

1981 FISHERIES STATISTICS
LAKE KARIBA (ZIMBABWE WATERS)

L.K.F.R.I.

Project Report no.44

Compiled by

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SUMMARY : FISH YIELD OF LAKE KARIBA (ZIMBABWE SIDE), 1981

	Tonnes	%
1. <u>OPEN WATER FISHERY</u> :		
(a) Kariba area - Sardines	7 408	61.72
- Tigerfish	54	0.45
(b) Bumi - Chalala - Sengwa areas	3 333	27.76
Sardines		
Tigerfish	9	0.07
(c) Binga - Mlibizi area - Sardines	390	3.25
- Tigerfish	2	0.02
TOTAL	11 196	93.27
2. <u>INSHORE FISHERY</u>		
(a) Area C.1	72	0.60
(b) Area C.2	169	1.41
(c) Area C.3	67	0.56
(d) Area C.4	100	0.83
(e) Area C.5	247	2.06
(f) Area C.6	25	0.21
(g) Area C.7	125	1.04
(h) Matusadonna National Park	2	0.02
TOTAL	807	6.73
OVERALL TOTAL	12 003	

PART I : OPEN - WATER FISHERY

This is based on the introduced pelagic sardine Limnothrissa miodon, with the Tigerfish Hydrocynus vittatus caught incidentally. The catch of this species has declined markedly since the fishery began in 1974.

Sardine fishing is carried out at six localities in Zimbabwe (see map) and a total of 171 units have been licenced. A single unit is regarded as one A category dip-net. B category nets (lift-nets and chiromilas) are regarded as 1.5 units and C category nets (purse-seines) as 2 units. Calculations of effort are adjusted accordingly.

The measurements of each category are as follows :

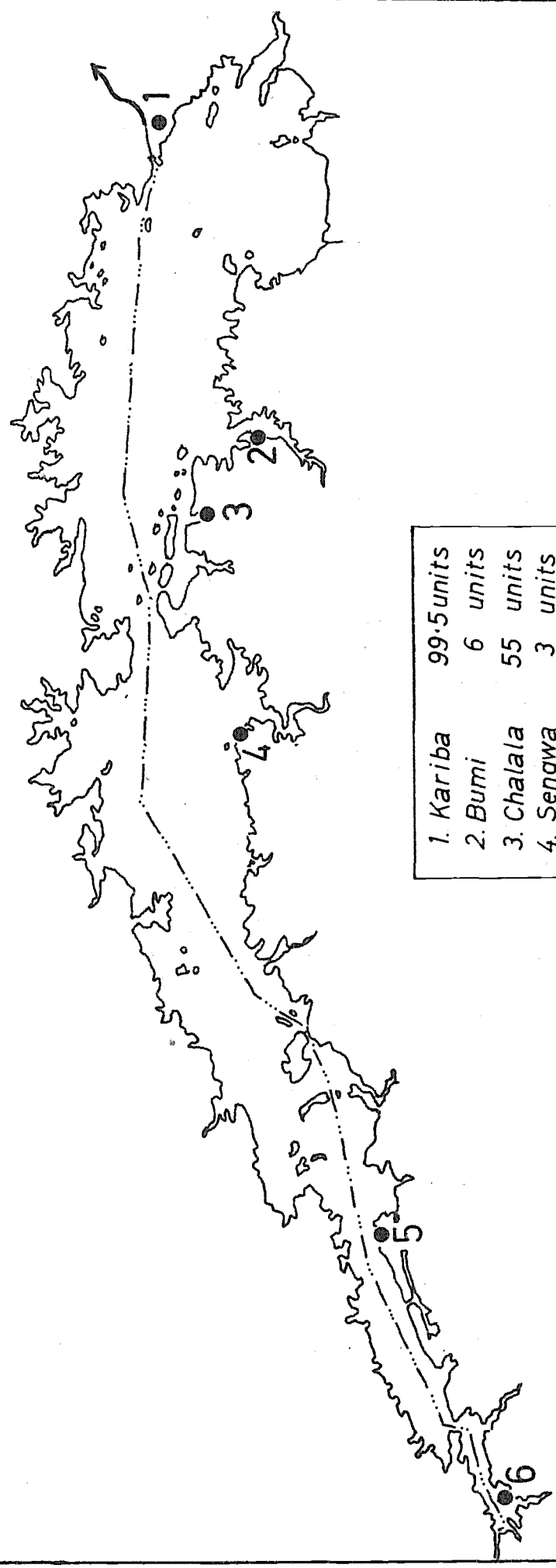
A ; less than 30m length or circumference.

B ; 30 - 100m.

C ; 100 - 200m.

There is no limitation on depth.

Sardine fishing bases; Lake Kariba



1. Kariba	99.5 units
2. Bumi	6 units
3. Chalala	55 units
4. Sengwa	3 units
5. Binga	2 units
6. Mlibizi	5.5 units
TOTAL	171 units

Table 1 : Catch Ratios of A, B, and C nets, Kariba area only.

	A	B	C
1977	1	3.3	5.2
1978	1	2.2	3.9
1979	1	1.6	2.6
1980	1	1.6	2.2
1981	1	1.3	2.1

Table 2 :

Total effort (unit-nights) for A, B, and C nets, Kariba area only.

	A	B	C	TOTAL
1977	112	1 663	1 338	3 113
1978	809	6 390	1 796	8 995
1979	3 772	8 410	2 222	14 404
1980	8 672	11 692	2 454	22 818
1981	12 283	10 495	1 614	24 393

Table 3 : Total landings from open-water fishery (tonnes - rounded off)

(a) Sardines:

	1974	1975	1976	1977	1978	1979	1980	1981
Kariba	487	654	1 050	1 171	2 737	4 554	5 957	7 408
Bumi						78	172	284
Chalala						8	1 259	2 878
Sengwa					35	83	116	171
Binga - Mlibizi						151	484	390
TOTAL	487	654	1 050	1 171	2 772	4 874	7 988	11 131

(b) Tigerfish: *

	1974	1975	1976	1977	1978	1979	1980	1981
Kariba	18	81	91	138	129	64	41	54
Bumi						1	1	6
Chalala								2
Sengwa					1	3	2	1
Binga - Mlibizi						2	5	2
TOTAL	18	81	91	138	130	70	49	65

* Tigerfish returns are generally incomplete and not filled in correctly by fishermen. Figures therefore show general trends only.

Table 4 : The relationship between effort (unit-nights) and Catch per unit-effort (t.unit-night⁻¹) for Sardines

	1974	1975	1976	1977	1978	1979	1980	1981
KARIBA : Effort C.P.U.E.	616 0.78	1 297 0.56	1 833 0.54	3 113 0.44	8 995 0.42	14 404 0.33	22 818 0.24	24 393 0.30
BUMI : Effort C.P.U.E.						195 0.34	789 0.21	1 670 0.17
CHALALA : Effort C.P.U.E.						43 0.18	6 052 0.18	9 953 0.27
SENGWA : Effort C.P.U.E.					96 0.34	319 0.30	586 0.20	668 0.26
BINGA - MLIBIZI : Effort C.P.U.E.						548 0.26	1 550 0.27	1 188 0.27
TOTAL : Effort C.P.U.E.	616 0.78	1 297 0.56	1 833 0.54	3 113 0.44	9 091 0.42	15 509 0.33	31 795 0.23	37 872 0.28

Table 5 : Sardine catch and effort summary, 1981 (Kariba area)

	A Category			B Category			C Category		
	Catch/ Night (t)	No. of Nights	No. of Boats	Catch/ Night (t)	No. of Nights	No. of Boats	Catch/ Night (t)	No. of Nights	No. of Boats
January	0.16	1 026	38	0.20	568	21	0.19	31	1
February	0.20	989	41	0.31	576	23	0.42	35	2
March	0.27	1 197	42	0.36	673	24	0.44	61	2
April	0.30	1 098	44	0.46	611	25	0.62	55	2
May	0.25	1 314	46	0.43	686	25	0.48	65	3
June	0.31	1 263	46	0.53	694	25	0.75	73	3
July	0.33	1 293	46	0.60	728	25	1.42	81	3
August	0.51	1 228	45	0.60	705	26	1.26	87	3
September	0.48	1 116	43	0.49	603	25	0.92	83	3
October	0.29	910	37	0.29	541	20	0.37	97	3
November	0.19	579	31	0.18	419	20	0.28	74	4
December	0.13	270	19	0.12	193	10	0.21	65	3
MEAN/TOTAL	0.29	12 283		0.38	6 997		0.61	807	
		ADJUSTED TOTAL *		0.25	10 596		0.30	1 614	

No. of unit-nights : 24 393 C.P.U.E. (t unit-night⁻¹). 0.30

* Adjusted according to ratios given in Table 1 to enable total unit-nights to be calculated.

Table 6 : Sardine catch and effort summary, 1981 (Bumi area)

	A Category		
	Catch/ Night (t)	No. of Nights	No. of Boats
January	0.11	120	6
February	0.10	117	6
March	0.13	155	6
April	0.26	155	6
May	0.19	162	6
June	0.16	156	6
July	0.14	184	6
August	0.24	169	6
September	0.19	178	6
October	0.18	156	6
November	0.17	96	6
December	-	-	-
MEAN/TOTAL	0.17	1 670	

No. of unit-nights : 1 670	C.P.U.E. (t.unit-night ⁻¹). 0.17
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Table 7 : Sardine catch and effort summary, 1981 (Chalala area)

	A Category			B Category			C Category		
	Catch/ Night (t)	No. of Nights	No. of Boats	Catch/ Night (t)	No. of Nights	No. of Boats	Catch/ Night (t)	No. of Nights	No. of Boats
January	0.07	824	49	0.09	27	1	-	-	-
February	0.15	803	43	0.18	15	1	-	-	-
March	0.19	846	40	0.23	22	1	-	-	-
April	0.21	843	45	0.35	21	1	-	-	-
May	0.20	975	43	0.36	23	1	-	-	-
June	0.23	1 002	50	0.46	36	2	-	-	-
July	0.36	960	49	-	-	-	-	-	-
August	0.40	931	57	-	-	-	-	-	-
September	0.46	1 114	59	-	-	-	0.56	10	1
October	0.26	717	52	-	-	-	-	-	-
November	0.17	488	28	-	-	-	-	-	-
December	0.09	214	11	-	-	-	-	-	-
MEAN/TOTAL	0.23	9 717		0.28	144		0.56	10	1
	ADJUSTED TOTAL *			0.19	216		0.28	20	

No. of unit-nights : 9 953 C.P.U.E. (t unit-night⁻¹). 0.27

* Adjusted according to ratios given in Table 1 to enable total unit-nights to be calculated.

Table 8 : Sardine catch and effort summary, 1981 (Sengwa area)

	A Category		
	Catch/ Night (t)	No. of Nights	No. of Boats
January	0.08	54	3
February	0.19	68	3
March	0.48	60	3
April	0.35	65	3
May	0.21	75	3
June	0.09	60	3
July	0.26	63	3
August	0.38	60	3
September	0.33	77	3
October	0.21	65	3
November	0.19	21	1
December	-	-	-
MEAN/TOTAL	0.26	668	

No. of unit-nights : 668 C.P.U.E. (t.unit-night⁻¹). 0.26

Table 9 : Sardine catch and effort summary, 1981 (Binga - Mlibizi area)

	A Category		
	Catch/ Night (t)	No. of Nights	No. of Boats
January	0.27	154	6
February	0.34	131	6
March	0.07	43	3
April	0.05	36	2
May	0.10	40	2
June	0.17	104	6
July	0.37	162	6
August	0.59	145	6
September	0.54	123	6
October	0.40	72	6
November	0.26	114	6
December	0.10	64	6
MEAN/TOTAL	0.27	1 188	

No. of unit-nights : 1188	C.P.U.E. (t unit-night ⁻¹). 0.27
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PART II : THE INSHORE FISHERY

This fishery is based on the indigenous fish species which occur in shallow waters around the lake shore. Gill-nets are used exclusively with a legal lower limit of 100mm (4") stretched mesh.

The fishery takes two forms. A commercial company (Irvin and Johnson, referred to as I & J) has concessions in areas C.1., C.3. and part of C.5., where they fish for themselves. They also purchase fish from the other areas. These areas are fished by small - scale fishermen from local fishing villages. Their catches are sold to I & J or to local traders; the construction of a canning factory has brought another company (Liebigs) into the buying market.

Purchases and Binga enumeration data record the local names of the fish, which are used in these statistics. The groupings are as follows:

- (i) "Bream" : cichlid species, principally Oreochromis mortimeri, Tilapia rendalli and Serranochromis codringtoni.
- (ii) "Nchila" : labeos, mainly Labeo altivelis with some Labeo congoro.
- (iii) "Chessa" : distichodids, mainly Distichodus schenga, with some Distichodus mossambicus.
- (iv) "Tiger" : tigerfish Hydrocynus vittatus.
- (v) "Bottlefish" : the mormyrids, mainly Mormyrus longirostris and Mormyrops deliciosus.
- (vi) "Barbel" : various catfish of which Clarias gariepinus is most important. Heterobranchus longifilus, Eutropius depressirostris and Synodontis spp. may also be taken.

Enumeration by L.K.F.R.I. in areas C.2 and C.4 records all species taken and can be used as a guide to the proportions in which they occur.

Inshore fishing areas ; Lake Kariba

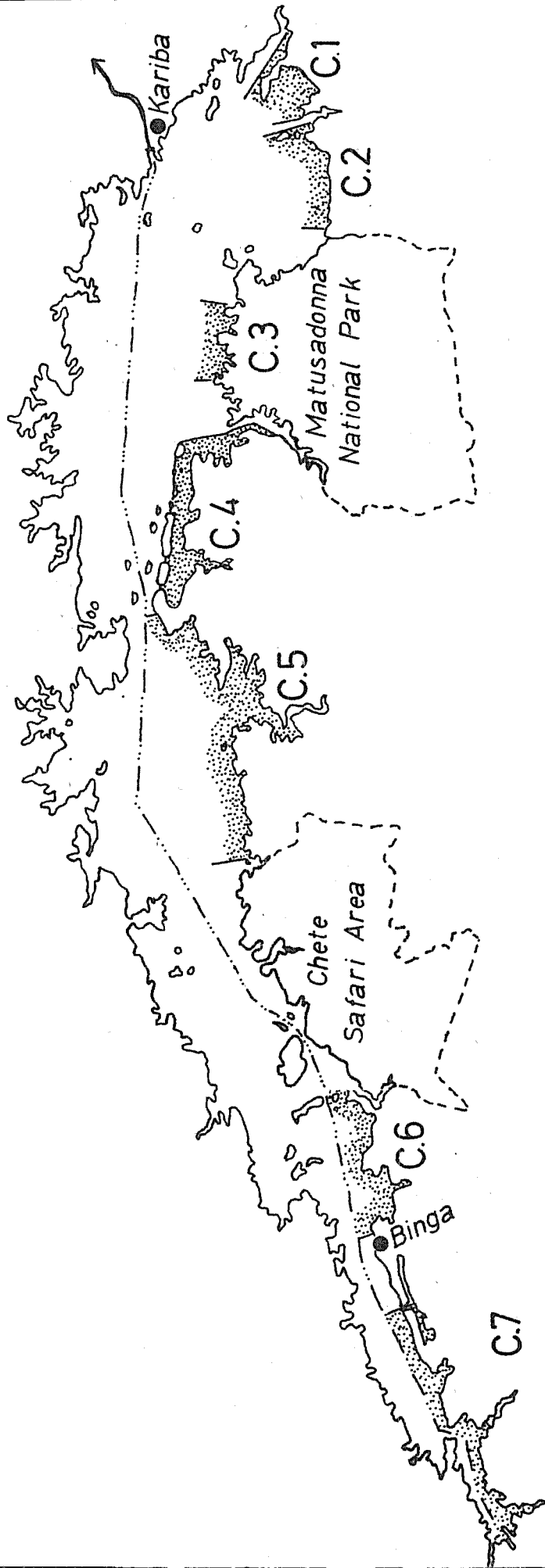


Table 10 : I & J Concession area C.I. (Nyaodza I) landings, 1981.

Month	Nets set(m)	Total Catch(kg)	Bream(%)	Nchila(%)	Chessa(%)	Tiger(%)	Bottlefish(%)	Barbel & others(%)
January	55 146	959	45.2	0.1	-	4.7		50.0
February	44 044							
March	84 448							
April	72 754							
May	107 880							
June	99 372							
July	87 678							
August	59 696							
September	54 600							
October	84 630							
November	81 900							
December	42 406							
TOTAL	874 554	13 135	36.9	1.5	0.1	5.7		

Total catch : 13.1 tonnes (Excluding February - April data)
C.P.U.E. : 1.5 kg. 100m⁻¹

Note : Bottlefish recorded separately from August onwards.

Table 11 : I & J Concession area C.I. (Gache-Gache) landings, 1981.

Month	Nets set(m)	Total catch(kg)	Bream(%)	Nchilla(%)	Chessa(%)	Tiger(%)	Bottlefish(%)	Barbel & Others(%)
January	281 827	5 514	73.4	-	0.3	5.7		20.5
February	75 894	5 989	69.1	0.1	-	2.7		28.1
March	203 976	8 587	53.0	0.1	0.1	3.8		43.0
April	163 709	6 281	47.4	0.1	0.1	7.6		44.8
May	164 346	4 408	51.1	0.1	0.1	10.2		38.5
June	160 751	2 552	34.9	0.2	0.1	10.7		54.0
July	182 500	2 999	48.3	0.1	-	10.0		41.6
August	188 051	3 879	59.1	-	-	7.3	28.2	5.3
September	178 633	4 194	44.6	-	-	7.0	13.2	34.5
October	174 401	4 294	72.8	0.2	-	3.2	4.0	19.8
November	170 670	4 461	68.4	0.1	0.2	6.3	2.7	22.3
December	100 145	5 878	78.5	-	-	3.8	3.2	14.5
TOTAL	2 044 903	59 036	59.7	0.1	0.1	6.0		

Total catch : 38.2 tonnes (excluding February - April data - see Table 10)
 C.P.U.E. : 2.4 kg. 100m .

Note : Bottlefish recorded separately from August onwards.

Table 12 a : Catch and effort statistics, area C.2. villages.
Enumeration data extrapolated to 12 months.

	Total Catch (kg)	Total Effort (m)	C.P.U.E. (kg. 100m ⁻¹)
Tsetse	14 610	497 531	2.94
Nematombo	43 775	1 492 460	2.93
Mudzimu	11 202	474 891	1.50
Nyamhunga	21 565	926 975	2.33
Monga	33 721	1 355 172	2.49
Dandawa	43 727	1 030 172	2.45
TOTAL	168 600	6 050 384	2.79

Table 12 b : Catch and effort summary, area C.2 villages, 1970 -1981

	Total Catch (kg)	Total Effort (m)	C.P.U.E. (kg. 100m ⁻¹)
1970	114 937	3 540 045	3.24
1971	67 099	2 472 359	2.71
1972	126 323	1 852 147	6.82
1973	199 049	6 054 815	3.29
1974	277 671	8 699 007	3.19
1975	311 979	8 012 427	3.89
1976	230 797	6 745 253	3.42
1977	234 844	8 235 006	2.65
1978	340 514	9 856 397	3.45
1979		No enumeration	
1980	187 982	5 433 118	3.46
1981	168 600	6 050 384	2.79

Table 13 : Area C.2., Species composition of landings at the six C.2 villages (data from enumeration).

	gatse	Nematombo	Mudzimu	Nyamhunga	Monga	Dandawa
TOTAL CATCH (t)	14.61	43.78	11.20	21.57	33.72	43.73
<u>Oreochromis mortimeri</u>	59.8	51.1	60.4	53.6	21.7	8.3
<u>Tilapia rendalli</u>	4.8	2.6	9.3	10.5	2.4	0.9
<u>Serranochromis codringtoni</u>	1.6	9.9	1.2	1.6	1.0	0.4
<u>Labeo altivelis</u>	0.2	0.1	0.4	0.6	0.3	1.5
<u>Labeo congoro</u>	-	0.1	0.1	0.4	0.5	3.7
<u>Distichodus schenga</u>	-	0.7	0.2	1.7	7.8	10.4
<u>Distichodus mossambicus</u>	-	-	-	0.2	2.2	4.6
<u>Hydrocynus vittatus</u>	10.8	11.8	6.1	8.1	48.7	61.3
<u>Clarias gariepinus</u>	9.2	13.1	15.8	13.4	4.8	2.6
<u>Heterobranchus longifilis</u>	0.8	1.7	1.7	-	0.4	0.6
<u>Mormyrus longirostris</u>	7.2	-	2.1	4.3	5.6	4.8
<u>Mormyrops deliciosus</u>	2.6	2.3	1.6	1.5	0.7	0.4
Others	3.0	4.2	1.1	4.1	3.9	0.5

Table 14 : I & J Concession area C.3 (Matusadonna), landings, 1981.

Month	Nets set(m)	Total catch(kg)	Bream(%)	Nchila(%)	Chessa(%)	Tiger(%)	Bottlefish(%)	Barbel & Others(%)
January	140 276	5 526	78.3	0.2	0.5	2.1		18.9
February	91 409	12 452	94.5	-	0.1	0.6		4.8
March	191 054	5 704	70.6	0.9	1.6	5.6		21.2
April	207 525	3 937	71.0	1.3	2.5	4.9		20.3
May	164 073	3 666	72.6	0.2	0.5	6.9		19.8
June	198 017	3 667	48.3	1.4	0.1	11.4		38.8
July	232 095	4 861	57.1	0.4	0.3	11.9	7.9	30.3
August	181 636	6 007	75.1	0.1	0.1	8.0	10.8	8.8
September	214 259	7 510	80.9	0.1	-	4.4	21.0	3.8
October	212 940	3 811	63.0	0.2	0.1	8.6	19.1	7.0
November	152 798	5 186	71.1	0.3	0.1	6.0	10.2	3.4
December	105 241	4 447	81.5	0.8	0.1	3.9		3.4
TOTAL	2 091 404	66 774	75.5	0.4	0.4	5.4		

Total catch : 66.8 tonnes.
C.P.U.E. : 3.19 kg. 100m⁻¹

Table 15 : Matusadonna National Park(Tashinga)landings, 1981. (Area C.3)

Month	Nets set(m)	Total catch(kg)	Bream(%)	Nchila(%)	Chessa(%)	Tiger(%)	Barbel & Others (%)
January	6 370	320	45.2	8.8	-	1.2	44.8
February	61	61	32.0	33.6	-	-	34.4
March	1 046	49	89.8	-	-	4.1	6.1
April	1 092	34	64.7	5.9	-	1.5	27.9
May	2 912	280	36.1	20.7	1.2	15.0	27.0
June	8 645	444	26.0	16.7	0.2	12.6	44.4
July	3 185	148	26.1	11.2	-	9.2	53.5
August	5 915	273	28.6	24.4	3.1	21.1	22.8
September	-						
October	-						
November	-						
December	-						
TOTAL	30 075	1 609	35.0	16.5	0.8	10.9	36.7

Total catch : 1.6 tonnes.
C.P.U.E. : 5.35 kg. 100m⁻¹

Table 16 : Area C.5 (Sengwa), I & J landings, 1981

Month	Nets set(m)	Catch(kg)	Bream(%)	Nchila(%)	Chessa(%)	Tiger(%)	Bottlefish(%)	Barbel & Others(%)
January	189 598	27 161	76.8	2.3	0.1	1.1		19.7
February	125 216	34 106	78.3	4.7	-	1.0		16.0
March	170 397	17 482	62.9	8.6	-	1.4		27.1
April	136 545	7 772	49.6	4.1	-	2.3		44.0
May	127 354	12 498	67.4	5.7	-	4.1		22.8
June	186 460	9 501	41.6	1.6	-	6.0		50.8
July	249 522	11 515	45.2	8.1	0.1	5.8	16.0	40.8
August	157 612	11 590	63.1	3.7	-	3.8	11.9	13.4
September	219 850	14 390	72.9	2.6	0.2	3.8	8.4	8.6
October	244 471	12 724	81.8	2.9	0.1	2.0	10.0	4.8
November	148 102	12 330	83.7	0.6	0.3	1.8		3.6
December	169 715	6 185	65.5	2.8	0.7	4.3	13.1	13.6
TOTAL	2 124 842	177 254	69.2	4.1	0.1	2.5		

Total Catch : 177.25 tonnes.
C.P.U.E. : 8.34 kg. 100m⁻¹

Table 17a : Catch and effort statistics, area C.4 villages, 1981
Data from enumeration and extrapolated to 12 months

	Total Catch (kg)	Total effort (m)	C.P.U.E. (kg. 100m ⁻¹)
Musamba	51 611	823 455	6.27
Chalala	12 298	328 090	3.74
Sibilobilo I	15 487	398 580	3.88
Sibilobilo II	20 322	513 668	3.96
TOTAL	99 718	2 063 793	4.83

Table 17b : Catch and effort summary, area C.4 villages, 1970 - 1981

	Total Catch (kg)	Total effort (m)	C.P.U.E. kg. 100m ⁻¹)
1970	93 478	1 179 609	7.92
1971	91 962	1 267 303	7.25
1972	78 145	978 530	7.98
1973	77 512	1 551 514	5.00
1974	84 214	1 535 458	5.48
1975	59 292	736 212	8.05
1976	31 920	429 982	7.42
1977		No enumeration	
1978	63 864	1 291 114	4.94
1979		No enumeration	
1980	66 587	1 090 772	6.10
1981	99 718	2 063 793	4.83

Table 18 : Species composition of landings in area C.4 villages, 1981

		Musamba	Chalala	Sibilobilo II	Sibilolo II
TOTAL CATCH (t)		51.61	12.30	15.49	20.32
<u>Oreochromis mortimeri</u>	%	24.6	27.2	13.5	18.0
<u>Tilapia rendalli</u>	%	15.6	21.4	11.4	14.4
<u>Serranochromis codringtoni</u>	%	7.3	3.2	5.3	2.7
<u>Labeo altivelis</u>	%	8.2	1.9	10.1	4.6
<u>Labeo congoro</u>	%	18.5	4.1	0.6	3.2
<u>Distichodus schenga</u>	%	0.1	0.6	-	0.6
<u>Distichodus mossambicus</u>	%	-	-	0.2	0.1
<u>Hydrocynus vittatus</u>	%	3.2	2.5	10.0	16.4
<u>Clarias gariepinus</u>	%	3.2	1.3	6.7	4.9
<u>Heterobranchus longifilis</u>	%	0.4	-	0.4	0.1
<u>Mormyrus longirostris</u>	%	15.3	29.9	31.2	29.0
<u>Mormyrops deliciosus</u>	%	3.7	6.6	9.2	5.3
Others	%	-	1.3	1.3	0.7

Table 19 : Catch statistics for villages in areas C.5, C.6 and C.7
Data from enumeration extrapolated to 12 months

		Total catch (kg)	% Bream	% Nchila	% Chessa	% Tiger	% Barbel	% Others
C.5	Mujere	40 932	49.9	9.9	1.6	4.4	7.4	26.8
	Chipampa	7 581	40.8	14.0	2.5	7.9	7.4	27.4
	Mwenda	9 720	43.7	19.3	3.6	12.7	7.5	13.2
	Chikuyu	9 711	46.3	13.2	2.3	13.8	4.7	19.6
C.6	Kalulwe	12 799	42.5	17.9	10.4	7.2	4.8	17.1
	Masumo	12 620	15.1	16.6	16.8	18.3	7.6	25.6
C.7	Kabulawa	20 327	5.3	12.3	37.0	21.7	2.0	21.6
	Siakabenge	13 952	23.1	21.8	16.4	12.7	6.5	19.5
	Tobwe	15 077	24.7	14.0	15.3	14.4	10.8	20.8
	Siamatalele	17 922	12.7	8.3	25.9	25.3	2.5	25.3
	Malala	22 023	25.1	19.5	20.7	14.0	5.7	15.0
	Bimbi	8 393	17.1	22.2	16.9	15.3	2.8	25.8
Simambo	27 450	8.5	16.4	14.0	7.0	3.9	50.2	

Total landings - area C.5 : 67.9 tonnes.
area C.6 : 25.4 tonnes.
area C.7 : 125,1 tonnes.

Table 20 : Catch and effort summary, area C.5, C.6 and C.7 villages, 1981

		Total Catch (kg)	Total effort (m)	C.P.U.E. (kg. 100m ⁻¹)
C.5	Mujere	40 932	2 338 889	1.75
	Chipampa	7 581	213 959	3.54
	Chikukuyu	9 720	348 757	2.78
	Mwenda	9 711	427 643	2.27
	TOTAL	67 944	3 329 248	2.04
C.6	Kalulwe	12 799	826 913	1.54
	Masumo	12 620	1 292 617	0.98
	TOTAL	25 419	2 119 536	1.20
C.7	Kabulawa	30 328	744 292	4.07
	Siakabenge	13 952	482 307	2.89
	Tobwe	15 077	No data	No data
	Siamatelele	17 922	594 548	3.01
	Malala	22 023	720 212	3.05
	Bimbi	8 393	184 343	4.55
	Simambo	27 450	1 020 919	2.68
	TOTAL	125 145	3 746 621	2.94

Table 21 : I & J Concession areas, landing and effort summary, 1973 - 1981

	Area C.1.		Area C.3.		Area C.5.				
	metres	tonnes	kg. 100m ⁻¹	metres	tonnes	kg. 100m ⁻¹	metres	tonnes	kg. 100m ⁻¹
1973	4 245 514	87.77	2.07	3 546 725	97.18	2.74	3 840 473	94.10	2.45
1974	4 067 700	171.12	4.21	3 473 470	124.48	3.58	3 961 230	106.67	2.69
1975	5 823 454	216.14	3.71	3 487 575	78.13	1.19		No fishing	
1976	4 693 325	184.89	3.94	3 079 440	80.20	2.60	1 094 730	70.86	6.47
1977	2 585 583	100.17	3.87	2 489 851	75.35	3.03		No fishing	
1978	4 232 547	178.57	4.22	2 616 114	120.00	4.59		No fishing	
1979	3 604 010	168.15	4.67	2 000 135	119.73	5.99		No fishing	
1980	3 435 068	97.37	2.83	2 452 951	101.11	4.12	574 756	100.42	17.47
1981	2 919 457	72.17	2.47	2 091 404	66.77	3.19	2 124 842	177.26	8.34

Table 22 : Area C.2 (Sanyati East), purchases by I & J, 1981

Month	kg	Bream(%)	Nchila(%)	Chessa(%)	Tiger(%)	Bottlefish(%)	Barbel & Others(%)	Payments (₦)
January	6 634	27.9	1.8	7.9	47.4		14.9	2 141
February	7 306	49.7	1.2	7.0	22.3		19.8	2 074
March	10 114	44.8	0.8	3.0	26.0		25.3	2 928
April	6 980	49.9	0.3	0.9	17.6		31.3	1 903
May	6 016	62.8	0.4	0.5	14.5		21.8	1 754
June	3 870	38.6	0.4	1.5	32.4		27.1	1 126
July	4 606	35.5	0.6	0.8	34.2		28.9	1 328
August	7 419	42.6	1.1	1.0	32.5	19.1	3.7	2 215
September	9 283	41.0	0.2	1.5	39.1	3.0	15.1	2 959
October	8 258	46.1	0.1	1.9	36.6	5.2	10.1	2 689
November	8 415	33.0	0.3	1.8	53.9	2.5	8.5	2 890
December	8 628	34.3	0.7	5.4	49.4	2.8	7.4	2 933
TOTAL	87 529	42.2	0.7	2.9	34.5	2.9	16.8	26 940

Total Purchased : 87.5 tonnes
 Total Payments : ₦26 940
 Value : ₦307.78 tonne⁻¹

Table 23 : Area C.4 (Chalala), purchases by I & J, 1981

Month	kg	Bream(%)	Nchila(%)	Chessa(%)	Tiger(%)	Bottlefish(%)	Barbel & Others(%)	Payments (₦)
January								
February	3 004	48.2	9.2	-	9.5		33.1	775
March	5 671	31.4	11.5	0.2	34.4		22.5	1 679
April	3 393	41.9	13.7	0.1	8.8		35.4	845
May	2 885	44.3	18.0	-	8.0		29.6	747
June	2 784	40.4	14.8	-	16.6		28.2	751
July	2 732	42.6	6.9	-	15.5	10.8	24.2	741
August	4 742	65.6	3.0	-	5.4	23.1	2.9	1 424
September	2 980	53.8	3.0	-	7.4	33.8	2.0	870
October	3 044	53.0	8.4	-	6.0	28.4	4.1	878
November	3 075	56.0	6.4	-	6.2	26.7	4.6	894
December								
TOTAL	34 310	47.4	9.3		13.1			9 605

Total purchased : 34.3 tonnes
 Total payments : ₦9 605
 Value : ₦280.03 tonne

Table 24 : Area C.5 (Sengwa East), purchases by I & J, 1981

Month	kg	Bream(%)	Nchilla(%)	Chessa(%)	Tiger(%)	Bottlefissh(%)	Barbel & Others(%)	Payments (Z)
January	3 073	47.7	16.0	-	10.7		25.6	832
February	5 904	54.4	8.6	0.1	10.1		26.8	1 609
March	4 135	58.8	11.3	-	5.3		24.6	1 183
April	4 833	40.2	24.7	-	9.2		25.9	1 342
May	5 290	37.5	23.5	-	7.1		31.9	1 600
June	2 996	32.5	28.9	-	8.6		29.9	802
July	2 515	27.5	23.5	-	9.5		39.4	590
August	2 527	37.6	11.7	-	7.2	6.0	37.5	602
September	3 945	49.0	9.6	-	5.9	32.8	2.7	1 129
October	2 756	49.9	8.0	-	10.5	28.5	3.1	811
November	3 146	46.6	3.5	-	14.5	31.9	3.5	929
December	2 551	48.4	8.7	0.7	7.9	26.9	7.4	724
TOTAL	44 371	49.9	15.2	0.1	8.7			12 153

Total purchased : 44.4 tonnes
 Total payment : Z12 153
 value : Z273.72 tonne⁻¹

Table 25 : Area C.5 (Sengwa West), purchases by I & J, 1981

Month	kg	Bream(%)	Nchila(%)	Chessa(%)	Tiger(%)	Bottlefish(%)	Barbel & Others(%)	Payments \$
January	7 399	52.9	15.8	0.1	7.4		23.8	2 017
February	9 824	52.6	14.2	-	6.0		27.2	2 605
March	5 632	40.1	15.5	0.2	7.9		36.2	1 496
April	6 594	67.8	7.4	-	4.8		20.0	1 879
May	3 950	39.7	20.0	0.2	6.4		33.7	922
June	2 681	25.9	25.1	0.2	9.0		39.8	620
July	2 584	26.1	12.1	0.3	13.1		48.3	580
August	4 015	51.2	5.9	0.2	8.3	14.6	19.7	1 094
September	4 484	61.7	3.1	0.3	8.7	19.6	6.6	1 336
October	3 967	49.1	4.0	0.8	15.0	22.7	8.3	1 167
November	3 682	46.8	5.8	0.8	9.7	30.2	6.7	1 048
December	3 779	36.6	13.9	1.2	12.3	28.9	7.1	1 063
TOTAL	58 591	48.9	11.9	0.3	8.3			15 827

Total purchased : 58.6 tonnes
 Total payments : \$15 827
 Value : \$270.08 tonne

Table 26 : Effort and earnings summary, villages in C.2, C.4, C.5, C.6 and C.7 areas.

		Mean monthly data					Annual income per man \$	
		Catch (kg)	No. of active fishermen	No. of boats	Nets set per night (m)	No. of nets per man		Earnings \$
C.2	Tsetse	1 217	7	5	1 363	5.2	51	610
	Nematombo	3 648	12	8	4 089	7.5	87	1 044
	Mudzimu	933	4	3	2 049	6.5	64	762
	Nyamhunga	1 797	7	5	2 539	7.8	62	747
	Monga	2 810	12	8	3 713	7.0	111	1 332
	Dandawa	3 644	14	9	2 822	5.1	83	996
MEAN		2 342	56	38	16 575	6.5	76	915
C.4	Chalala	1 025	4	2	898	5.6	92	1 101
	Musampa	4 301	14	5	2 256	4.4	83	999
	Sibilobilo I	1 291	4	3	1 200	5.2	47	568
	Sibilobilo II	1 694	7	4	1 407	4.9	74	891
MEAN		2 078	29	14	5 761	5.0	74	890
C.5	Mujere	3 411	10	-	7 042	13.7	83	1 006
	Chipampa	632	2	-	644	10.5	71	856
	Mwenda	810	4	-	1 050	5.6	-	-
	Chikuyu	809	3	-	1 287	6.1	-	-
MEAN		1 416	19	-	10 023	9.0	76	931
C.6	Kalulwe	1 067	5	-	2 489	7.7	-	-
	Masumo	1 052	5	-	3 892	8.2	-	-
MEAN		1 060	10	-	6 381	7.9	-	-
	Kabulawa	1 694	5	-	2 039	9.7	-	-
	Siakabenge	1 163	5	-	1 321	10.8	-	-
	Tobwe	1 256	3	-	125	10.2	-	-
	Siamatelele	1 493	4	-	1 628	7.3	-	-
	Malala	1 835	9	-	1 973	4.5	-	-
	Bimbi	699	2	-	505	3.7	-	-
	Simambo	2 287	6	-	2 497	7.9	-	-
MEAN		1 490	34	-	10 088	7.7	-	-

