

PART III — FISHERIES

189. A brief general account of the year's progress in fisheries has been given in the foreword to this report, whilst detailed accounts of departmental activities in the Lake Albert and George/Edward regions and in fish farming have been prepared by the officers responsible, and follow in later pages. The report for Lake Kyoga is based on information and statistics supplied by the Fisheries Assistant in charge of the area.

SECTION I.—ADMINISTRATION

Staff

190. *Fisheries Officers.*—Lists of the fisheries staff, showing their stations and areas of responsibility, are given in the appendices to this report. There were no changes of senior personnel during the year and the fact that all stations have had the same staff for several years has led to continuity of development and a feeling of confidence in the Department and its schemes amongst the fishermen.

191. Two additional posts of Fisheries Development Officers were created and filled by Africans, one by the Engineering Assistant on promotion and the other by the appointment of a Makerere College science trainee. One of the officers was put on fish farming extension work and the other on general development duties. It is encouraging to the older members of the Department that educated Africans with a genuine interest in fisheries work are now coming forward for these and other senior posts.

192. *Fisheries Assistants and Fish Guards.*—Additional posts of one Fisheries Assistant and two Fish Guards were created to provide for increased developments in fish farming. The establishment was thus brought up to five Fisheries Assistants and sixty Fish Guards. A revision of the Fish Guards' rates of pay to take account of educational standards enabled the Department to recruit a better type of person than hitherto. There is now a cadre of young and keen Guards who respond well to training and will in time be suitable for promotion to posts of greater responsibility. That fisheries work is popular is shown by the fact that nearly a thousand applications for employment were received.

Legislation

193. The fishing and crocodile industries continued to be regulated by the Fish and Crocodiles Ordinance, 1950, the Fishing Rules, 1951, the Lake Victoria Fisheries Act, 1950, and the Lake Victoria Fisheries Regulations, 1951.

194. By Legal Notice No. 4 of 1957 the Fishing Rules were amended to prohibit net fishing within 100 yards of the shore of Butiaba island. This amendment was necessary as it had been found that seine-netting on a commercial scale, with the attendant camps of fishermen, was destructive to the structure of the island which acts as a breakwater to protect Butiaba Bay and the East African Railways and Harbours' installations at Butiaba.

195. The legislation concerning Lake Victoria was amended to permit the use of gill nets of between three inches and five inches stretched mesh in Uganda waters, and also those of Tanganyika. Details are given in the Annual Report of the Lake Victoria Fisheries Service.

SECTION II.—GENERAL STATISTICS AND INFORMATION

Supplies of Fishing Gear

196. *Fishing Nets.*—Nets of all brands and types were in good supply during 1956; in fact some dealers were overstocked. Nylon and other synthetic nets increased in popularity to such an extent that dealers had some difficulty in disposing of stocks of nets made of the traditional flax and cotton and often only did so at prices considerably under cost. British manufacturers had a difficult year as the trickle of Japanese imports, which had begun the previous year, developed into a flood and final import figures showed that Britain's share of the market had been only 50% as compared with 90% in 1955. Fishermen were influenced in their swing to Japanese nets by reason of their cheapness compared with British nets, although their quality is slightly inferior. In Lake Victoria especially, it does not always pay a fisherman to use best quality nets as there is a continual risk of their being stolen by "pirate" operators before they have been used to the limit of their useful life. Some fishermen are reputed to lose fishing nets worth many hundreds of pounds a year to these "pirates".

197. It is regrettable to have to record that the Mount Elgon Net Works Ltd. closed down their factory at Endebess, near Kitale, early in 1957, owing to an inability to meet increasing competition from the Japanese. This company was the only local manufacturer of nets. It was established after the war, since when it had supplied most of its output to the Uganda market.

198. Figures obtained with the willing co-operation of all the Uganda importers show that imports of nets in 1956 totalled 162,714 compared with 187,825 in 1955; most of the nets were again brought in by parcel post. The drop is accounted for by an increase in the proportion of nylon to flax, from 19% of the total imports in 1955 to 67% in 1956. Nylon lasts two or three times as long as flax and the number of nets required to catch an increased quantity of fish is therefore smaller. The number of small meshed nets is steadily increasing, from 38% of total imports in 1953 to 64% in 1956, and illustrates the way in which the fishermen are beginning to exploit fish other than the *Tilapia esculenta* and *T. nilotica* which are

taken in the five-inch net—originally the only net in common use. The breakdown is as follows (in each case, both here and in the remainder of the report, the mesh size is that of the stretched mesh :)—

Size of gill net	Flax	Synthetic
	No.	No.
5" mesh (100 yds. × 26 meshes deep) ..	5,124	53,201
4½" mesh (100 yds. × 26 meshes deep) ..	1,936	7,680
4" mesh (100 yds. × 26 meshes deep) ..	1,756	3,739
3¾" mesh (100 yds. × 26 meshes deep) ..	866	3,560
3½" mesh (100 yds. × 26 meshes deep) ..	1,072	1,480
3" mesh (50 yds. × 26 meshes deep) ..	7,640	6,970
2½" mesh (50 yds. × 26 meshes deep) ..	34,495	29,786
2" mesh (50 yds. × 26 meshes deep) ..	192	2,600
1½" mesh (50 yds. × 26 meshes deep) ..	—	480
Large meshed nets 6" & 8"	18	14
Seines—1½" mesh (150 yds. × 200 meshes deep)	—	105 (in cotton)
Twines	6,000 lbs. of nylon	

199. The wholesale value of fishing nets, ropes and twines was not less than £200,000. In addition floats, hooks, outboard and inboard engines, paint for canoes and other accessories probably accounted for a further £15,000 and sport fishing tackle £3,000.

Fish Supplies, Production, etc.

200. *Summary of Fish Production, 1956*

Lake	Area	Pro-duction (approx.)	Landed value	Where marketed
	<i>sq. miles</i>	<i>Tons</i>	<i>£</i>	
Lake Victoria (Uganda waters)	10,961	22,700	1,135,000	In vicinity of the Lake.
Lake Edward and Kazinga Channel	235	3,700	170,000	Salted, smoked or frozen to Belgian Congo, and East African markets.
Lake George ..	104	3,100		
Lake Albert and Albert Nile ..	1,385	7,800	225,000	Mostly salted and exported to Belgian Congo; increasing quantities to local markets.
Lake Kyoga and Victoria Nile ..	880	5,000	175,000	Local markets.
Lake Nakivali ..	10	480	14,500	To Belgian Congo and local markets.
Lake Kachira ..	14	490	14,800	To Belgian Congo and local markets.
Lake Kijanebolola ..	27	880	26,400	To local markets.
Other lakes, dams and rivers ..	79	800	28,000	
TOTAL ..	13,695*	44,950	1,788,700	

*The total area of Uganda including lakes is 93,981 sq. miles.

201. Overall production was 30% greater than in 1955. Increases occurred on all waters owing to the extended use of nylon nets which have a greater catching power than those of flax, whilst on Lakes Albert, George, Edward and Victoria the powering of more canoes with outboard engines enabled new fishing grounds to be brought into production.

202. The rate of development during the last few years is shown by the fact that catches on the lakes under the control of this Department, i.e. all except Lake Victoria, have increased from 13,400 tons in 1952 to 22,250 tons in 1956. There is still much scope for further expansion as can be seen from a study of the production rates on each of the lakes—Lake Victoria 7.2 lbs. per acre per year; Albert 19.7 lbs.; Kyoga 19.8 lbs.; Edward 55 lbs.; George 104.3 lbs.; Kijanebolola 114 lbs.; Kachira 122 lbs.; and Nakivali 168 lbs. Improved fishing and fisheries management techniques and the stocking of more suitable types of fish will undoubtedly lead to a fuller exploitation of the lake resources.

203. The consumption of fish in 1956 is estimated to have been 35,000 tons, including 1,241 tons (fresh equivalent) of fish imported from Tanganyika, the Seychelles, the United Kingdom and elsewhere. In spite of the great increase in local production, imports were 15% more than in 1955. The market for fish appears to be almost insatiable but this is understandable when one compares Uganda's annual *per capita* consumption of fish of 14.2 lbs. with that of the United Kingdom's 25 lbs. Continued improvements in transportation are leading to wider and faster distribution, and an increase in the consumption of fresh fish at the expense of the smoked variety. Although the bicycle-borne fishmonger still distributes the bulk of the catch, an increasing proportion is being transported by motorcycle, lorry and car. The appearance of the large scale operator is to be welcomed as the fishmongering trade, for a country the size of Uganda, can only be described as overcrowded; in 1956 over 8,000 fishmongers were licensed! The distribution of fishmongers between districts was Acholi 200, Ankole 23, Bugisu/Bukedi 818, Bunyoro 253, Busoga 2,069, Karamoja 1, Lango 1,417, Madi 17, Masaka 213, Mengo 359, Mubende 15, Teso 2,461, and West Nile 214; in addition in Toro, Ankole and Kigezi many fishmongers operated under permits issued by the local authorities.

204. Imports consisted of 41 tons of canned fish from various countries valued at £12,734; 117 tons of salted and smoked from the Seychelles and Kenya worth £11,675; 279 tons of smoked worth £72,585 from Tanganyika, and 11 tons of frozen fish worth £3,384 from the United Kingdom and Kenya. The total value of imports was £100,378 which represents an increase of £32,000 over 1955 and of £70,000 compared with 1953.

Exports of Fish, 1956

205. The year was a record one for Uganda's exports of salted, smoked, dried and frozen fish. In total, 3,654 tons of these products valued at £468,339 were exported to the Belgian Congo, Kenya and Tanganyika

from the western lakes. The total included 201 tons of fish meal worth £11,400 from the plant newly established during the year by TUFMAC to utilize offal which had previously been thrown away. The weight and value of the exports were respectively 64% and 45% higher than the figures for 1955, which were 2,218 tons of fish worth £315,000. The main increase came in the Lake Albert region where the installation of storage facilities and a new pier at Panyimur led to a rise in landings from the lake and the Albert Nile and to an improvement in sales to the Belgian Congo. Elsewhere there was an all-round expansion of catches. Exports were as follows:—

Lake origin	Destination	Type of fish or fisheries product	Quantity	Value
			<i>Tons</i>	<i>£</i>
Edward/George	Belgian Congo ..	Salted ..	646	101,450
Edward/George and Koki lakes	Belgian Congo ..	Smoked ..	687	115,041
Lake George and Kazinga Channel	Belgian Congo ..	Frozen ..	52	4,278
Lake George and Kazinga Channel	Kenya and Tanganyika	Frozen fillets ..	246	61,276
Lake George and Kazinga Channel	Kenya ..	Fish meal ..	201	11,400
Lake Albert	Belgian Congo ..	Salted ..	1,822	174,894
TOTALS ..			3,654*	468,339

*Fresh equivalent—10,964 tons

206. Crocodile skins valued at £15,275 and £13,402 were exported to overseas markets and Kenya respectively, bringing the total export earnings of all fishery products to £497,016 of which the Belgian Congo and overseas markets contributed £410,938 and Kenya and Tanganyika £86,078.

Tufmac

207. The Uganda Fish Marketing Corporation based at Kasenyi, Lake George, had a difficult year and their profits were only £5,340 compared with £19,926 in 1955. Although the Corporation handled an increased quantity of fish, they had to pay more for it than previously owing to price increases which were granted to the Lake George fishermen after a strike in March, 1956. Other factors contributing to a deterioration in their trading position were a big decrease in the selling price of dry-salted fish in the Congo market and increased competition in the fresh fish and fillet trade in the urban centres of East Africa from other local sources of supply, the United Kingdom and South Africa. A diminution in the average weight of *Tilapia* on Lake George, where this species is customarily bought by unit and not by weight, meant that the cost per pound of fish

which was stocked in April, 1955, and where they are now well established. The *Tilapia zillii* supplied to the Ankole Native Government Fish Farm at Bushenyi started to breed in November and have supplied fry to a number of privately owned ponds in Ankole and Kigezi.

308. In Toro this Department took over the management of the fishponds at Kasenyi belonging to TUFMAC which up till then had not been successful, and after restocking with *Tilapia zillii* in October, 1956, these started to produce fry in December. So far these have supplied fry to a privately owned pond in Butiti, and three of the ponds built in Busongora by the Game and Fisheries Department in conjunction with the Agricultural Department and the Toro Native Government.

Lake Niamusigeri Experiment

309. This continued though there were two breaks in fishing totalling 105 days when staff were not available to supervise the fishing. Two local fishermen were allowed to fish in addition to the Departmental fishing effort and started work in December. There are now a total of 25 nets fishing daily which will increase to 30. This is three times the effort obtaining when the experiment started in 1955. The nets now in use are nylon and these have had the apparent effect of stepping up the rate of capture from four fish per net in April-May 1956 when the nets in use were mainly flax to eight per net in February-March 1957. However four flax nets set alongside the main fleet now average only just over three fish a fishing, and it is hoped that this trend will continue indicating the onset of over-fishing. If it does not, the effort will again be increased. It has also been observed that the proportion of male in the catch rises in the middle of the rainy season. This is thought to be due to the presence of the adult ngege population inshore for breeding purposes where they are not available to be caught. The only species in the lake are ngege, male and nkeje (*Haplochromis spp.*). The latter are not caught. The catch was at the rate of 18 tons per square mile for a year.

Departmental Transport

310. The fisheries launch "St. Peter" continued to give good service and has been employed on echo-sounding surveys on Lake Edward in conjunction with fishing. Work has been greatly facilitated by the acquisition in July, 1956, of a long wheel-base Land Rover and trailer which has enabled the stocking of ponds and dams to be carried out successfully, and also permitted the Fisheries Assistant to extend the range of his safaris.

TABLE OF RECORDED CATCHES—1956
LAKE EDWARD AND KAZINGA CHANNEL

Species	Katunguru		Katwe		Kayanja		Kazinga		Rwensama	
	No.	lb.	No.	lb.	No.	lb.	No.	lb.	No.	lb.
Ngege, <i>Tilapia nilotica</i> ..	422,322	629,278	1,853,611	2,863,663	215,510	327,098	220,492	341,753	493,681	766,752
Semutundu, <i>Bagrus docmac</i> ..	13,107	77,559	402,718	1,676,288	49,429	167,995	17,902	80,741	117,402	358,385
Kasulubana, <i>Mormyrus spp.</i> ..	122	602	721	2,028	199	583	98	318	701	2,368
Kisinja, <i>Barbus spp.</i> ..	4,410	12,417	39,083	190,050	25,667	74,633	2,748	7,947	28,631	82,272
Male, <i>Clarias lazera</i> ..	3,614	28,278	14,012	104,772	1,429	9,948	2,553	20,162	3,220	19,665
Mamba, <i>Protopterus aethiopicus</i> ..	8,849	105,155	18,123	210,896	2,427	26,464	5,587	120,765	3,677	28,817
Ningu, <i>Labeo forskalli</i> ..	3	8	481	1,283	112	340	130	356	37	120
TOTAL NETS SET	8,975 (and 49,115 hooks)		176,435 (plus 24,480 hooks) (and 5,138 baskets)		36,571 (plus 6,300 hooks) (and 9,031 baskets)		22,398 (plus 25,370 hooks) (and 2,834 baskets)		33,128 (and 20,490 baskets)	
TOTAL DAYS STATISTICS COLLECTED	364		359		334		346		347	

311. *Averages:—*

	Katun- guru	Katwe	Kayanja	Kazinga	Rwensama
Average number of nets set per day	25	491	109	65	95
Average number of Ngege landed per day	1,160	5,163	645	637	1,423
Average total weight of Ngege landed per day in lbs. ..	1,728	7,977	979	988	2,210
Average Ngege caught per net	47	10	6	10	15
<i>Average weight in lbs. :</i>					
Ngege	1.5	1.5	1.5	1.5	1.5
Semutundu	5.9	4.2	3.4	4.5	3.0
Kasulubana	4.9	2.8	2.9	3.2	3.4
Kisinja	2.8	4.9	2.9	2.9	2.9
Male	7.8	7.5	7.0	7.9	6.1
Mamba	11.9	11.6	10.9	21.6	7.8
Ningu	2.6	2.7	3.0	2.7	3.2

312. *Recorded Catches, Lake Nakivali, Ankole, 1956:—*

	LANDING					
	Kahirimbi		Rukinga		Kashovu	
	No.	lb.	No.	lb.	No.	lb.
Days	326		342		347	
Nets	5,975		7,028		7,534	
Ngege	312,014	284,098	411,042	368,176	444,109	381,842
Male	2,050	7,082	1,154	2,524	1,813	4,425
TOTALS	314,064	291,180	412,196	370,700	445,922	386,267

313. *Quantities and values of smoked fish exported from Lake Nakivali during 1955:—*

Month	Weight in lb.	Value
January	5,557	<i>Shs. cts.</i> 6,779 54
February	8,532	10,409 04
March	5,230	6,380 60
April	3,078	3,755 16
May	8,777	10,707 94
June	13,309	16,236 98
July	10,355	12,426 00
August	19,419	21,360 90
September	19,171	21,088 10
October	23,590	25,949 00
November	22,101	22,101 00
December	7,009	7,009 00
TOTALS	146,128	164,203 26

314. *Recorded catches, Lake Kiletwa, Ankole, 1956:—*

Landing	Days statistics collected	Nets	Ngege		Male		TOTAL	
			No.	lb.	No.	lb.	No.	lb.
Kiletwa	348	3,075	138,742	117,540	1,125	2,728	139,867	120,268

315. *Recorded catches, Lake Kachira, 1956:—*

Landing	Days statistics collected	Nets	Ngege		Male		TOTAL	
			No.	lb.	No.	lb.	No.	lb.
Rulambira (Ankole)	249	4,020	190,551	150,186	835	2,286	191,386	152,472
Nyanga (Ankole)	82	1,787	79,188	61,761	177	487	79,365	62,248
Lwabiriba (Masaka)	60	3,398	67,533	52,982	93	209	67,626	53,191

316. Quantities and values of smoked fish exported from Lake Kachira (Ankole) during 1956:—

Month	Weight in lb.	Value
February	7,815	9,378 00
March	18,194	21,832 80
April	14,506	17,407 20
May	14,110	16,932 00
June	7,209	8,650 80
August	6,572	7,229 20
September	7,673	8,440 30
November	5,594	5,594 00
December	9,604	9,604 00
TOTALS ..	91,277	105,068 30

317. *Recorded catches, Kigezi Lakes, 1956:—*

Landing	Days statistics collected	Nets 4"	Ngege		TOTAL	
			No.	lb.	No.	lb.
Kyabayinga (Lake Bunyonyi)	57	2,181	2,397	1,806	2,397	1,806
Kaboko (Lake Mutanda) ..	18	199	312	241	312	241
Mushongero (Lake Mutanda)	6	69	155	131	155	131
Bwidishwa (Lake Mulehe) ..	70	1,487	6,330	6,547	6,330	6,547
		Nets 5"				
Kaboko (Lake Mutanda) ..	39	712	765	1,064	765	1,064
Mushongero (Lake Mutanda)	21	460	805	965	805	965
Bwidishwa (Lake Mulehe) ..	69	2,715	9,190	12,563	9,190	12,563
Lake Chahafi	44	98	384	520	384	520
Kintambiko (Lake Kayumbo)	47	220	1,226	1,698	1,226	1,698

	Catch per net Ngege	Average weight of one Ngege	Average daily landing in lbs.
Bunyonyi	1.1	0.75	32
Mutanda	2.2	1.2	108
Mulehe	3.4	1.4	275
Chahafi	3.9	1.3	12
Kayumbo	5.6	1.4	36

318. *Table of Recorded Catches—Lake George, 1956:—*

Days	Total number Ngege	Total weight Ngege	Total weight of other kinds in lbs.			Total average daily landings Ngege	Average weight of each Ngege
			Mamba	Semutundu	Male		
289	3,332,175	<i>lb.</i> 4,429,415	1,346,280	435,580	289,609	11,530	1.32

Detailed month by month records of catches by fishermen and TUFMAC have continued to be maintained by this Department.

LAKE KYOGA REGION

Report by Senior Fisheries Officer

319. There was continued progress in this area during the period, and in 1956 the production of fish reached a total of 5,000 tons worth £175,000. The fishing methods were the same as those described in previous reports, except that there was an increase in the numbers of synthetic gill nets in use, and on the marketing side a larger amount of fish was smoke-cured and moved to market by lorry transport.

320. The area remained in charge of an acting Fisheries Assistant as it was not possible to fill the vacancy for a Fisheries Officer which has now existed for four years. It speaks well of the local African staff that with a minimum of supervision they have continued the essential work of collecting statistics, and have been able to carry out a certain amount of development work such as the stocking of new species of fish in the lake and in the dams. In September, 1956, they put on a successful fisheries exhibit at the Ngora County Show in Teso.

321. A breakdown of production between districts bordering on the lake is as follows:—

Teso District (including Lakes Salisbury and Nyaguo)	...	...	...	...	1,500
Busoga (including Victoria Nile)	...	...	...	...	1,200
Lango (including Lake Kwania)	...	...	...	...	1,200
Mengo	...	...	...	...	900
Mbale	...	...	...	...	100
Bunyoro (from the Victoria Nile)	...	...	...	...	100
				TOTAL	5,000