	58	0.8		0.0	0.8
4	Grevy Zebra	20		0.0	18	0.4	0.4
5	Thomson's Gazelle	1		0.0		0.0	0.0
6	Grant's Gazelle	2	15,884	31.8	7,064	14.1	45.9
7	Gerenuk	1	193	0.2	4,180	4.2	4.4
8	Impala	2		0.0		0.0	0.0
9	Coke's Hartebeest	4		0.0		0.0	0.0
10	Hunter's Hartebeest	2		0.0		0.0	0.0
11	Topi	3	19	0.1		0.0	0.1
12	Waterbuck	11	58	0.6		0.0	0.6
13	Eland	17	1,142	19.4		0.0	19.4
14	Orix	5	871	4.4	2,108	10.5	14.9
15	Wildbeest	11		0.0		0.0	0.0
16	Lesser Kudu	4	464	1.9	757	3.0	4.9
17	Greater Kudu	13	19	0.2	18	0.2	0.5
18	Warthog	4	310	1.2	469	1.9	3.1
19	African Buffalo	33		0.0		0.0	0.0
20	Orstrich	4	948	3.8	1,784	7.1	10.9
District Water Demand(m3/day)				72.4		178.0	250.3

No	Species/Districts	Water	West Pokot Dist.		W.Demand
		Consump.	Nos	Demand	Total
		(lit/day)	(m3/day)		(m3/day)
1	African Elephant	205		0.0	1,530
2	Giraffe	25	105	2.6	1,005
3	Burchell Zebra	14		0.0	1,790
4	Grevy Zebra	20		0.0	86
5	Thomson's Gazelle	1		0.0	107
6	Grant's Gazelle	2		0.0	242
7	Gerenuk	1		0.0	23
8	Impala	2	227	0.5	207
9	Coke's Hartebeest	4		0.0	38
10	Hunter's Hartebeest	2		0.0	4
11	Topi	3		0.0	308
12	Waterbuck	11		0.0	82
13	Eland	17		0.0	219
14	Orix	5		0.0	121
15	Wildbeest	11		0.0	744
16	Lesser Kudu	4	192	0.8	21
17	Greater Kudu	13	35	0.5	2
18	Warthog	4	157	0.6	42
19	African Buffalo	33		0.0	1,035
20	Orstrich	4		0.0	96
District Water Demand(m3/day)				4.9	7,702

Table F2.4 (1) Present Condition of Wildlife Watering in National Parks and Reserves (1/5)

Park/Reserve	Water Sources Availability to Wildlife		Human and Livestock Dependence on Water	Names of Major Water Sources		Has Water Availability Decrease due to Human Increase	Affected Water Sources and Neighbouring Settlements Influence the Chances of Rivers		Effects of Continued Unavailability of Water Sources during Dry Season	Are There Plans to Develop Additional Waterresources for Wildlife	If Yes What Type	Other Wetlands, Rivers, Lakes, Country Wide, Outside the Protected Areas but Important for the Conservation of Wildlife and Biodiversity in Kenya
	Wet Season	Dry Season		Rivers	Lakes		Swamps	Upstream				
Savo West National Park	1. Lakes 2. Rivers 3. Mammade dams	1. Lakes 2. Rivers 3. Mammade dams	1. Lakes 2. Rivers	1. Jipe	-	Yes	1. Tsavo 2. Mzima 3. Rombo 4. Mwatia 5. Looluresh rivers	1. Lake Jipe getting silted due to soil erosion from the cultivations surrounding it.	1. Animals would move out of the Park in search of food and water. 2. Wildlife would cause destruction of crops and livestock. 3. Decline in Wildl. numbers. 4. Decline in Biodiversity. 5. The Ecosystem would cease, as a wildlife area.	Yes	1. Mammade dams & boreholes. 2. Reactivation of existing ones.	1. Lake Chala Lumi 2. Luni swamps (North of Lake Jipe) 3. Kimana swamp (one of sources of Mzima springs) 4. Mwatia swamp (at Kasigou)
Lake Nakuru National Park	1. Lakes 2. Swamps 3. Rivers 4. Natural waterholes 5. Mammade waterholes 6. Natural water springs (north & eastern parts of the lake)	1. Lakes 2. Swamps 3. Natural waterholes 4. Mammade waterholes 5. Boreholes 6. Sewage effluent from Nakuru municipality	1. Rivers 2. Natural waterholes 3. Boreholes	-	-	Yes	1. Njoro effluent by the Nakuru municipal sewage, and clearing of the rice forest upstream 2. Naishi	-	1. The vegetation decline would occur. 2. Animal mortality would be expected due to starvation since it is a fenced park. 3. Birds migration would take place. 4. The ecosystem would cease to function as a wildlife area.	Yes	1. Mammade boreholes 2. Boreholes 3. Mammade dams	1. Lake Elementaita 2. Lake Solai 3. Menengai crater (important catchment for under ground water supply). 4. Mau Nature reserve (import or both water catchment and recreational purposes)
Abardara National Park	1. Swamps 2. Rivers 3. Natural waterholes 4. Mammade waterholes 5. Boreholes	1. Swamps 2. Rivers 3. Natural waterholes 4. Mammade waterholes 5. Boreholes	1. Rivers 2. Boreholes	-	-	No human habitation upstream apart from wildlife.	No water sources affected by neighboring settlements since are downstream and outside the park.	-	1. Decline in vegetation would occur. 2. Decline in animal number in the park would take place. 3. Animal would cause have to the surrounding settlement schemes. 4. The ecosystem would cease as a wildlife area.	Yes	1. Reactivation of existing seasonal waterholes into permanent ones.	1. Lake Obholot (important for water-birds and other living organisms)
Hill Gate Longoot National Park	1. Natural waterholes 2. Sub-surface ponds	Natural waterholes	N/A	Naivasha	N/A	No	N/A	N/A	1. There would be a decline in wildlife nos. 2. The ecosystem would cease to function as a wildlife area.	Yes	Mammade system	Crescent island Crater Lake (Lake Sonachi)

Table F2.4 (2) Present Condition of Wildlife Watering in National Parks and Reserves (2/5)

Park/ Reserve	Water Sources Availability to Wildlife		Human and Livestock Dependent Water Sources	Names of Major Water Sources		Has Water Availability Decrease due to Human Increase	Affected Water Sources and Neighbouring Settlements Influence the Chances		Effects of Continued Unavailability of Water Sources during Dry Season to Wildlife	Are There Plans to Develop Additional Waterresources for Wildlife	If Yes What Type	Other Wetlands, Rivers, Lakes, Country Wide, Outside the Protected Areas but Important for the Conservation of Wildlife and Biodiversity in Kenya
	Wet Season	Dry Season		Rivers	Lakes		Rivers	Lakes				
Ruma National Park	1. Swamps 2. Rivers 3. Natural waterholes 4. Manmade waterholes	1. Swamps 2. Rivers	None	Olumwe (seasonal)	Ruma Forest Swamp	No	None	None	Animals would utilise a different area of the park.	Yes	Manmade borehole	None
Meru National Park	1. Swamps 2. Rivers	1. Swamps 2. Rivers	1. Swamps 2. Rivers 3. Natural water-holes 4. Manmade water-holes 5. Boreholes	1. Kinna 2. Bisanadi 3. Kurera 4. Bwatherongi 5. Kakungu 6. Kanundu 7. Rojewaro 8. Kindani 9. Kiolu 10. Tana 11. Mulika 12. Kanroo	1. Mulika 2. Muri	Yes	The rivers mentioned and boreholes by the neighbouring settlements irrigation activity.	There would be large declines in biodiversity. The ecosystem would cease to function as a wildlife area.	No	-	-	Tana river and all rivers mentioned which rise outside the park to the north and west.
Mt Kenya National Park	1. Rivers 2. Natural waterholes	1. Rivers 2. Natural waterholes	Swamps (Rivers, too Mt. Kenya being the watershed)	Approx. 30	None	N/A	N/A	N/A	No	No	-	Newly created Turkwell dam, Pesi swamps - Lukkipia C) Turush springs - Ilialal, Ngeng - Kathechwa range
Isiold/Samburu Complex	1. Swamps 2. Rivers 3. Manmade waterholes 4. Springs	1. Swamps 2. Rivers 3. Springs	1. Rivers 2. Springs	1. Uaso Nyiro 2. Isiold 3. Ngare Mars	Buffalo springs	No	Buffalo springs being tapped for domestic use by Archers cost human settlement	Animal would migrate to other areas eg. Meru N.P.	No	No	-	Buffalo springs Shabak ecosystem
Murera Edu. Centre	1. Swamps 2. Rivers	1. Swamps 2. Rivers	1. Rivers 2. Boreholes	Murera	-	No	Murera river, by people around the Murera gate of Meru N.P.	There would be large declines in wildlife no.	-	-	-	-
Tana River Primate National Reserve	1. Lakes 2. Natural waterholes 3. Rivers	1. Lakes 2. Swamps 3. Rivers	Rivers	Tana	-	No	N/A	1. There would be large declines in wildlife nos. 2. The ecosystem would cease to function as a wildlife area.	Yes	Yes	Manmade boreholes	Tana delta wetlands and swamps
Land (Dodori National Reserve)	1. Swamps 2. Rivers	Rivers	1. Swamps 2. Rivers 3. Manmade water-holes	Dodori/Nangai	1. Saiturt 2. Badaa	No	Mangai river by expansion of Mangai village	There would be large declines in wildlife numbers.	No	No	-	Lake Kenyatta at Mpeketoni settlement scheme.
Bonjore National Park	Rivers	Rivers	Rivers	Xubas	-	No	(No jeopardy at the Koment)	Animals would utilize a different area of the park.	No	No	N/A	-

Table F2.4 (3) Present Condition of Wildlife Watering in National Parks and Reserves (3/5)

Park/ Reserve	Water Sources Availability to Wildlife		Human and Livestock Dependence on Water	Names of Major Water Sources		Has Water Availability Decrease due to Human Increase	Affected Water Sources and Neighbouring Settlements Influence the Chances		Effects of Continued Unavailability of Water Sources during Dry Season to Wildlife	Are There Plans to Develop Additional Waterresources for Wildlife	If Yes What Type	Other Wetlands, Rivers, Lakes, Country Wide, Outside the Protected Areas but Important for the Conservation of Wildlife and Biodiversity in Kenya
	Wet Season	Dry Season		Rivers	Lakes		Rivers	Lakes				
Kirinyga District	1. Swamps 2. Rivers	1. Swamps 2. Rivers	1. Swamps 2. Rivers 3. Mammade water-holes	1. Thiba 2. Nyamindi 3. Tana 4. Marubera 5. Kupungazi	Tana dam, Tana river	Yes	Tana, affected by Mwea irrigation scheme, and Thiba river, by the same scheme.	1. Animals would utilize a different area of the park. 2. The ecosystem would cease to function as a wildlife area.	No	-	-	Wetlands within the forest reserves.
Carissa	1. Lakes 2. Swamps 3. Rivers 4. Natural waterholes	1. Lakes 2. Swamps 3. Rivers 4. Natural waterholes	1. Swamps 2. Rivers 3. Natural water-holes	1. Tana 2. Usao Nyiro	-	No	N/A	N/A: since the animals depend on a major river.	No	-	-	Kiwewa swamp in Loitokitok
Wajir	1. Natural waterholes 2. Boreholes	Boreholes	1. Boreholes 2. Mammade water-holes	(Wajir district is dry and the major sources of water are boreholes.)	-	No	N/A	1. Animals would utilize a different area of the park. 2. We do not know.	No	-	-	-
Samburu District	1. Swamps 2. Rivers 3. Natural waterholes 4. Mammade waterholes	1. Swamps 2. Rivers 3. Natural waterholes 4. Boreholes	1. Rivers 2. Natural water-holes 3. Mammade water-holes 4. Boreholes	1. Ngony 2. Seiya 3. Waso Nyiro 4. Ngare Karoh	1. Suguta Barnar 2. Kisima	Yes	1. Usao Nyiro by Rumuruti settlements. 2. Ngony river, and the integrated programme.	1. Animals would utilize a different area of the park. 2. There would be a decline in biodiversity. 3. The ecosystem would cease to function as a wildlife area. 4. Animals would migrate to Kathwa range and Kajujuo districts.	Yes	Boreholes	-	Nasicho river
Amboseli National Park	1. Swamps 2. Natural waterholes 3. Mammade waterholes 4. Boreholes	1. Swamps 2. Natural waterholes 3. Mammade waterholes 4. Boreholes	1. Swamps 2. Natural water-holes 3. Mammade water-holes 4. Boreholes	-	1. Enkongu 2. Larok 3. Longonye 3. Olthikai	Yes	Above sources affected by: Nana log irrigation schemes, Kimara irrigation schemes, Farming along Kilimanjaro northern slopes	1. Animals would utilise a different area of the Park. 2. There would be large declines in wildlife numbers. 3. For water sources in dispersal areas would concentrate wildlife within the park boundary.	Yes	1. Boreholes 2. Construction of dams	-	Nakalog and Kimara swamps
Marabiti National Reserve	1. Lakes 2. Natural waterholes 3. Springs 4. Pools of rain water	1. Lakes 2. Natural waterholes 3. Springs	1. Lakes 2. Natural water-holes 3. Springs	N/A (No flowing rivers)	1. Water pools in craters (Cof) 2. Various natural waterholes (springs)	Not known	Gof Bongole and others natural waterholes affected by livestock and human settlements in Marabiti township, Ura Ura Sakante, Songa, Badasa, Kararo and Laturui.	1. There would be large declines in wildlife numbers. 2. There would be a decline in biodiversity.	No	-	-	-

Table F2.4 (4) Present Condition of Wildlife Watering in National Parks and Reserves (4/5)

Park/ Reserve	Water Sources Availability to Wildlife		Human and Livestock Dependent Water Sources	Names of Major Water Sources		Availability Decrease due to Human Increase	Affected Water Sources and Neighbouring Settlements Influence the Chances		Effects of Continued Unavailability of Water Sources during Dry Season to Wildlife	Are There Plans to Develop Additional Waterresources for Wildlife	If Yes What Type	Other Wetlands, Rivers, Lakes, Country Wide, Outside the Protected Areas but Important for the Conservation of Wildlife and Biodiversity in Kenya
	Wet Season	Dry Season		Rivers	Lakes		Swamps	Rivers				
Mwea National District	1. Rivers 2. Kamburu dam	1. Rivers 2. Kamburu dam	1. Rivers 2. Kamburu dam	Kamburu dam	-	Yes	Tana river by Kwang. Thiba rivers by Embol Kinyaga (Ochururi and Nwea irrigation settlement schemes)	1. There would be large decline in wildlife numbers. 2. There would be a decline in bio-diversity.	Yes	1. Manmade boreholes 2. Rainfed waterholes	Kupingazi river	
Kurunga Sabon	1. Swamps 2. Rivers	1. Swamps 2. Rivers	1. Swamps 2. Rivers	-	1. Karaka 2. Mbari ya Ngware	No	(The areas inhabited by wildlife are upstream while settlement are downstream.)	1. There would be large declines in wildlife numbers. 2. There would be a decline in biodiversity. 3. The ecosystem would cease to function as a wildlife area.	No	-	Chui Rapid (Kabubu/Thika rivers)	
Narok	1. Swamps 2. Rivers 3. Natural waterholes 4. Manmade waterholes 5. Boreholes 6. Seasonal streams 7. Manmade dams 8. Hot water springs	1. Rivers 2. Boreholes	1. Swamps 2. Rivers 3. Natural water-holes 4. Manmade water-holes 5. Boreholes 6. Seasonal streams	N/A	No permanent swamps	Yes	Ewaso Nyiro, Engare Narok, Engare Syapei by Narok town Mau forest, irrigation and Trunamara settlement	1. There would be a decline in biodiversity. 2. Conflict between man and wildlife as animals move to settlement areas in search of water.	Yes	1. Manmade boreholes 2. Boreholes	Lake Naivasha Lake Turkana Lake Elmentaita Lake Magadi Lake Baringo	
Mau Forest National Reserve	Rivers	Rivers	Rivers	-	-	No	(There is no human activity jeopardising availability of water)	(Water shortage is not a problem as Mau national reserve is in a water catchment area.)	No	-	-	
Ol Donio Sabuk National Park	1. waterholes 2. Manmade waterholes 3. Manmade dams	1. Swamps 2. Natural waterholes 3. Manmade dams	1. Swamps 2. Natural water-holes 3. Manmade dams	N/A	Wamnyu	No	None	1. Abuakks wiykd utilise & different area of the park. 2. Animals would invade the neighbouring settlements which surround the park.	No	N/A	None	
Kisumu Jela Farm	1. Lakes 2. Manmade waterholes	1. Lakes 2. Manmade waterholes	Lakes	Lake Victoria	N/A	No	N/A	(There would be no effect, since there is plenty of water.)	Yes	Tap water to serve several water trough.	N/A	
Keri National Park	Lakes	Lakes	Lakes	Lake Victoria	N/A	No	N/A	(There would be no effect as there is plenty of water.)	No	N/A	N/A	

Table F2.4 (5) Present Condition of Wildlife Watering in National Parks and Reserves (S/S)

Park/ Reserve	Water Sources Availability to Wildlife		Human and Livestock Defecent Water Sources	Names of Major Water Sources		Availability of Water Decreases due to Human Increase Upstream	Affected Water Sources and Neighbouring Settlements Influence the Chances		Effects of Continued Unavailability of Water Sources during Dry Season to Wildlife	Are There Plans to Develop Additional Waterresources for Wildlife	If Yes What Type	Other Wetlands, Rivers, Lakes, Country Wide Areas but Important for the Conservation of Wildlife and Biodiversity in Kenya
	Wet Season	Dry Season		Rivers	Lakes		Swamps	Rivers				
Lake Victoria National Reserve	1. Swamps 2. Rivers 3. Springs	1. Swamps 2. Rivers 3. Springs	1. Swamps 2. Rivers 3. Springs	-	Sandai	Yes	1. Sandai river by Sandai irrigation scheme. 2. Sandai swamps by overgrazing.	-	1. Animals would utilise a different area of the park. 2. There would be a decline in bio-diversity.	Yes	-	Lake Naivasha Lake Elementaita
Kerio Valley (River) National Reserve	1. Rivers 2. Manmade waterholes 3. Seasonal swamps	1. Lakes 2. Rivers 3. Natural waterholes	1. Lakes 2. Rivers 3. Natural water-holes	Lake a Kenarok	Seasonal & natural waterholes	Yes	Negligible effect on rivers by household use and livestock.	-	1. Animals would utilise a different area of the park. 2. There would be a decline in bio-diversity. 3. The ecosystem would cease to function as a wildlife area.	No	-	Lake Naivasha Lake Elementaita
Xumunumu	1. Rivers 2. Natural waterholes	1. Rivers 2. Natural waterholes	1. Rivers 2. Natural water-holes 3. Manmade water-holes 4. Dams	-	-	No	Dams by up due to heavy use.	-	(The migratory movement of wildlife would occur)	No	-	-
Malki Mari National Park	1. Rivers 2. Natural waterholes	Rivers	1. Rivers 2. Natural water-holes	Dava	-	-	Dava river by human settlement & livestock.	-	1. There would be a decline in bio-diversity. 2. Elephants would migrate. 3. Hippos and crocodiles would die. 4. Number of animals would decrease.	No	N/A	Tana swamp at Kipini
Madolet National Reserve	1. Rivers 2. Natural waterholes	Rivers	Rivers	1. Wei Wei 2. Turkwell	-	No	(There could be a problems due to human population pressure on the irrigation schemes and rivers.)	-	There would be large declines in wildlife numbers.	Yes	1. Manmade boreholes 2. subsurface dams to collect rain water.	Orwa wet/land
Masai Mara National Reserve	1. Swamps 2. Rivers 3. Natural waterholes	1. Swamps 2. Rivers 3. Natural water-holes	1. Swamps 2. Rivers 3. Natural water-holes	Mara and many other streams	Musiac	No (But there is a proposal to tap some of the Mara water into Uaso Pyiro for hydro-electricity purposes.)	(There is no major activity at the moment)	-	1. There would be large declines in wildlife numbers. 2. There would be a decline in bio-diversity. 3. Not known.	Yes	Manmade boreholes and dams.	N/A

Table F3.1 Fish Landing in Kenya

Item	Unit tons									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Marine Fish	7,617	6,562	7,411	3,546	3,116	4,220	3,889	4,046	4,177	2,858
Marine Crustac	159	274	185	209	121	124	159	208	366	256
Other Marine	134	199	126	269	179	187	101	82	91	801
Sub Total	7,910	7,035	7,725	4,024	3,416	4,531	4,149	4,336	4,634	3,915
Victoria	16,400	14,918	15,989	16,797	17,175	16,581	18,680	19,332	23,856	30,592
Turkana	4,854	3,612	4,090	4,927	5,731	4,236	17,044	18,473	15,560	13,731
Naivash	1,250	484	117	62	39	44	78	71	225	483
Baringo	717	293	58	89	122	240	257	246	315	326
Other Lake	2,509	1,822	1,832	3,023	2,098	1,709	813	956	1,815	698
Sub Total	25,730	21,129	22,086	24,898	25,165	22,810	36,872	39,078	41,801	45,830
Fish Farming								547	557	568
TOTAL	33,640	28,164	29,811	28,922	28,581	27,341	41,021	43,961	46,992	50,313

Item	Unit tons									
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Marine Fish	4,905	5,546	6,622	5,798	6,069	5,777	6,156	6,755	6,027	5,669
Marine Crustac	400	384	426	474	607	274	302	812	887	715
Other Marine	31	37	68	121	100	158	146	180	185	187
Sub Total	5,336	5,967	7,116	6,393	6,776	6,209	6,604	7,747	7,099	6,571
Victoria	26,914	38,179	60,958	77,327	71,854	88,589	103,163	113,452	125,071	135,429
Turkana	12,384	10,529	11,040	10,113	8,448	7,460	7,324	7,240	4,128	999
Naivash	477	269	411	692	320	245	576	316	52	263
Baringo	411	467	401	352	297	317	152	116	96	233
Other Lake	2,100	1,520	767	1,999	2,570	2,068	999	1,216	537	665
Sub Total	42,286	50,964	73,577	90,483	83,489	98,679	112,214	122,340	129,884	137,589
Fish Farming	596	421	440	585	711	1,085	980	1,094	1,149	922
TOTAL	48,218	57,352	81,133	97,461	90,976	105,973	119,798	131,181	138,132	145,082

Source: Ref. F.18

Table F3.2 Fresh water and Marine Fish Catches by species, Weight and Value

Unit : tons

Species	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977
Fresh Water													
Alestes						1	4	2	4	0	23	0	0
Bagrus	140	526	40	62	61	88	1,243	2,532	430	642	1,769	183	1,141
Barbus	332	2,412	868	1,068	153	110	155	682	451	521	435	207	192
Black Bass	36	40	20	84	60	64	41	13	4	18	33	30	23
Clarias	596	481	1,331	1,697	590	877	1,336	2,062	1,328	1,867	3,205	2,047	1,973
Engaulicypris	45,464	40,861	33,145	34,518	25,566	19,437	16,444	10,419	7,635	9,443	9,321	8,710	6,704
Haplochromis	4,759	1,338	183	3	6	41	612	2,549	916	3,636	6,599	6,621	5,378
Labeo	249	1,073	1,780	1,479	2,487	1,325	2,437	918	114	482	443	148	939
Lates	56,945	62,612	70,354	58,806	53,011	44,698	55,572	33,134	22,834	4,310	4,286	1,066	203
Mormyrus	403	300	12	51	49	89	218	2,678	209	333	359	132	102
Protopterus	107	110	130	216	179	95	374	239	323	595	472	653	782
Schilbe	15		4	25	5	3	22	78	49	117	320	120	129
Synodontis	0			1		75	47	232	127	388	482	155	310
Tilapia Esculenta		75	3		42	99	108	399	139	90	94	1,549	42
Tilapia Nilotica	13,101	17,015	9,024	7,853	7,573	6,136	2,796	2,581	1,858	1,184	962	972	465
Tilapia Others	6,311	1,656	4,086	4,343	3,997	5,400	6,101	3,874	3,605	5,540	3,018	1,474	1,821
Trout	319	306	264	278	315	275	169	350	335	86			
Cray fish	94	14	92	45	39	43	116	58	0				
Carp	342	82	441	198	280	174	132	13	8				
Sardines	9	11	8	14	10	55							
Eels	1	0							0				
Unspecified	9,570	2,121	469	2,453	5,041	5,115	3,141	11,207	11,016	13,630	14,677	17,693	15,912
Total	138,793	131,033	122,254	113,194	99,464	84,200	91,068	74,020	51,385	42,882	46,498	41,760	36,116
Marine Fish													
Demersal species	2,932	3,054	3,130	3,179	2,891	2,786	3,098	3,332	2,831	2,587	2,110	2,220	2,072
Pelagic species	1,114	1,073	1,171	1,017	917	940	1,091	1,191	1,103	812	685	765	517
Sharks and Rays	276	264	267	292	249	280	228	265	186	163	175	227	363
Sardines	419	443	454	397	422	337	370	418	336	337	312	284	
Spot fishing	143	111	130	126	117	91	148	93	80	99	63	421	587
Deep Sea	896		888	863	915	840	540	476	1,010	907		120	155
Unspecified	928	348	715	282	266	795	323	1,324			282	140	352
Total	6,708	5,293	6,755	6,156	5,777	6,069	5,798	7,099	5,546	4,905	3,627	4,177	4,046
Crustacea													
Spiny Lobsters	74	186	117	68	65	57	56	61	51	66	52	63	69
Prawns	469	535	523	145	99	409	300	314	229	226	152	208	88
Crabs	79	51	67	55	64	65	56	51	54	56	52	47	29
Others	93	849	105	34	46	80	62	0	50	52		48	22
Total	715	1,621	812	302	274	611	474	426	384	400	256	366	208
Molluscs													
Oysters	21	2	0	0	0	0	0	2	1	1	1	1	1
Squids	41	38	38	37	103	20	19	16	10	8	5	6	1
Octopus	55	54	63	39	42	30	26	17	14	12	20	10	
Total	117	94	101	76	145	50	45	35	25	21	26	17	2
Miscellaneous													
Turtles													
Oysters-Shell-Grit			1	4	1	0	0	0		0	3	22	16
Beche-de-mer	70	91	78	66	12	50	76	32	12	10	3	52	64
Total	70	91	79	70	13	50	76	32	12	10	6	74	80
Total Marine	7,610	7,099	7,747	6,604	6,209	6,780	6,393	7,592	5,967	5,336	3,915	4,634	4,336
Grand Grand Total	146,403	138,132	130,001	119,798	105,673	90,980	97,461	81,612	57,352	48,218	50,413	46,394	40,452

Table F3.3 Fish Production Value in Kenya

Unit: million Kshs

District	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
810 Baringo	0.306	0.317	0.591	0.607	0.634	0.57	0.554	0.606	0.269	0.222	0.365	0.988
910 Bungoma										0.015	0.015	0.022
920 Busia						4.295	1.927	3.847	6.798	5.499	23.19	36.23
820 Elg. Marakwet												
410 Embu										2.492	1.384	2.864
510 Garissa												
420 Isiolo										11.88	18.57	26
710 Kajiado												
930 Kakamega												
720 Kericho										0.071	0.132	0.064
210 Kiambu												
310 Kilifi												
220 Kirinyaga												3.46
610 Kisii							0.08	0.06	0.05	0.08	0.4	0.6
620 Kisumu										7.475	302.3	20.68
430 Kitui											0.057	0.107
320 Kwale												
730 Laikipia	0.152	0.147	0.169	0.174	0.157	0.162	0.274	0.194	0.267	0.185	0.208	0.341
330 Lamu		0.06	2.332	1.09	0.906	2.014	1.503	0.446	0.654			
440 Machakos										1.385	6.464	4.141
520 Mandera												
450 Marsabit												
460 Meru						2.62	2.02	6.26	2.456	10.42	15.34	19.41
340 Monbasa												
230 Muranga						10.4	25.25	420.3	420.3	517.5	572.3	787.7
110 Nairobi												
740 Nakuru												
830 Nandi												
750 Narok												
240 Nyandarua												
250 Nyeri										3.64	18.96	8.24
840 Samburu												
630 Siaya							126	81.62	209.4	296.1	365.5	605.3
640 South Nyanza					946	1908	1685	2536	2292	2990	2829	2918
350 Taita Taveta					1.219	1.272	1.128	0.313	0.668	0.783	0.731	1.119
360 Tana River									0.836	0.692	1.402	0.577
760 Trans Nzoia											0.044	0.048
850 Turkana								2.315	1.261	1.74	1.566	3.529
770 Uasin Gishu									0.013	0.059	0.05	0.075
530 Wajir												
860 West Pokot												
Total	0.458	0.524	3.092	1.871	948.9	1929	1844	3052	2935	3850	4158	4439

Source : Ref. F.18

Table F3.4 Exports and Imports of Fish and Fishery Products

YEAR	Unit tons	
	EXPORT	IMPORT
1989	7,279.00	2,244.00
1988	5,156.00	1,657.00
1987	4,677.00	155.00
1986	1,297.00	317.00
1985	514.00	403.00
1984	514.00	403.00
1983	1,465.63	1,617.86
1982	9,118.00	9,699.76
1981		
1980	784.00	3,757.00
1979	2,353.00	
1978	588.00	
1977		

Source: Ref. F.18

Table F3.5 Number of Fish Ponds

District	Socio-economic Survey		Department of Fishery		Estimated	
	Number of Pond	Total Pond Area	Number of Pond	Total Pond Area	Number of Pond	Total Pond Area
		(m2)		(m2)		(m2)
110 Nairobi					0	0
210 Kiambu	246	153,664	80	11,259	246	153,664
220 Kirinyaga					0	0
230 Muranga	134	16,538	136	17,031	136	17,031
240 Nyandarua			366	51,757	366	51,757
250 Nyeri	283	25,728	433	3,285,329	433	3,285,329
310 Kilifi	505	42,968	10	142	505	42,968
320 Kwale	18	67,049			18	67,049
330 Lamu					0	0
340 Monbasa					0	0
350 Taita Taveta	114	7,294	28	3,424	114	7,294
360 Tana River	7	112,600	8	41,167	8	112,600
410 Embu	4	21,920	205	26,701	205	26,701
420 Isiolo			26	6,135	26	6,135
430 Kitui	27	3,001			27	3,001
440 Machakos	126	18,335	70	3,696	126	18,335
450 Marsabit					0	0
460 Meru	37	688	980	78,400	980	78,400
510 Garissa			1	112	1	112
520 Mandera					0	0
530 Wajir						
610 Kisii			2,962	332,139	2,962	332,139
620 Kisumu	262	58,941	217	43,509	262	58,941
630 Siaya	148	28,037	259	31,080	259	31,080
640 South Nyanza	198	33,117	475	50,537	475	50,537
710 Kajiado					0	0
720 Kericho	35	104,560			35	104,560
730 Laikipia	61	106,301			61	106,301
740 Nakuru					0	0
750 Narok	13	5,385			13	5,385
760 Trans Nzoia	18	5,552	95	27,360	95	27,360
770 Uasin Gishu	130	15,438	100	28,842	130	28,842
810 Baringo	6	40,011,700 *			6	40,011,700
820 Elg. Marakwet					0	0
830 Nandi	61	23,904			61	23,904
840 Samburu					0	0
850 Turkana	2	7,500			2	7,500
860 West Pokot						
910 Bungoma	304	53,765	680	106,628	680	106,628
920 Busia	266	49,002	269	32,509	269	49,002
930 Kakamega	664	117,544	1,061	248,462	1,061	248,462
Kenya	3,669	1,078,831	8,461	4,426,219	9,562	5,051,017 **

Note : * total volume **total area exclude Baringo

Source : socio-economic Survey

Table F3.6 Per Capita Consumption of Fish

Year	Production tons	Export tons	Import tons	Consumption tons	Estimated Population '000	Per Capita Consumption kg/annum
1978	46,992	588				
1979	50,313	2,353				
1980	48,218	784	3,757	51,191	16,667	3.07
1981	57,352				17,342	
1982	81,133	9,118	9,700	81,715	18,035	4.53
1983	97,461	1,466	1,618	97,613	18,748	5.21
1984	90,976	514	403	90,865	19,482	4.66
1985	105,973	514	403	105,862	20,241	5.23
1986	119,798	1,297	317	118,818	21,021	5.65
1987	131,181	4,677	155	126,659	21,826	5.80
1988	138,132	5,156	1,657	134,633	22,657	5.94
					Average in recent 5 years	
					5.46	

Source: Ref. F.18, F.21

Table F3.7 Estimated Water Demand for Fish Ponds

Unit: million m3

Basin 1		Basin 2		Basin 3		Basin 4		Basin 5	
1AA	0.03	2AA	0.00	3AA	0.00	4AA	1.60	5AA	0.05
1AB	0.03	2AB	0.00	3AB	0.00	4AB	1.88	5AB	0.02
1AB	0.00	2BA	0.00	3AC	0.01	4AC	1.32	5AC	0.04
1AC	0.01	2BB	0.00	3BA	0.08	4AD	1.34	5AD	0.02
1AD	0.02	2BC	0.01	3BB	0.05	4BA	0.63	5BA	0.34
1AE	0.02	2BD	0.00	3BC	0.09	4BB	0.55	5BB	1.23
1AF	0.04	2CA	0.00	3BD	0.06	4BC	0.02	5BC	1.37
1AG	0.03	2CB	0.00	3CB	0.08	4BD	0.03	5BD	0.03
1AG	0.02	2CC	0.01	3DA	0.02	4BE	0.01	5BE	0.29
1AH	0.05	2D	0.01	3DB	0.00	4BF	0.01	5CA	0.04
1BA	0.01	2EA	0.00	3EA	0.00	4BG	0.01	5CB	0.00
1BB	0.03	2EB	0.00	3EB	0.00	4CA	0.05	5CC	0.00
1BC	0.02	2EC	0.00	3EC	0.00	4CB	0.01	5DA	0.03
1BD	0.06	2ED	0.00	3ED	0.00	4CC	0.02	5DB	0.04
1BE	0.04	2EE	0.00	3FA	0.01	4DA	0.00	5DC	0.04
1BG	0.07	2EF	0.00	3FB	0.01	4DB	0.00	5DD	0.00
1BH	0.07	2EG1	0.00	3G	0.01	4DC	0.01	5EA	0.00
1CA	0.03	2EG2	0.00	3HA	0.00	4DD	0.01	5EB	0.00
1CB	0.02	2EH	0.00	3HB	0.01	4DE	0.01	5EC	0.00
1CC	0.02	2EJ	0.02	3HC	0.03	4EA	0.02	5ED	0.06
1CD	0.01	2EK	0.01	3HD1	0.01	4EB	0.03	5FA	0.00
1CE	0.00	2FA	0.00	3HD2	0.00	4EC	0.02	5FB	0.00
1CE	0.03	2FB	0.00	3J	0.00	4ED	0.03	5GA	0.00
1DA	0.09	2FC	0.00	3K	0.11	4FA	0.05	5GB	0.00
1DB	0.08	2GA	0.01	3LA	0.05	4FB	0.06	5H	0
1DC	0.06	2GB	0.05	3LB	0.01	4GA	0.02	5J	0
1DD	0.06	2GC	0.04	3MA	0.05	4GB	0.03		
1EA	0.09	2GD	0.00	3MB	0.04	4GC	0.01		
1EB	0.08	2H	0.06	3MC	0.03	4GD	0.05		
1EC	0.06	2I	0.01	3MD1	0.01	4GE	0.05		
1ED	0.03	2KA	0.01	3MD2	0.01	4GF	0.08		
1EE	0.03	2KB	0.00	3N	0	4GG	0.05		
1EF	0.03	2KC	0.00			4HA	0.00		
1EG	0.06					4HB	0.05		
1FA	0.01					4HC	0.04		
1FB	0.01					4JA	0.00		
1FC	0.01					4JB	0.00		
1FD	0.01					4KA	0.00		
1FE	0.10					4KB	0.001		
1FF	0.00								
1FF	0.06								
1FG	0.05								
1GA	0.01								
1GB	0.02								
1GC	0.05								
1GD	0.06								
1GE	0.03								
1GF	0.02								
1GG	0.02								
1HA	0.08								
1HB	0.07								
1HC	0.02								
1HD	0.12								
1HE	0.14								
1HF	0.02								
1HG	0.01								
1JA	0.03								
1JB	0.02								
1JC	0.02								
1JD	0.01								
1JE	0.11								
1JF	0.10								
1JG	0.06								
1KA	0.12								
1KB	0.58								
1KC	0.06								
1LA1	0.03								
1LA2	0.000								
1LA3	0.0								
1LB1	0.02								
1LB2	0								
Total	3.38	Total	0.25	Total	0.79	Total	8.11	Total	3.59

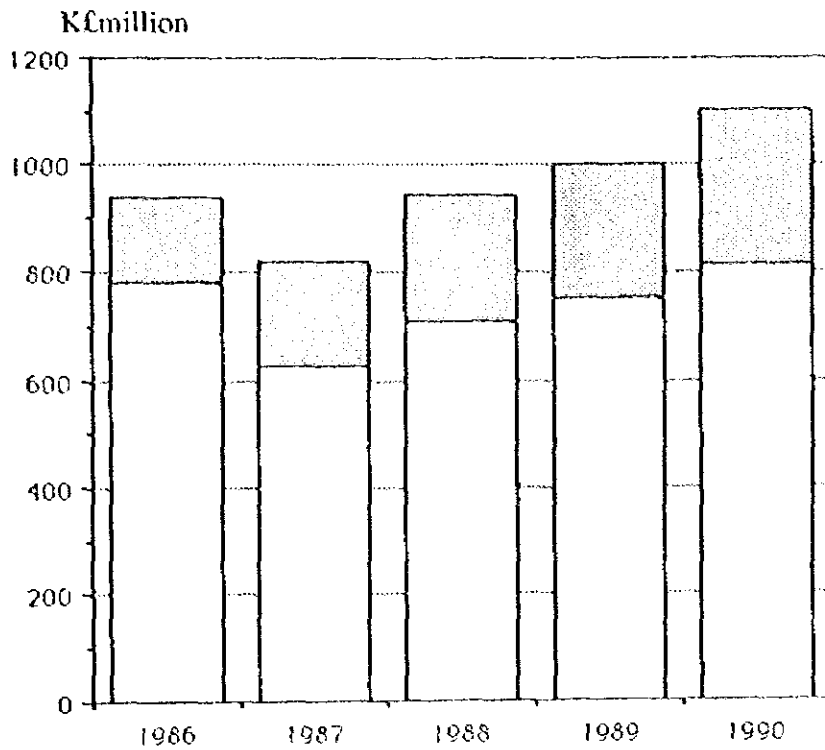
Table F3.8 Project List and Budget of Fishery Department

Unit: '000K£

Project Name	Estimated Exp. Printed 1990/91	Total Cost
Fisheries Survey	8	46
Purchase of Plant and Equipment	7	54
Mbita Processing and Freezing plant	294	600
Minor Irrigation	-	-
Minor Alterations & Maintenance	1	3
Construction of Office	1	11
Renovation of Camps	1	2
Fish ponds development	1	11
Minor Alterations & Maintenance Works	1	2
Construction of Ponds	1	7
Trout Development	2	1
Minor Alterations & Maintenance Works	1	2
Construction of building Residential	-	-
Renovation of fish camps	1	5
Fish Ponds Development	-	2
Construction of fish landing centre	-	2
Renovation of Masinga fishing Camp	-	1
Construction of Water Supplies and Sewerages	-	2
Minor Alterations & Maintenance Works	1	3
Minor Alterations & Maintenance Works	1	3
Development of Fish Ponds	-	11
Minor Alterations & Maintenance Works	1	3
Fish Ponds Development	-	3
Trout development	-	3
Minor Alterations & Maintenance Works	1	3
Minor Alterations & Maintenance Works	1	4
Minor Alterations & Maintenance Works	-	1
Fish Ponds Development	-	2
Minor Alterations & Maintenance Works	1	4
Rehabilitation of Ponds	-	3
Minor Alterations & Maintenance Works	1	3
Breeding and Nursery grounds	-	3
Minor Alterations & Maintenance Works	1	3
Purchase of plant and equipment	1	3
Minor Alterations & Maintenance Works	1	3
Development of ponds	2	3
Minor Alterations & Maintenance Works	-	3
Fish demon. ponds	2	5
Construction of buildings - Residential	3	11
Trout development	-	1
Fish ponds development	-	5
Fish Nursery & Breeding	2	8
Cold storage - Usoma	-	10
Perkerra Irrigation (Baringo)	10	105
Tana Research Station (Holo)	50	140
Construction of Fisheries Training Centre	5	60

Source : Fishery Department

FIGURES



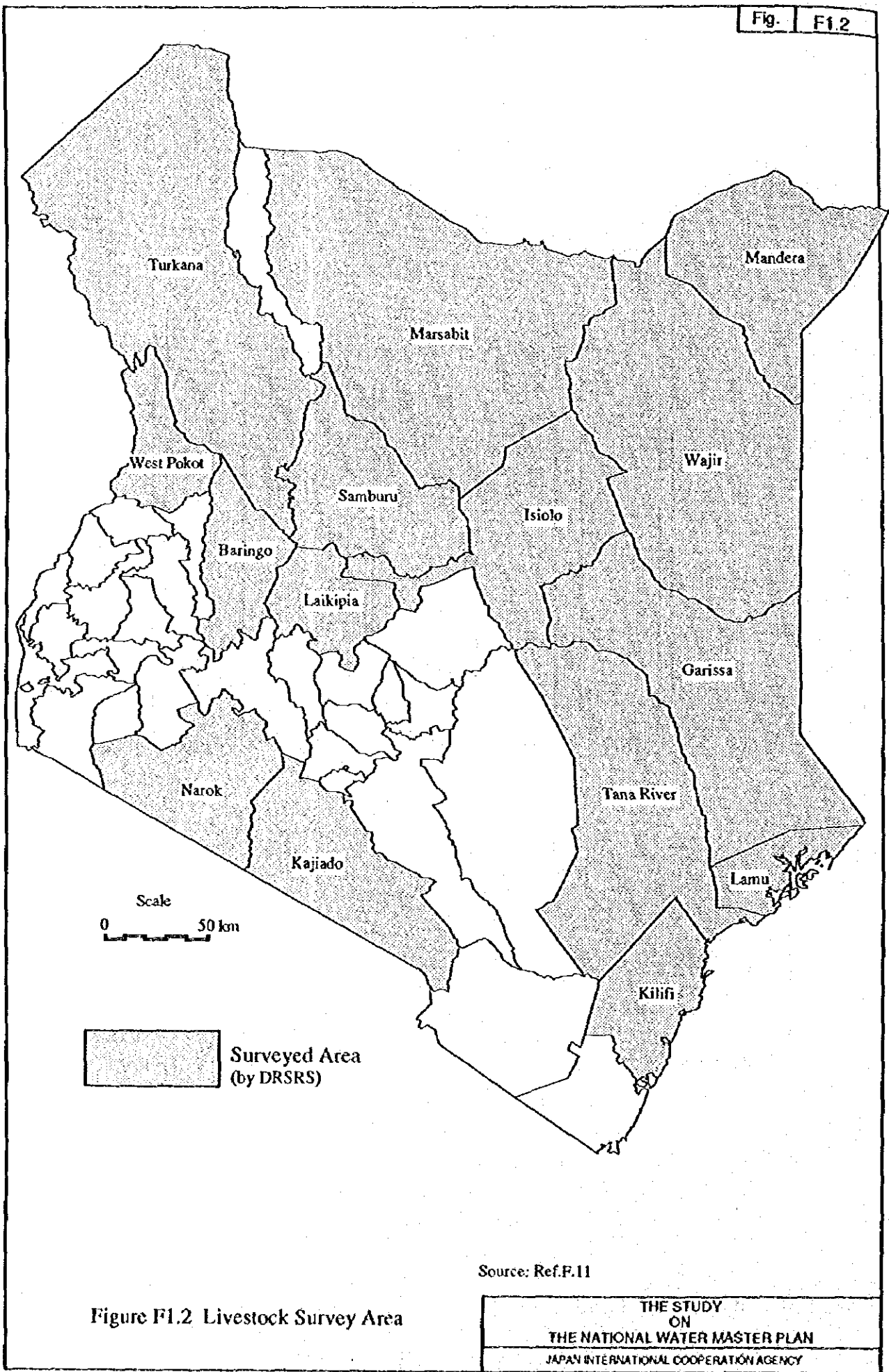
LEGEND

- Livestock and Products
- Crops

Source: Ref.F.4

Figure F1.1 Marketed Production at Current Price

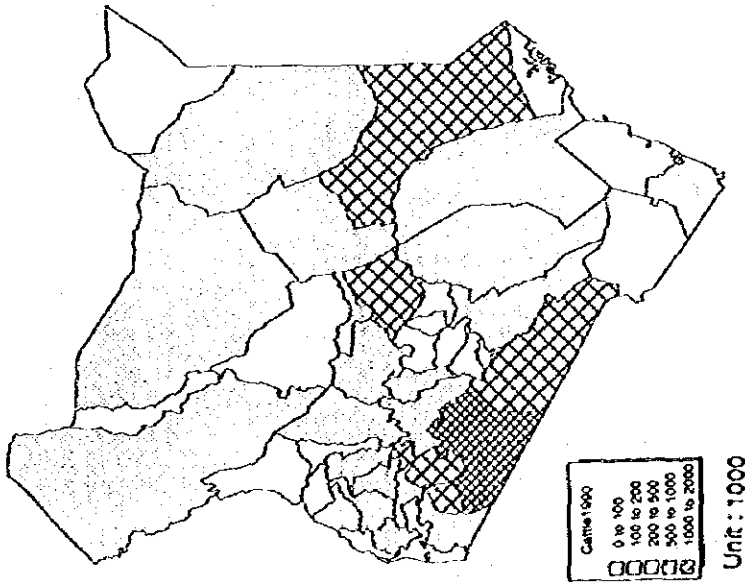
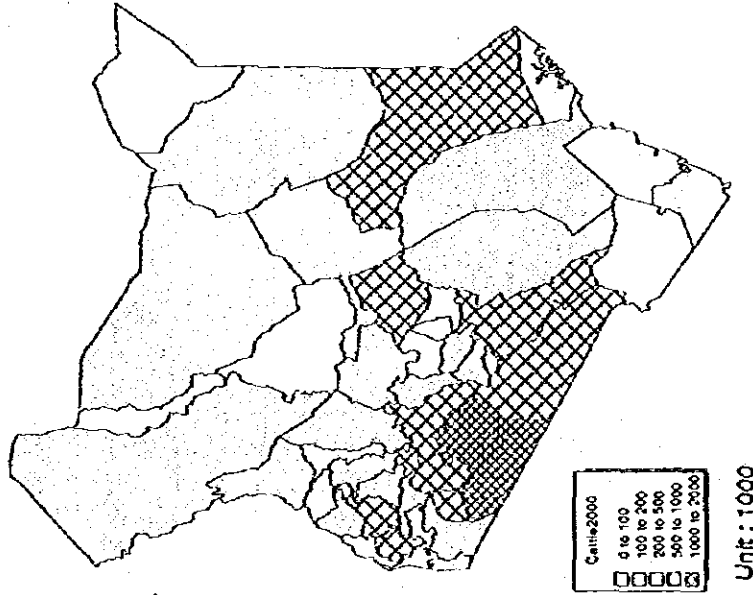
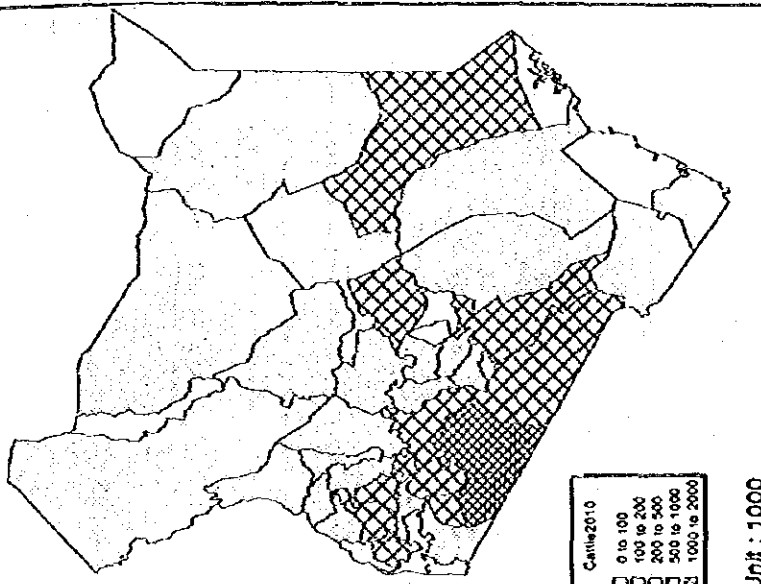
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Source: Ref.F.11

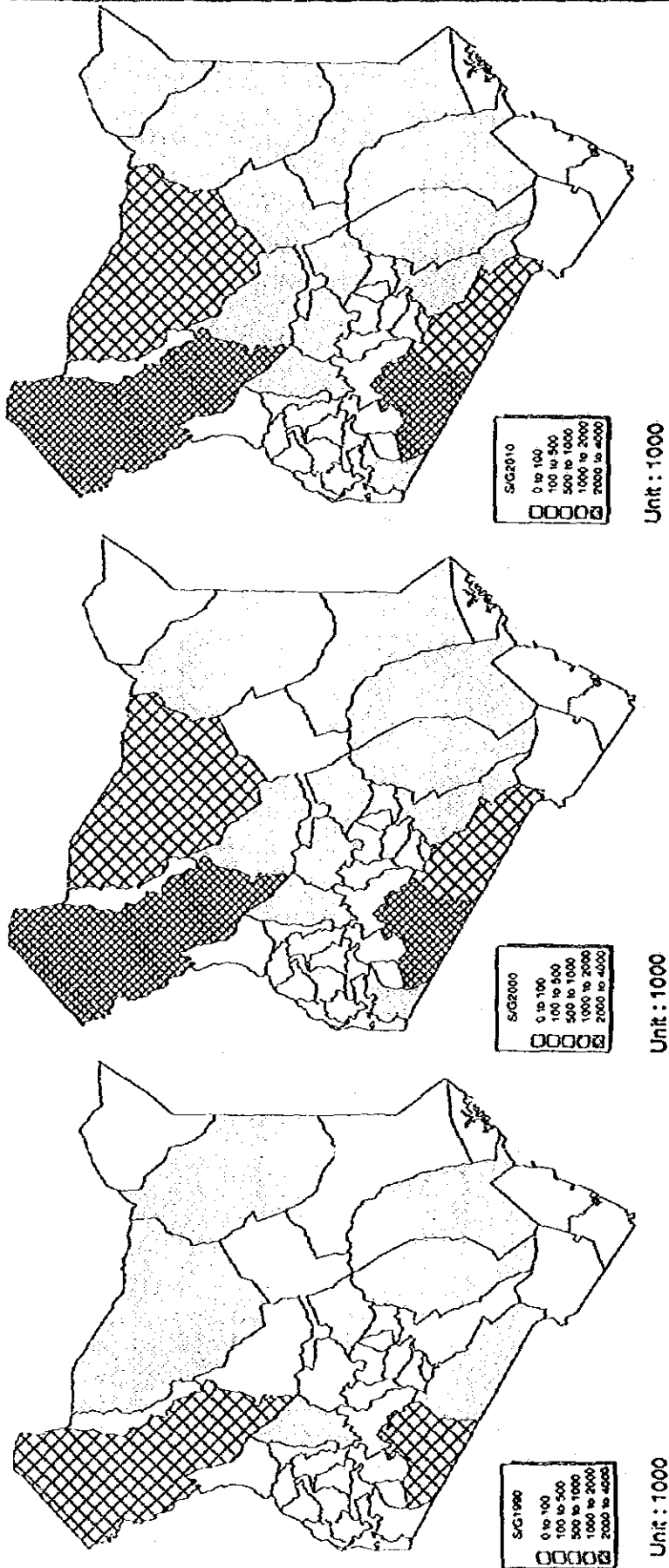
Figure F1.2 Livestock Survey Area

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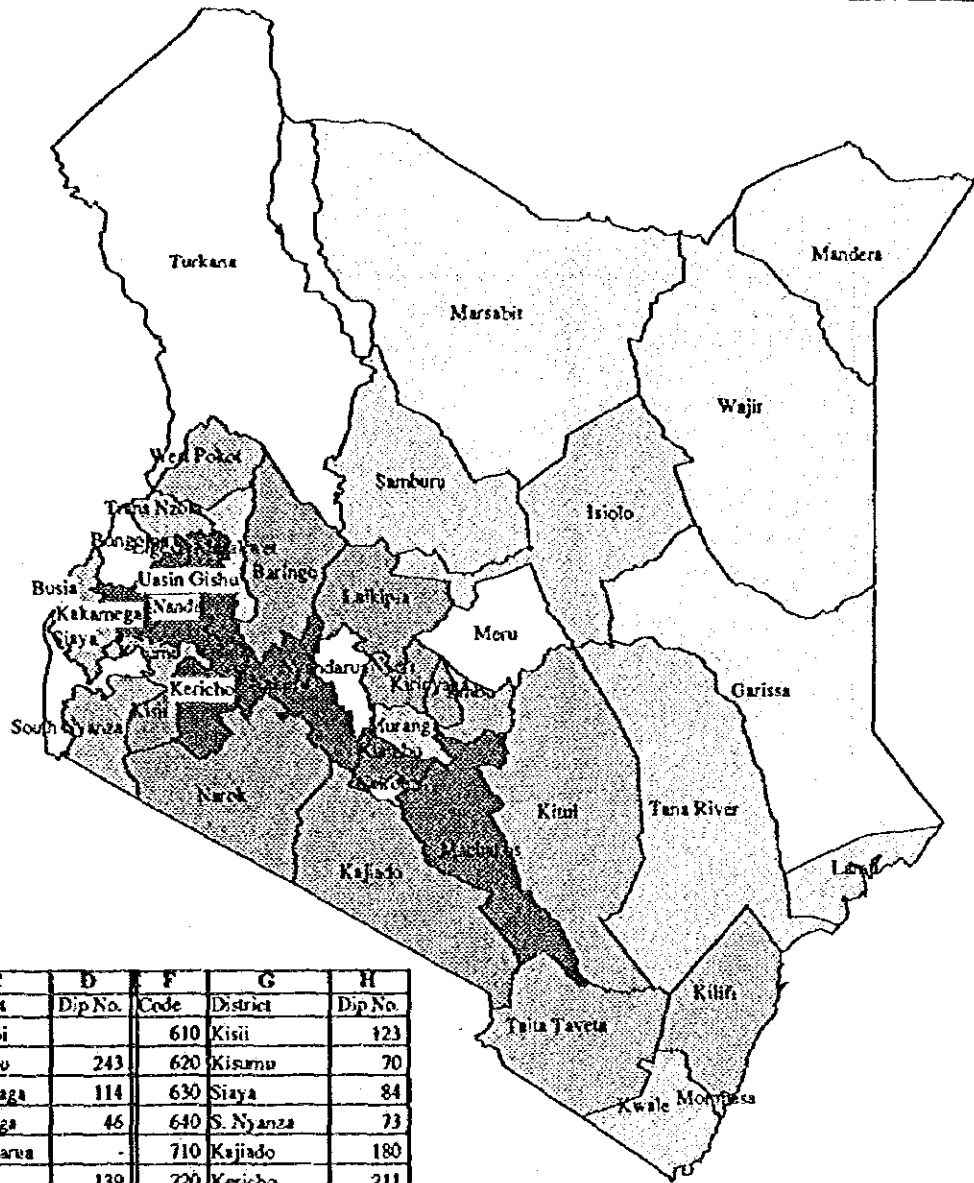
F1.3 Distribution of Cattle Population

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F1.4 Distribution of Sheep/Goat Population

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	B	C	D	F	G	H
2	Code	District	Dip No.	Code	District	Dip No.
3	110	Nairobi		610	Kisii	123
4	210	Kiambu	243	620	Kisumu	70
5	220	Kirinyaga	114	630	Siaya	84
6	230	Muranga	46	640	S. Nyanza	73
7	240	Nyandarua	-	710	Kajiado	180
8	250	Nyeri	139	720	Kericho	211
9	310	Kilifi	69	730	Lakipia	164
10	320	Kwale	36	740	Nakuru	398
11	330	Lamu	11	750	Narok	127
12	340	Mombasa	10	760	Trans Nzoia	34
13	350	Taita Taveta	59	770	Uasin Gishu	329
14	360	Tana River	13	810	Baringo	138
15	410	Embu	97	820	E. Marakwet	19
16	420	Isiolo	26	830	Nandi	276
17	430	Kitui	66	840	Samburu	21
18	440	Machakos	231	850	Turkana	-
19	450	Marsabit	6	860	West Pokot	62
20	460	Mera	-	910	Bungoma	-
21	510	Garissa	6	920	Busia	78
22	520	Mandera	1	930	Kakamega	215
23	530	Wajir	1			

Cattle Dip Numbers

- 1 to 9
- 10 to 49
- 50 to 99
- 100 to 199
- 200 to 400
- Missing Data

Source : Ref. F.22

Figure F1.5 Cattle Dip Numbers in Kenya

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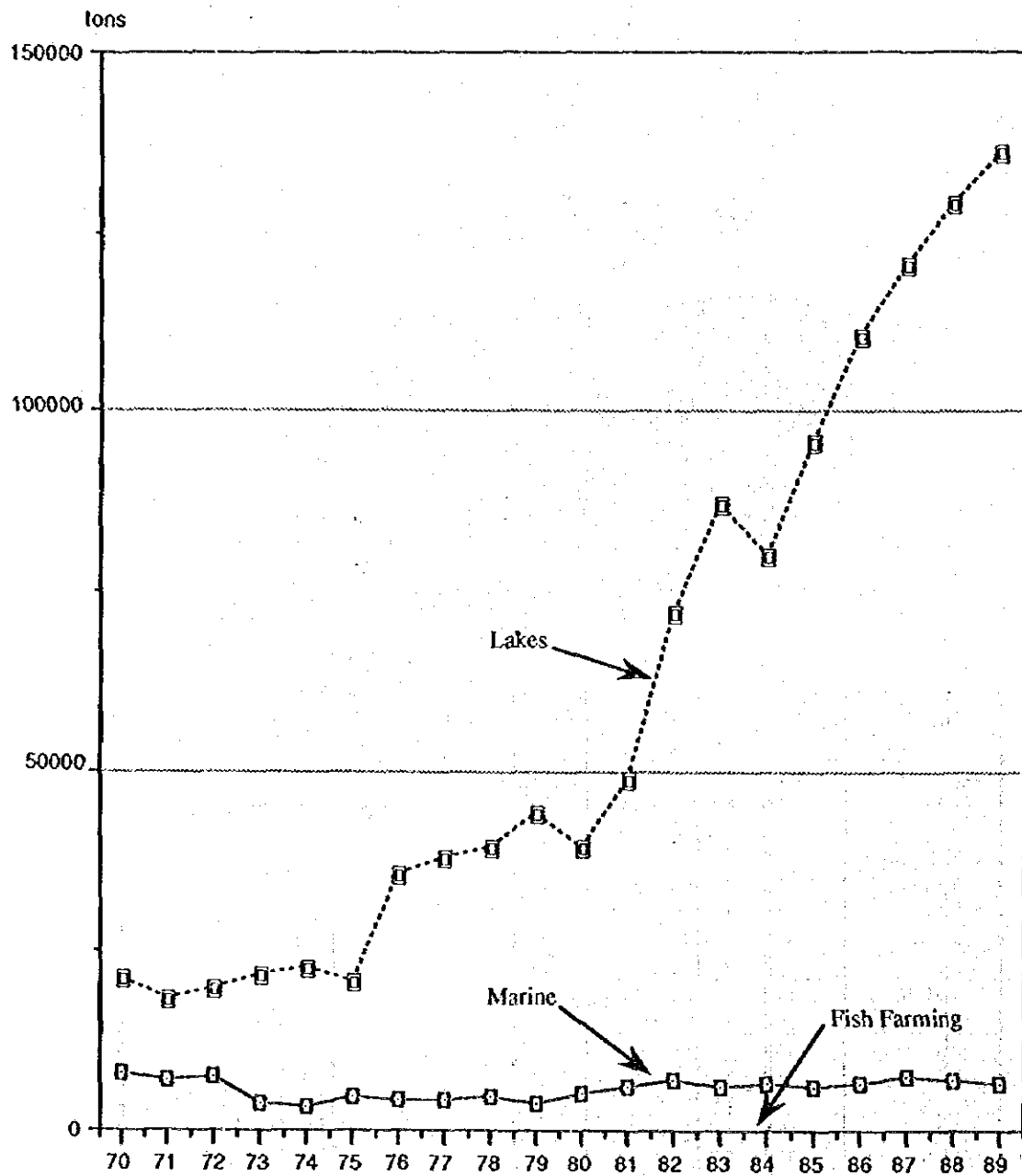
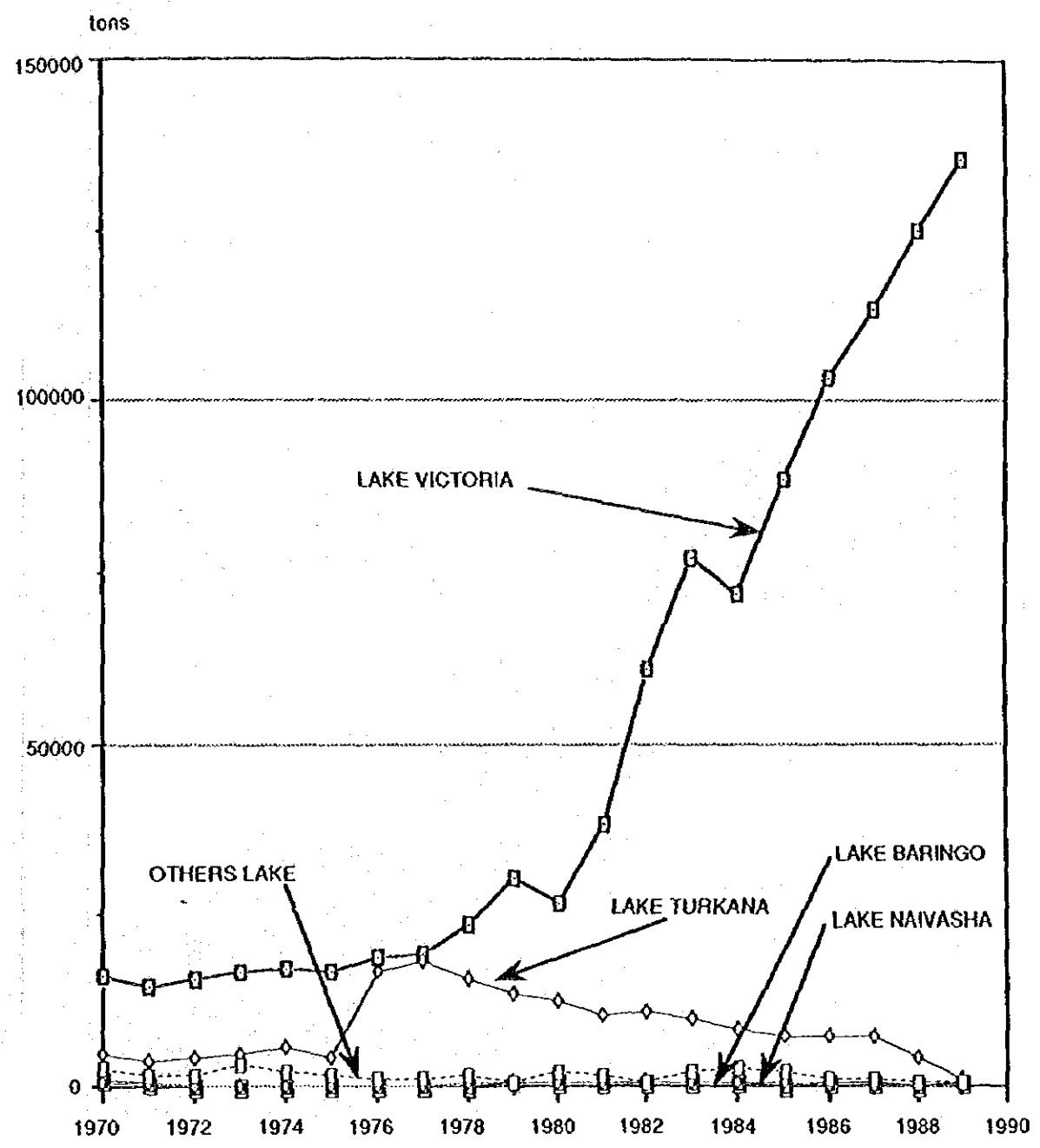


Figure F3.1 Fish Landing in Kenya

Source : Ref. F.18

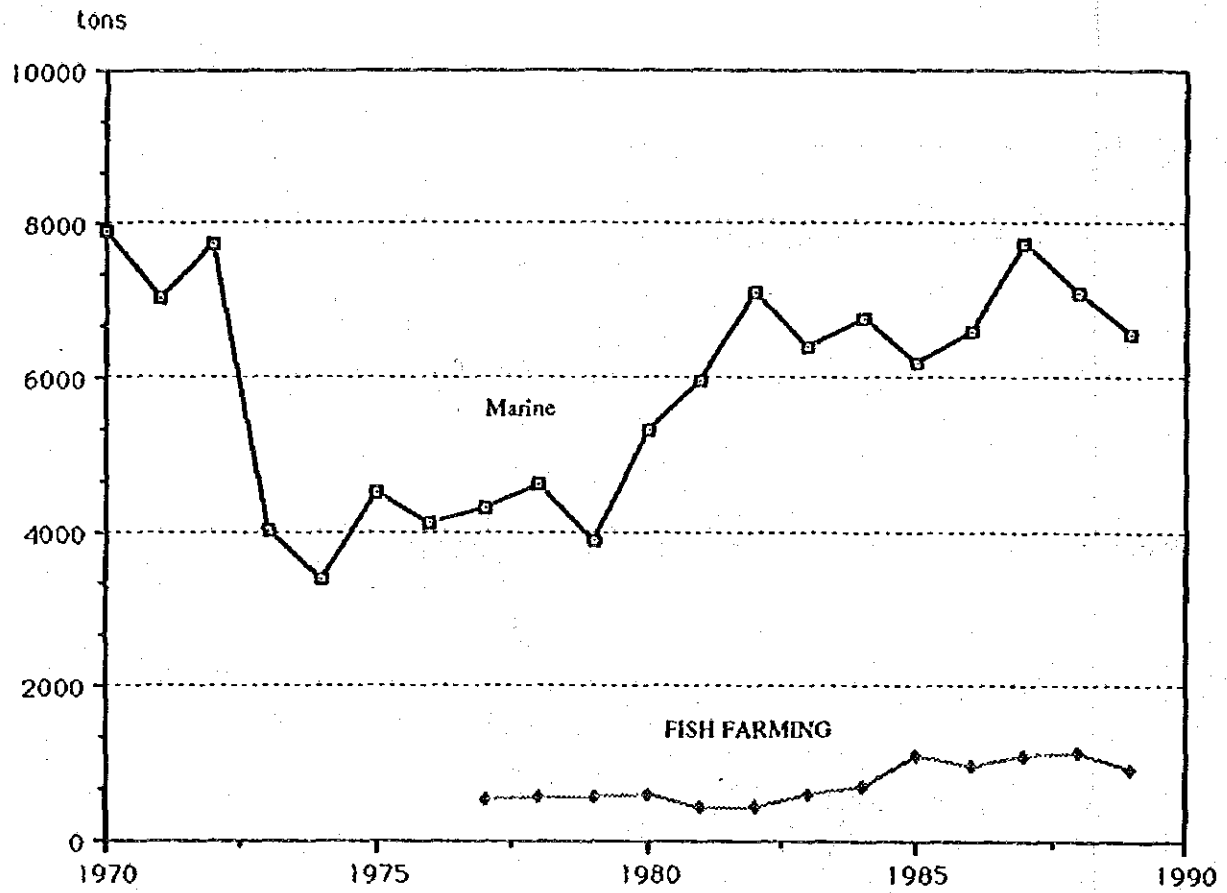
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Source : Ref.F.18

Figure F3.2 Fish Landing from Lakes

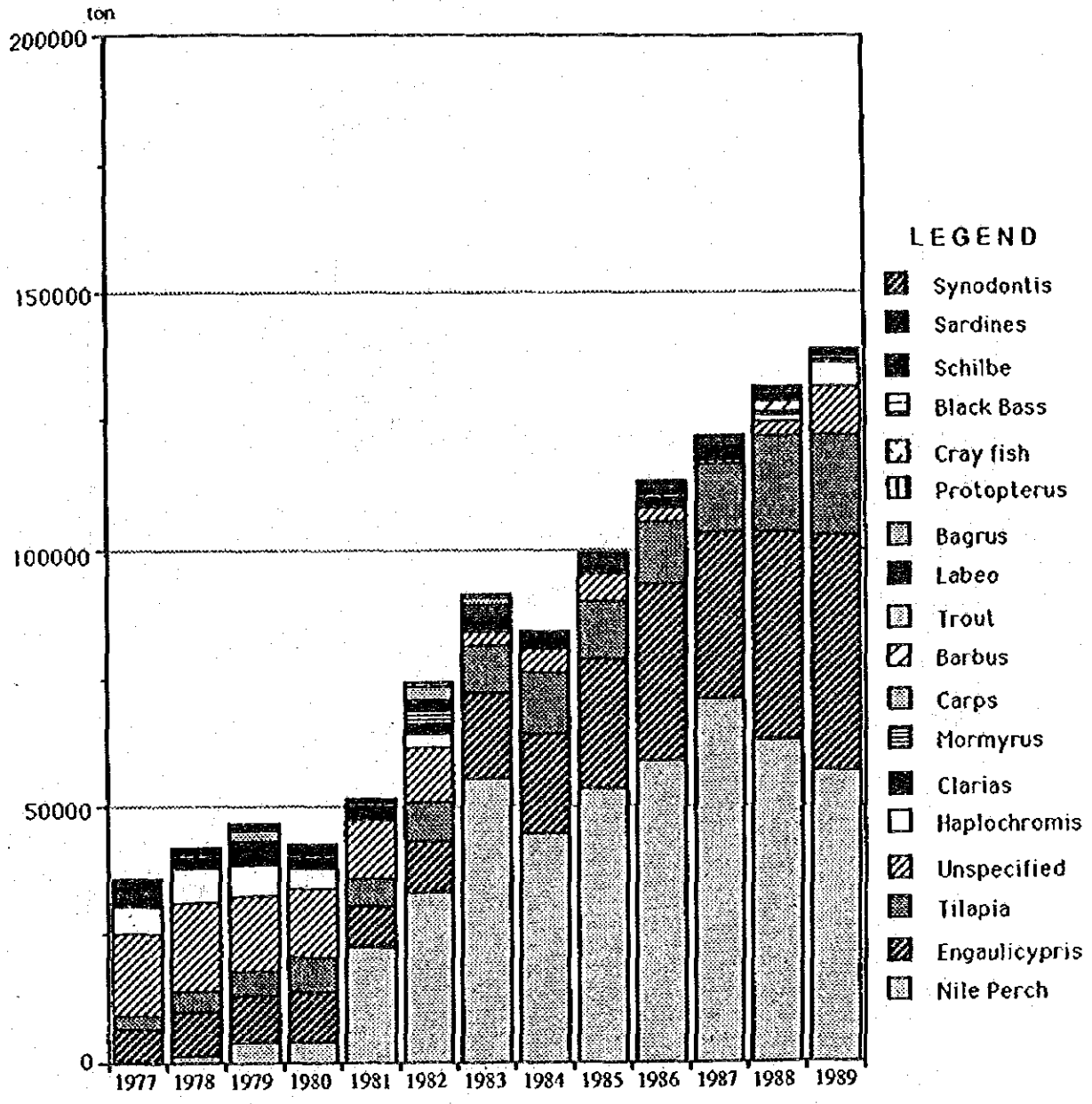
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Source : Ref.F.18

Figure F3.3 Fish Landing from Marine and Fish Farming

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Source : Ref. F.18

Figure F3.4 Annual Inland Fish Catches by Species

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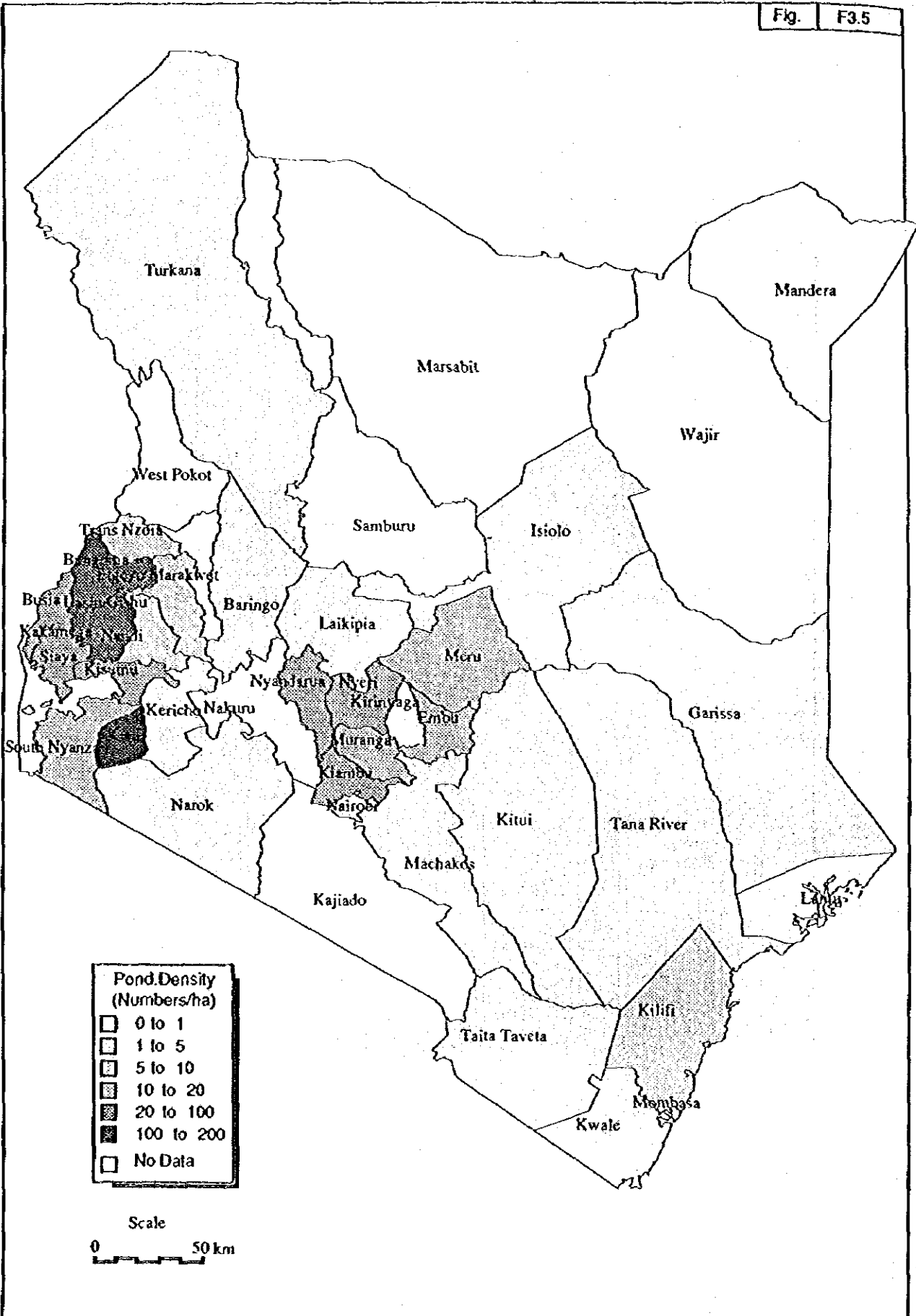
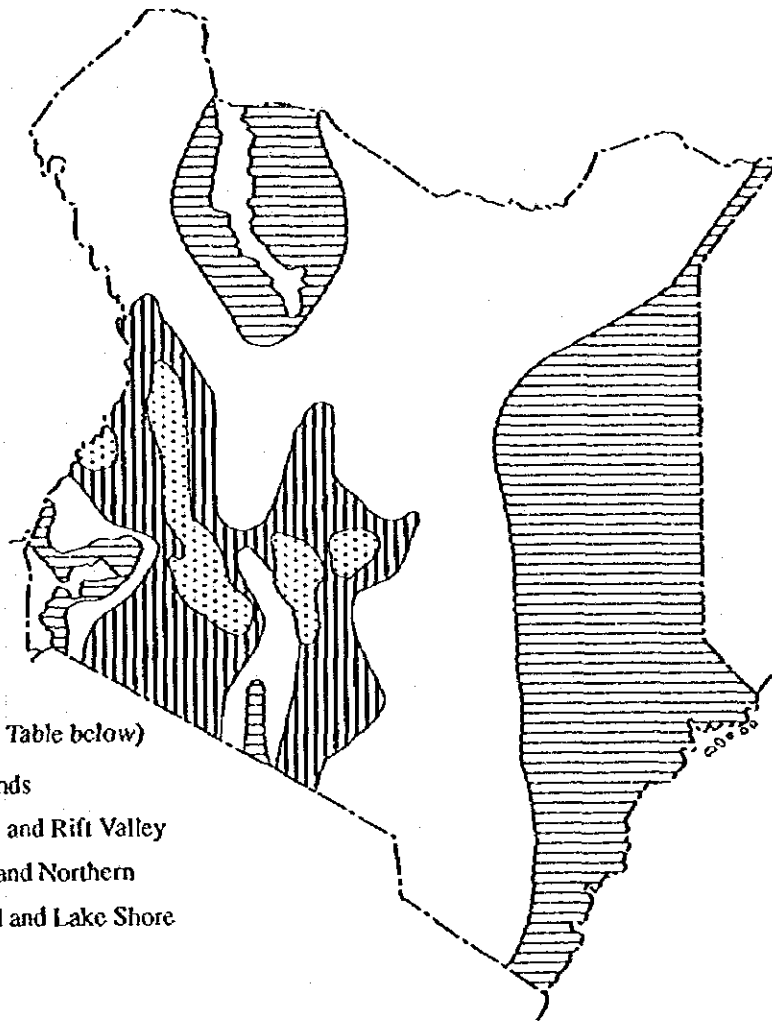






Figure F3.5 Fish Pond Density

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Zones (Refer to Table below)

-  A Highlands
-  B Central and Rift Valley
-  C Plains and Northern
-  D Coastal and Lake Shore

Characteristics of the Potential Fish-farming Zones

Zone (Percentage of Total Area)	Common Mean Air Temperature Range, °C	Fish Species	System	Comment*
A (3.2%) Highlands	5 - 22	Trout	Tanks Cages Ponds	Good for trout production all year round. Caution essential during summer as high temperatures may be lethal.
B (11.6%) Central Province and Rift. Valley	10 - 26	Trout	Pond Cage	Production of cold water fish restricted to the winter period: three-six months per year.
		Carps	Any	Production potential all year round.
		Tilapia	Ponds Cages	Very marginal none for warm water fish as cold season limits growth for three-six months per year.
C (51.9%) Plains and Northern Province	15 - 30	Carps	Any	Very good for carps if seed available.
		Tilapia	Ponds Cages	Adaptive to intensification of warmwater fish with a possible two three month non-growing period.
		Calfish	Ponds	Good if seed available.
D (33.3%) Coastal and Lakeshore Belts	22 - 34	Carps	Ponds	Very good conditions for the culture of all warm- water fish species in both fresh salt water. Ideally suited to intensive systems with all year round production potential.
		Calfish	Tanks	
		Freshwater prawns	Cages	
		Shrimps		

*: Subject to local water availability

Source : Ref. F.10

Figure F3.6 Fish Farming Zones

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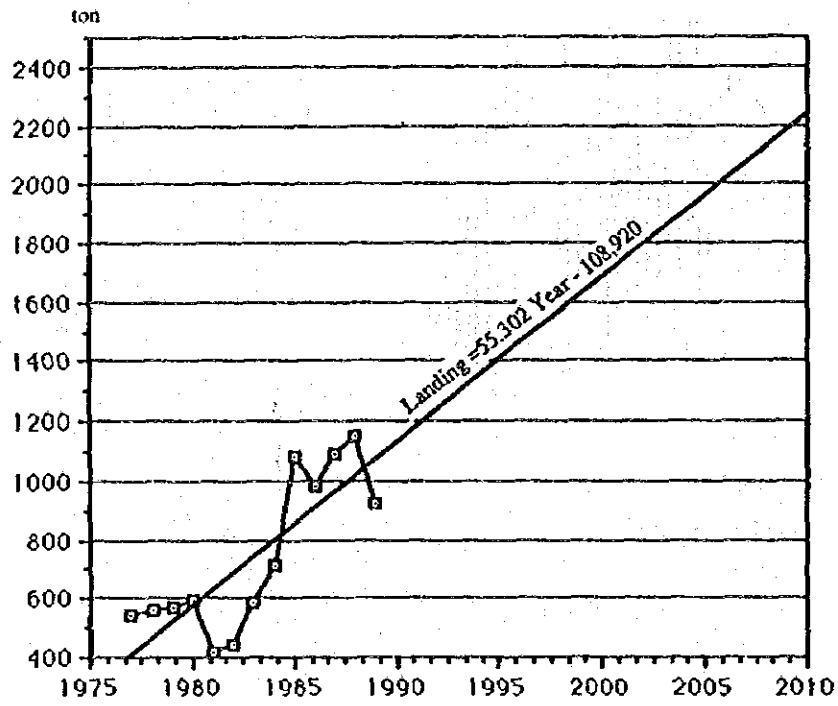


Figure F3.7 Trend of Fish Farming

Source : Ref. F,18

THE STUDY
ON
THE NATIONAL WATER MASTER PLAN
JAPAN INTERNATIONAL COOPERATION AGENCY

