

REPUBLIC OF KENYA



MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES & COOPERATIVES



STATE DEPARTMENT FOR FISHERIES AND THE BLUE ECONOMY



KENYA FISHERIES SERVICE



FISHERIES ANNUAL STATISTICAL BULLETIN 2019

August 2021

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1.0 INTRODUCTION

Fisheries production in Kenya can be classified into three groups namely fresh water capture fisheries, marine capture fisheries and aquaculture. The major sources of capture and aquaculture data (including prices) are Fisher folks dealing with marine and inland fishing such as Beach Management Units (BMUs), Aquaculture farmers, County Directors of Fisheries in the various counties, Kenya Marine and Fisheries Research Institute, Kenya National Bureau of Statistics (KNBS), Association of Fish Processors and Exporters of Kenya (AFIPEK) and Government (Hecky, Mugidde, Ramlal, Talbot, & Kling, 2010).

On fisheries data exchange, the State Department for Fisheries and the Blue Economy has active collaborative initiatives with various organizations. Due to the fact that some of the most important fisheries in the country are Tran-boundary, there are strong mechanisms of data sharing with the aim of fostering better management of the shared fisheries resources. The department thus exchanges data with regional bodies such as the Lake Victoria Fisheries Organization (LVFO), the Indian Ocean Tuna Commission (IOTC), the Food and Agricultural Organization (FAO) and the South West Indian Ocean Fisheries Commission (SWIOFC). Data exchange with these organizations is wide ranging encompassing all aspects of fisheries.

LVFO is also involved in setting benchmarks of data collections protocols by issuing standard operating procedures in data collection and analysis so that the data thus collected can be compared across the shared water body regardless of the country. Data exchange with Indian Ocean Tuna commission (IOTC) concerns tuna and tuna like species which are highly migratory. The stocks are shared by the countries bordering the Indian Ocean and for effective management, the member countries share fisheries data to enable species specific stock assessment in the Indian Ocean. The South West Indian Ocean Fisheries Commission mainly deals with demersal species, near-shore *pelagics*, *crustaceans* and *molluscs* which mainly are within a country's water boundaries or are shared with the immediate neighbours. The department also makes submissions to FAO statistical year books as well as for the annual economic survey reports by Kenya National Bureau of Statistics (FFAO. (2014). The state of world fisheries and aquaculture: Opportunities and challenges. Food and Agriculture Organization of the United Nations (Vol. 2014). <https://doi.org/92-5-105177-1AO>, 2014).

This report details on the fisheries production data for the years 2019 and compares the results with those of the previous years. The imports and export data are also important for evaluation of the per capita consumption of fish in the country.

1.2 NATIONAL FISH PRODUCTION

Kenya is endowed with both marine and inland water resources. The inland water resources include lakes, dams and rivers of varying sizes. Some of the major lakes include: Lake Turkana (6,405 Km²), Lake Victoria-Kenyan side (6% of the whole lake =4,128 km²), Naivasha (210 Km²), Baringo (129 Km²), and Lake Jipe (39 Km²). Major rivers include Tana (700 Km), Athi/Galana/Sabaki (530 Km), Ewaso-Ngiro North (520 Km), Kerio (350 Km), Suam-Turkwel (350 km), Mara (280 km), Nzoia (240 km), Voi (200 km), Yala (170 km), Ewaso-Ngiro-south

(140 km), Sondu (105 km), Malewa (105 km) and Kuja (80 km). Across the country are also dams stocked with fish and in areas like Uasin Gishu and Laikipia, the fish production is quite substantial (Taabu-Munyaho, Marshall, Tomasson, & Marteinsdottir, 2016).

Further to these inland water resources, Kenya also enjoys a vast coastline of 640 km on the Western Indian Ocean, besides a further 200 nautical miles Exclusive Economic Zone (EEZ) under Kenyan jurisdiction. The total area of the territorial waters is 9,700 Km² while the Kenyan EEZ is 142,400 Km². Kenya also lays claim to extended EEZ reaching 350 km with an extra area of approximately 103,320Km². The total area for exploitation by the country is a massive 255,420 Km² which is about half of the Kenyan land cover area.

The Kenyan fishery is mainly artisanal with very few commercial/industrial vessels targeting mainly shallow water shrimps, deep water shrimps and lobsters. The country has for a period been having a Kenyan flagged long liner exploiting the EEZ. Other vessels are purse seines and long liners owned by Distant Water Fishing Nations (DWFN) which operate under Kenyan license in our Economic Exclusive Zone (EEZ) targeting Tuna and Tuna like species. The artisanal fishery accounts for most the inland and marine water catches reported in this bulletin and consequently it is currently the most important fishery in the country, even though our EEZ which is predominately for commercial fishing is under exploited with an estimated potential of between 150,000 to 300,000MT (Commonwealth secretariat report 2003 by Dr. George Habib).

The fisheries sector plays a significant role in employment and income generation. During the year under review the sector supported many people directly as fishermen and fish farmers with quite a number of stoked fish ponds. The sector supports about 1.2 million people directly and indirectly, working as fishers, traders, processors, suppliers and merchants of fishing accessories and employees and their dependents. Besides being a rich source of protein especially for riparian communities, the sector is also important for the preservation of culture, national heritage, and recreational purposes.

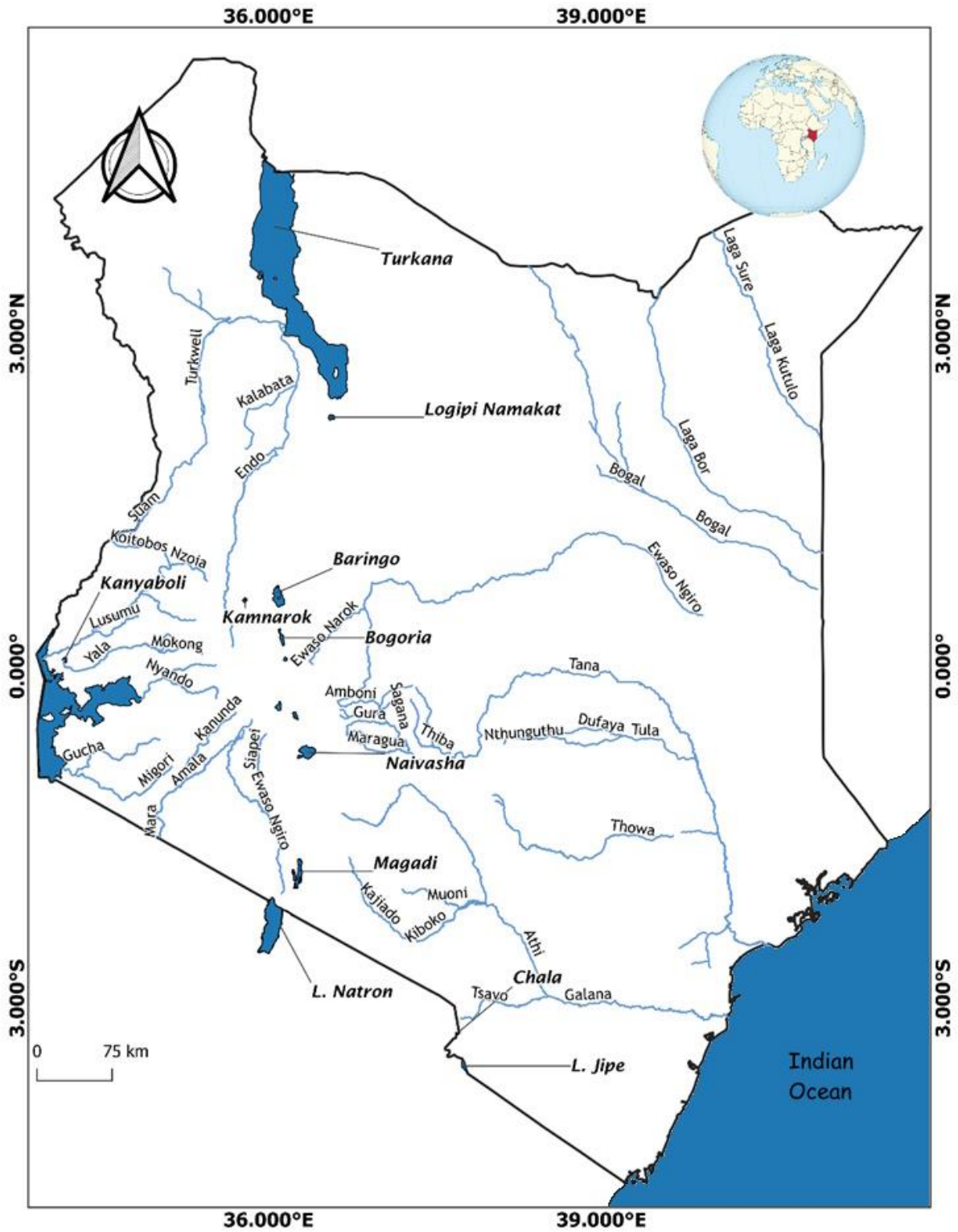


Fig 1. 1 Map showing the major water bodies in Kenya

During the year (2019) under review, the total fish production 149,305 MT worth 23.645 billion Kenya shillings (Figure 1.2). The production was 1% decline compared to 150,128 MT worth 24.868 billion Kenya shillings landed in 2018. Most of the production as in the past was from inland capture fisheries amounting to 103,023 MT with an ex-vessel value of Kshs. 13.140 billion. The production from marine and aquaculture was 27,740 MT and 18,542 MT respectively (Fig 1.3).

Inland capture fisheries contributed 73.4% of Kenya’s total fish production, with the principal fishery being that of Lake Victoria. The lake accounted for 90,743 MT or 88.9% of the country’s total annual inland fish production in 2019. Lake Turkana, Kenya’s largest freshwater body (6,405 km²) produced 7,031 MT of fish during the year under review. Other freshwater-bodies of commercial importance included lakes Baringo (203MT), Naivasha (3,087MT), Jipe (157 MT).

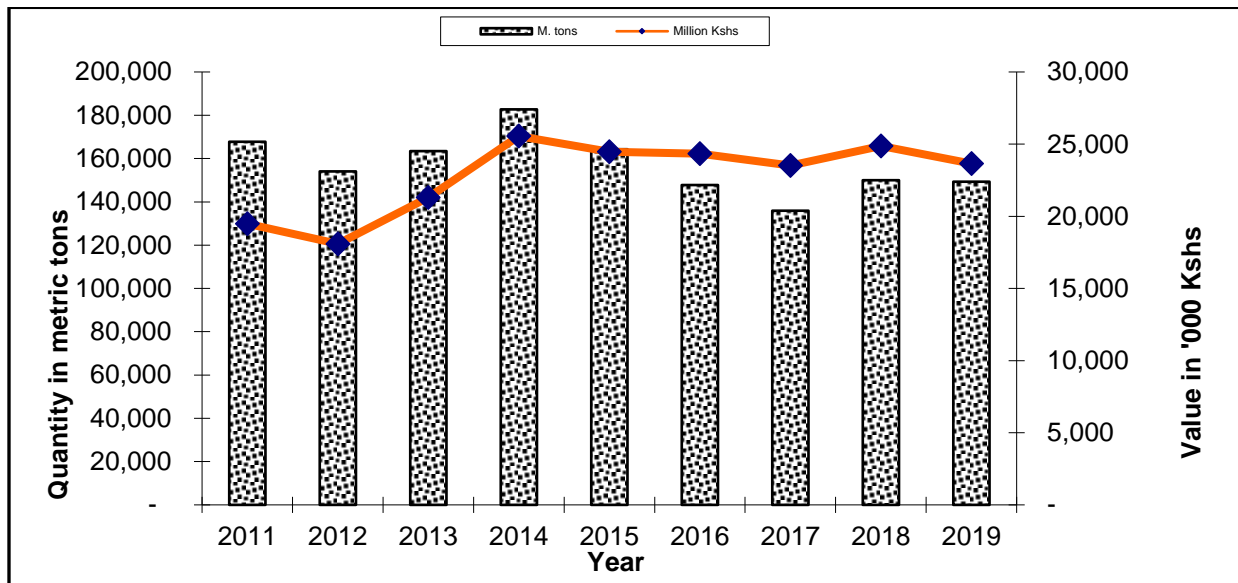


Fig 1. 2 Fish production by quantity and value 2010-2019

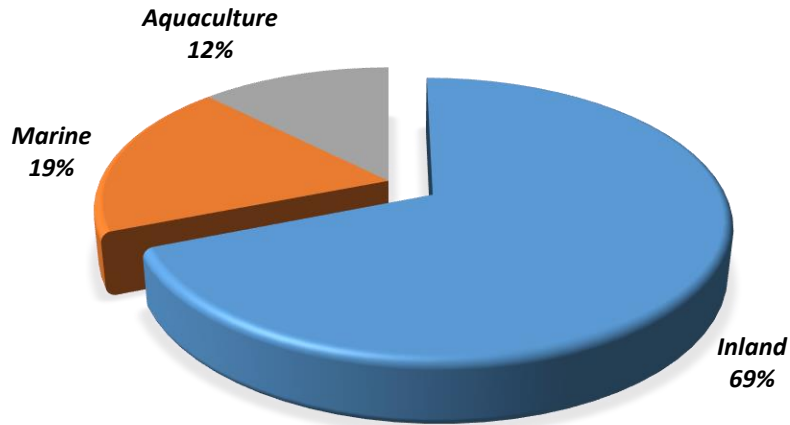


Fig 1. 3 National fish production by Fishery Category 2019

The fish and fish products produced in the country are marketed domestically or exported to the international markets. The main fish and fishery products exported during the year under review included Nile perch products (fillets, maws, headless and gutted whole Nile perch), Octopus, Fish meal and marine shells. Fish and fishery products imported into the country included the following products among others: frozen mackerels, frozen tilapia, frozen tilapia fillets, frozen sardines, frozen pangasius fillets and tuna fish meals among others.

The fisheries production by different water bodies in 2019 and compares the fish production for the past three years (2017 – 2019).is shown in table 1.1

Table 1. 1 A Comparison of Fisheries Production in different water bodies between 2017-2019

Year	2017		2018		2019	
	M. Tons	Value '000 Kshs.	M. Tons	Value '000 Kshs.	M. Tons	Value '000 Kshs.
Fresh Water						
Lake Victoria	92,722	14,302,388	98,150	14,487,560	90,743	11,640,537
Lake Turkana	4,021	486,540	7,587	564,739	7,031	645,107
Lake Naivasha	1,689	222,579	2,287	287,194	3,087	391,719
Lake Baringo	155	46,606	145	43,442	203	49,499
Lake Jipe	112	21,756	131	38,260	157	45,957
Lake Kanyaboli	127	26,346	203	29,656	300	43,826
Lake Kenyatta	45	3,473	14	1,330	140	5,844
Tana River Dams	422	84,500	297	37,373	394	60,571
Tana River Delta	115	9,296	46	5,069	94	14,476
Aquaculture	12,356	3,691,046	15,120	4,480,875	18,542	5,581,142
Turkwel	35	9,905	34	9,822	35	9,905
Riverline	10	2,368	320	86,400	380	106,371
Small Dams	300	75,120	339	42,015	459	126,455
Total Fresh Water	112,109	18,981,923	124,673	20,113,667	121,565	18,721,409
Marine (Artisanal)	23,286	4,375,822	24,221	4,457,809	25,670	4,477,577
Mariculture	51	1,530	64	1,920	76	1,895
Industrial (Marine)						
Shallow prawn trawl fishery	346	115,486	520	189,605	535	185,900
Deep water trawl fishery	41	9,102	141	42,341	626	170,089
Deep water crab pottery	-	-	1	251	38	19,072
Deep sea longlining	62	1,788	508	20,362	795	30,759
Total Industrial	449	126376	1170	252559	1994	405820
Marine Aquarium		28,701		42,414		38,575
Total Marine	23,786	4,532,429	25,455	4,754,702	27,740	4,923,867
Grand Total	135,895	23,514,352	150,128	24,868,369	149,305	23,645,276
EXPORTS						
Fish and fish products	3,554	2,253,644	7,250	2,974,980	8,821	3,407,548
Aquarium fish (Numbers)	323,691	22,866	366,776	34,241	297,367	31,219
Aquarium invertebrates (Numbers)	176,130	5,835	191,672	8,173	133,844	7,356
TOTAL		2,282,345		3,017,394		3,446,123
Imports	19,127	1,568,565	26,383	2,974,678	22,813	2,798,951
Balance of Trade		713,780		42,716		647,172

1.3 LAKE VICTORIA FISHERY

Lake Victoria's contribution to total national annual inland fish production is enormous 90,743 MT even in the face of rapidly declining fish stocks in the lake. Capture fisheries of Lake Victoria are a source of livelihood to many people employed directly as boat owners, fishermen, fish traders, fish processors, etc. and indirectly as fishing gear manufacturers, boat builders, and ice producers among others. Lake Victoria is a multi-species fishery with many of known species, but

only *Rastrienobola argentea* (Omena) 60,590 MT, *Lates niloticus* (Nile perch) 22,438 MT and *Oreochromis niloticus* (Nile tilapia) 3,858 MT are of major economic significance which contributed combined catch of 86,886 MT out of the total catches of 90,743 MT from the lake (Kenyan side) which is makes 95.75% of the catches from the lake during the year under review (table 1). This has been the case for a number of years. However, for the last few years there have seen a rapid decline of fish stocks in Lake Victoria thereby creating a wide gap between supply and demand for fish in the country. In response to this undesirable situation, the government has taken concrete steps to promote aquaculture development in the country to bridge the existing supply demand gap. Cage farming in the Lake Victoria has also been supplementing the dwindling catches from the lake (Masai, Ojuok, & Ojwang, 2006).

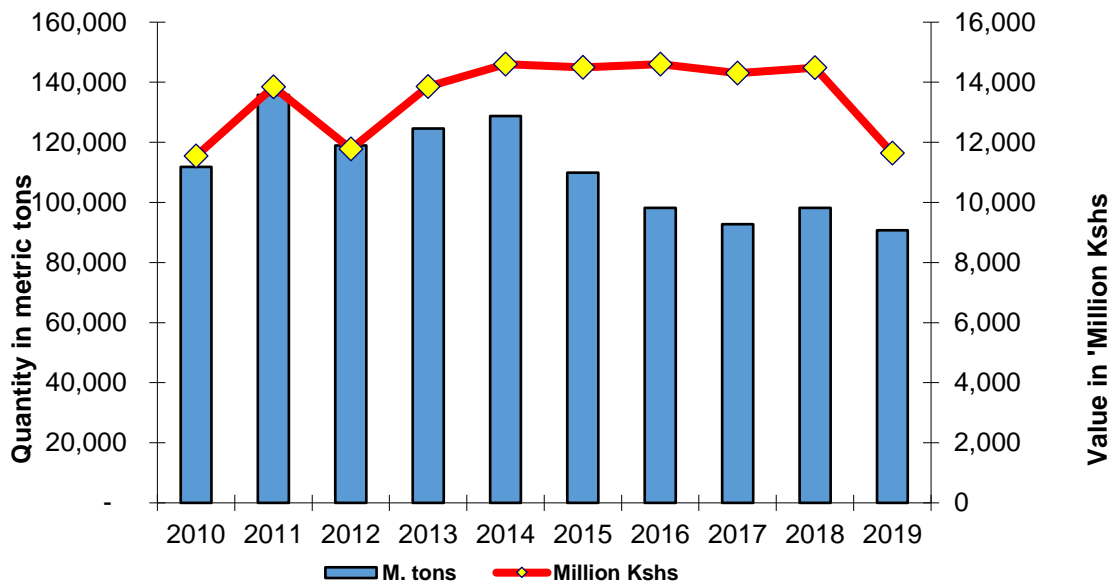


Fig 1. 4 Trends in annual fish landings from Lake Victoria fishery 2010-2019

During the year 2019, fish production from Lake Victoria decreased to 90,743MT with an ex-vessel value of Kshs. 11.641 billion compared to 98,150 MT with an ex-vessel value of Kshs.14.487 billion landed in 2018. This year’s figures translate into a decrease of 13.4% in quantity and 21.5% in ex-vessel value as compared to the previous year (figure 1.4).

In terms of species contribution to the total weight of fish landed from the lake, *Rastrineobola argentea* took the lead with 66.8%, *Clarias* 1.4%, *Haplochromis* 1.1%, *Lates niloticus* 24.7%, *Tilapia niloticus* 4.3% and the others species combined contributed 3% (figure 1.6). Homa Bay County contributed 61.2% of the total Lake Victoria catch this year compared to 48.6% in 2018, Siaya contributed 27.7% this year compared to 32.2% in 2018, Migori contributed 3.4% compared to 5.8% in 2018, Kisumu contributed 2.2% this year compared to 10.5% in 2018 while Busia contributed 5.5% this year compared to 4.6% in 2018. Catch as shown in (figure 1.7).

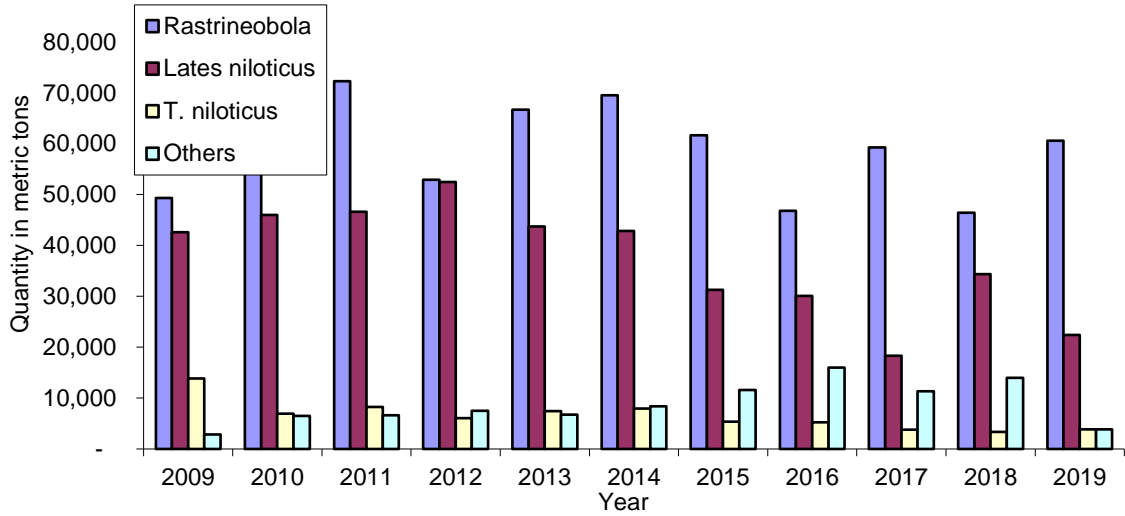


Fig 1. 5 Lake Victoria species catch composition 2007-2019

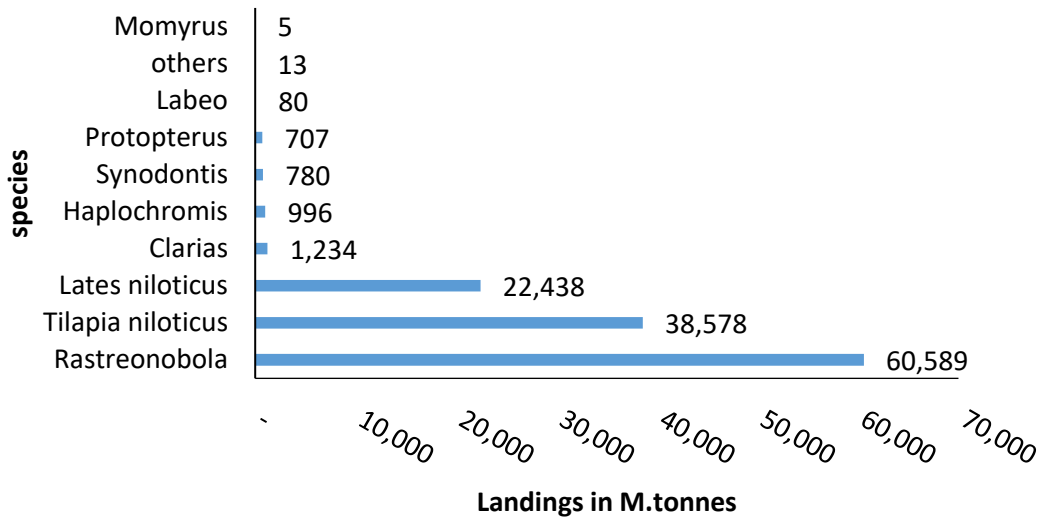


Fig 1. 6 Lake Victoria fish landings by species 2019

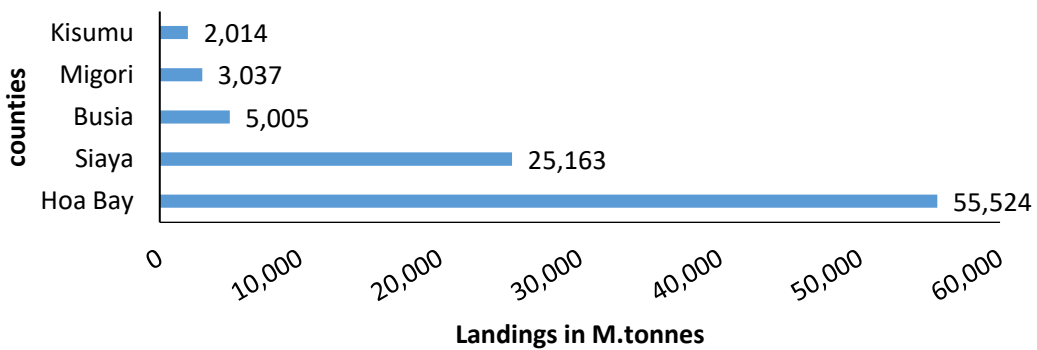


Fig 1. 7 Lake Victoria fish landings by Counties 2019

Table 1. 2 Lake Victoria Monthly fish landings by Species, Weight (MT) 2019

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<i>Clarias spp.</i>	136	61	95	82	75	76	82	73	76	75	334	70	1,234
<i>Rastronobola</i>	4,496	5,062	4,634	5,716	6,520	5,748	4,473	6,222	5,537	2,262	5,100	4,821	60,590
<i>Labeo spp.</i>	8	7	11	8	8	5	5	6	8	6	5	6	81
Haplochromis	92	113	133	94	38	49	44	44	124	146	68	50	996
<i>Lates niloticus</i>	1,834	1,601	1,788	1,723	1,787	1,702	1,875	2,266	2,309	2,505	1,594	1,453	22,438
<i>Protopterus spp.</i>	42	37	42	48	57	124	65	60	61	57	59	54	707
<i>Synodontis spp.</i>	37	28	36	40	40	36	79	47	144	205	41	47	780
<i>Tilapia niloticus</i>	255	238	272	265	729	248	251	261	286	294	300	458	3,858
Others	1	1	1	1	2	2	1	2	1	2	1	1	13
Total	6,907	7,151	7,018	7,978	9,259	7,993	68,781	8,984	8,550	5,556	7,505	6,963	90,743

Table 1. 3 Lake Victoria Annual fish landings by Species, Weight, Value and by Counties 2019

	Homa Bay		Siaya		Busia		Migori		Kisumu		Total	
	MT	Value '000 Kshs	MT	Value '000 Kshs	MT	Value '000 Kshs	MT	Value '000 Kshs	MT	Value '000 Kshs	MT	Value '000 Kshs
Clarias	432	21,665	477	46,910	2	387	1	129	322	50,408	1,234	119,499
Rastreonobola	43,925	4,684,689	11,573	665,721	3,493	209,561	1,022	173,699	577	70,711	60,590	5,804,381
Labeo	1	114	0	1	0	0	0	0	80	8,373	81	8,488
Haplochromis	503	49,224	242	44,050	114	11,425	39	2,865	98	16,691	996	124,255
Lates niloticus	9,128	1,877,229	10,398	2,193,871	837	167,440	1,748	420,121	327	79,645	22,438	4,738,306
Momyrus	5	493	1	97	0	0	0	2	0	0	6	592
Protopterus	100	13,768	395	60,816	4	771	1	164	208	40,505	708	116,024
Synodontis	392	13,261	141	14,441	33	3,288	0	45	213	29,776	779	60,811
Tilapia niloticus	1,030	151,466	1,906	288,226	510	114,858	224	47,162	187	55,745	3,857	657,457
Others	0	0	13	6,532	0	0	0	0	0	0	13	6,532
Total	55,523	6,812,666	25,164	3,322,409	5,004	509,153	3,036	644,313	2,013	351,996	90,743	11,640,537

1.4 LAKE TURKANA FISHERY

Lake Turkana is Africa's fourth largest lake by volume and Kenya's largest inland lake measuring about 249 km long by 48 km at its widest part, with a delta extending into Ethiopia. It lies in a closed basin 365 meters above sea level. Over 90% of the annual water discharge by volume is from river Omo originating from the Ethiopian highlands while the rest is from seasonal rivers Kerio and Turkwel. River Omo drains a large portion of the south western highlands of Ethiopia and therefore influences fluctuations in the lake's water level, which in turn affects the amount (or abundance) of fish stocks and hence fish production from the lake. With no surface outlet, the water budget is a balance between river inflow and evaporation which imposes special physical chemical conditions making the lake saline. Therefore any activities dealing with water abstraction or damming that interferes with the natural discharge rates of river Omo has a negative effect on the lake volume levels.

The lake has about 48 species of fish with a dozen supporting a commercial fishery. The species exploited commercially include, Nile perch (*Lates niloticus*), Tilapia (*Oreochromis niloticus*), Catfish (*Clarias gariepinus*), *synodontis schall*, *Hydrocynus forskalii*, *Labeo horie*, *Bagrus spp*, *Distichodus niloticus*, *Citharinus spp*, *Barbus spp* and *Alestes spp*. The fishery is characterized by bust cycles in fish landings associated with fluctuations in lake levels due to the dynamics of the climatic conditions especially precipitation leading to filling and drying up of the Ferguson's gulf. The filling up of the Ferguson's gulf is associated with boom in fish catches especially tilapias.

Table 1. 4 Lake Turkana Annual fish landings by Species, Weight, Value (Ksh '000) in 2019

SPECIES	Kgs	Kshs
Alestes	135,922	4,260,113
Bagrus	13,346	820,113
Barbus	56	1,406
Clarias	34,712	3,271,339
Labeo	241,233	18,488,939
<i>Lates niloticus</i>	89,234	17,232,380
Synodontis	6,551	258,073
<i>Tilapia niloticus</i>	6,384,228	593,240,025
Citharinus	1,547	115,690
Hydrocynus	42	1,042
<i>Distichodus niloticus</i>	124,146	7,418,042
TOTAL	7,031,015	645,107,161

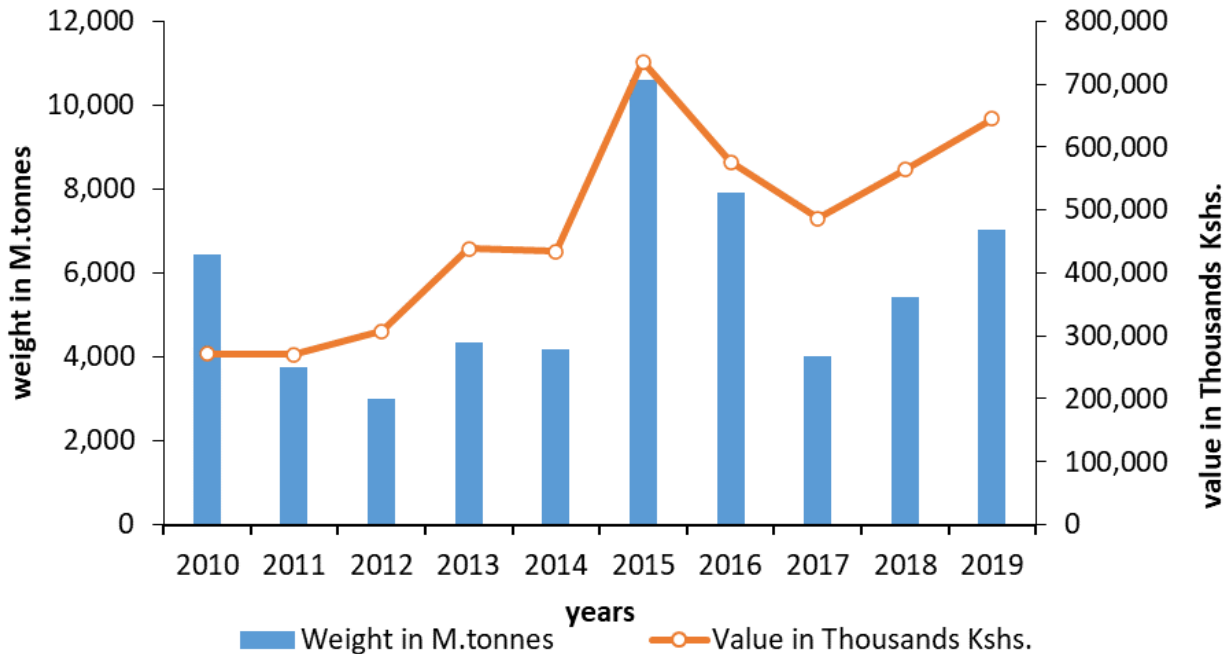


Fig 1. 8 Trends in annual fish landings from Lake Turkana fishery 2010-2019

During the year under review, a total of 7,031 MT of fish were landed with an ex-vessel value of Kshs.645.107 million from both sides (Turkana and Marsabit counties) of the lake. This years' production was an increase of 29% in quantity and a 14.2% increase in value compared to 2018 production of 5,430 MT with an ex-vessel value of Kshs.564.739 million. The trends in annual fish catches from Lake Turkana are determined by the lakes' water level and for that the catches have been unpredictable for a long time.

Table 1. 5 Lake Turkana Monthly fish landings by Species 2019

Species Month	Alestes		Labeo		Tilapines		Lates niloticus		Others		Totals	
	Weight (MT)	Value (Ksh, 000)	Weight (MT)	Value (Ksh,000)	Weight (MT)	Value (Ksh,000)	Weight (MT)	Value (Ksh,000)	Weight (MT)	Value (Ksh,000)	Weight (MT)	Value (Ksh,000)
JAN	7.9	261	34.0	2,357	400.1	17,165	8.4	1,824	14.5	900	465	22,507
FEB	8.3	248	11.1	871	418.6	50,896	5.4	995	2.2	166	446	53,176
MAR	13.4	417	10.8	644	503.6	50,489	2.9	531	1.9	149	533	52,231
APR	11.9	382	10.5	931	382.0	43,003	1.8	360	4.2	304	410	44,980
MAY	11.5	382	8.7	693	458.0	47,723	6.6	1,310	2.2	227	487	50,334
JUN	8.0	249	13.9	1,267	5.8	434	3.6	794	53.2	4,046	85	6,790
JUL	14.3	451	20.3	1,818	499.3	50,715	1.9	358	6.2	388	542	53,730
AUG	16.7	534	7.7	532	903.8	93,425	22.9	4,070	18.6	1,238	970	99,798
SEPT	16.7	534	11.5	761	894.4	67,064	23.1	4,572	15.0	1,118	961	74,049
OCT	5.2	176	85.5	6,732	647.1	54,982	3.8	745	51.7	2,318	793	64,952
NOV	11.3	351	5.7	499	522.8	51,814	3.7	727	3.7	266	547	53,656
DEC	10.8	324	21.7	1,384	748.7	65,531	5.0	947	7.1	718	793	68,903
TOTALS	136	4,308	241	18,489	6,384	593,240	89	17,232	180	11,838	7,031	645,107

In terms of species contribution to the total weight of fish landed from the lake, *Tilapia niloticus* took the lead with 91%, labeo 3%, Alestes 2%, and *Lates niloticus* 1%, while all other species accounted for 3% of the annual 2021 catch as shown in figure 1.10.

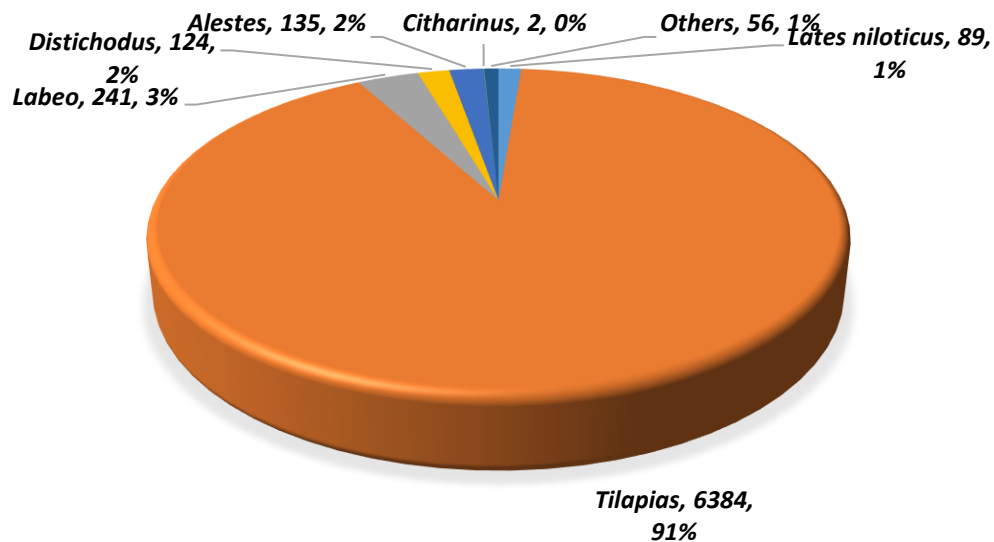


Figure 1.9 Species composition (Kgs) in catches of Lake Turkana Fishery 2019

1.5 LAKE BARINGO FISHERY

Lake Baringo is one of the Rift valley lakes with a surface area of 130 Km² and a mean depth of 5.6 meters. The lake has rivers El Molo, Perkerra and Ol arabel as the main inlets but with no obvious outlet and the waters are assumed to seep through to the underground bedrock which is believed to be volcanic. The fishery of Lake Baringo is currently based on four species including *Oreochromis niloticus* (Tilapia), *Barbus gregorii*, *Clarias mossambicus* and *Protopterus aethiopicus* which was introduced in the lake (Ngaira, 2006).

During the year under review a total of 203 MT of fish with an ex-vessel value of Kshs.49.5 million were landed. This was a 40% increase in quantity and 14% increase in value compared to last year's production of 145 MT with an ex-vessel value of Kshs.43.442 million, figure 1.11. The species catch composition was dominated by *Protopterus aethiopicus* contributing 76% (155 MT) followed by *Tilapia niloticus* 11 % (23 MT), *Barbus* 6.4% (13 MT) and *Clarias* with 5.9 % (12 MT), figure 1.12 and table 1.7

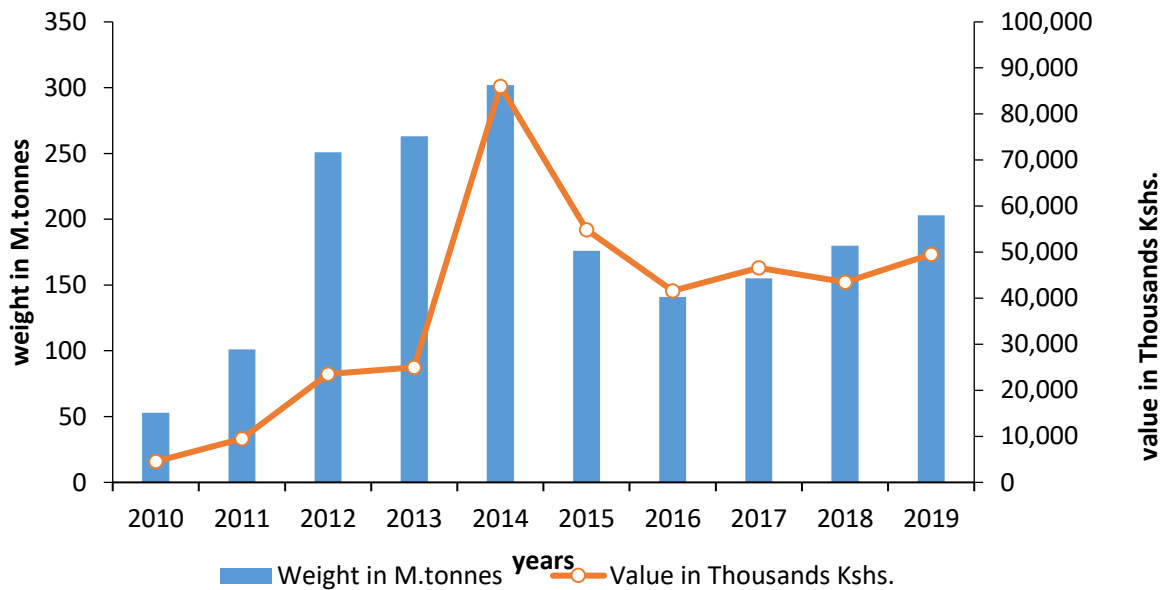


Fig 1.10 Trends in annual fish landings from Lake Baringo fishery 2010-2019

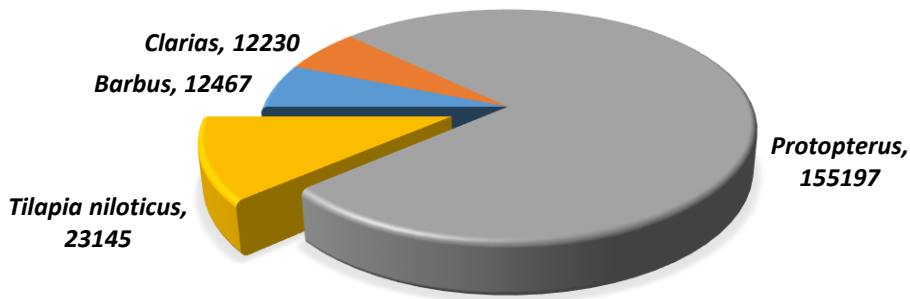


Fig 1. 91 Species composition in catches of Lake Baringo Fishery 2019

Table 1. 6 Lake Baringo Monthly fish landings by Species, Weight and Value in 2019

SPECIES	BARBUS		CLARIAS		PROTOPTERUS		TILAPIA NILOTICUS		TOTAL	
	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs.
Jan	900	270,000	1,050	315,000	12,450	3,735,000	1,500	450,000	15,900	4,770,000
Feb	740	222,000	700	210,000	12,437	3,731,100	1,345	403,500	15,222	4,566,600
Mar	340	102,000	650	195,000	7,300	2,190,000	2,300	690,000	10,590	3,177,000
Apr	900	270,000	970	291,000	11000	3,300,000	1100	330,000	13,970	4,191,000
May	1023	306,900	780	234,000	10450	3,135,000	2400	720,000	14,653	4,395,900
Jun	1700	510,000	850	255,000	9820	2,946,000	2600	780,000	14,970	4,491,000
Jul	1300	390,000	1070	321,000	9870	2,961,000	1800	540,000	14,040	4,212,000
Aug	990	297,000	1670	501,000	10700	3,210,000	2000	600,000	15,360	4,608,000
Sep	1354	406,200	890	267,000	11870	3,561,000	2300	690,000	16,414	4,924,200
Oct	890	267,000	679	203,700	45600	2,268,000	1400	420,000	48,569	3,158,700
Nov	1320	396,000	1045	313,500	6700	2,010,000	2300	690,000	11,365	3,409,500
Dec	1010	303,000	1876	562,800	7000	2,100,000	2100	630,000	11,986	3,595,800
TOTAL	12,467	3,740,100	12,230	3,669,000	155,197	35,147,100	23,145	6,943,500	203,039	49,499,700
	Barbus		Clarias		Protopterus		Tilapia niloticus		TOTAL	
	MT	Kshs.'000	MT	Kshs.'000	MT	Kshs.'000	MT	Kshs.'000	MT	Kshs.'000
	13	3,740	12	3,669	155	35,147	23	6,944	203	49,500

1.6 LAKE NAIVASHA FISHERY

During the year under review, 3,087 MT of fish with an ex-vessel value of Kshs. 391.719 million were landed from Lake Naivasha. This was an increase of 35% in quantity and an increase of 36% in value compared to 2018 landings of 2,287 tons valued at Kshs.287.194 million, table 1.8.

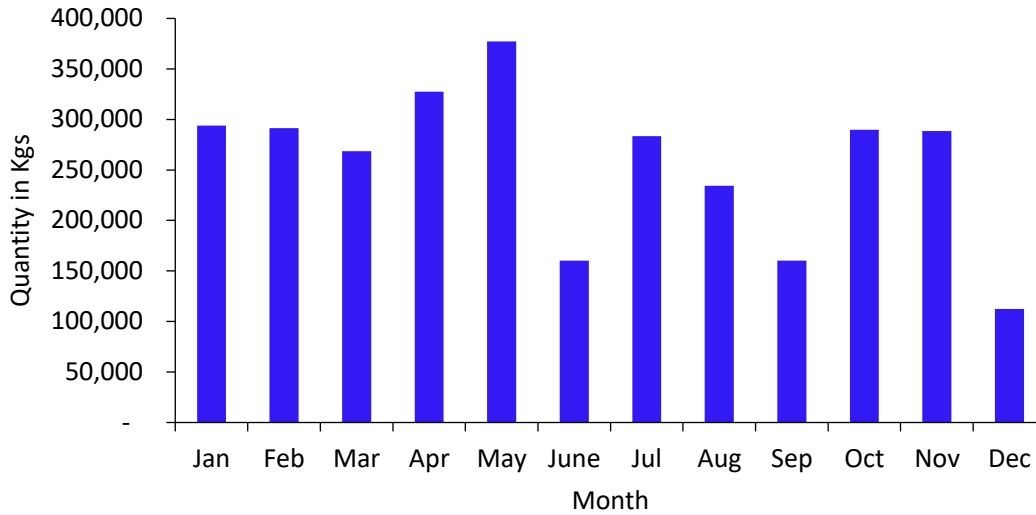


Fig 1. 12 Lake Naivasha monthly catches in Kgs 2019

Nile tilapia (*Oreochromis niloticus*) for the first time since 2002 was the most landed species constituting 2,699 MT representing 90 % of the total catch. Common carp (*Cyprinus carpio*) was the next most dominant species accounting for 8.2% (245 MT) of the total catch. The other species contribution were Mirror carp accounting for 0.1% (3 MT), *Clarias gariepinus* 1.1% (34 MT) and Black bass (*Micropterus salmoides*) accounting for 0.02% (0.7 MT) each, while lake ‘Naivasha tilapia’ (*Oreochromis leucostictus*) represented 0.1% (2 MT) of the total catch, figure 1.14. The average monthly fish catch was 247 MT with a peak between April and May, figure 1.13.

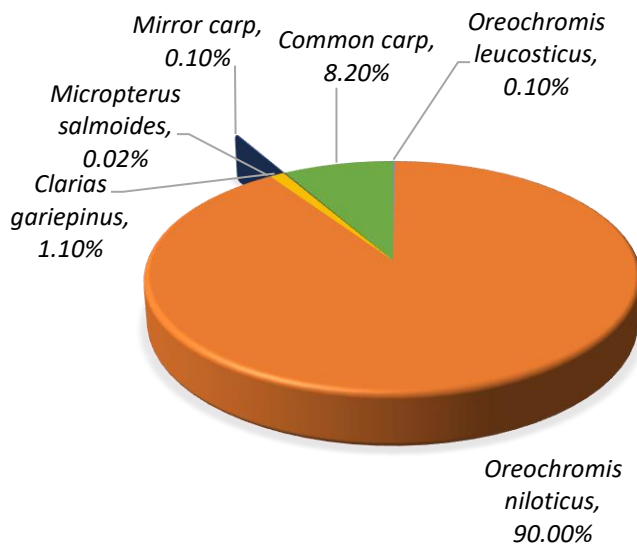


Fig 1. 13 Lake Naivasha species composition landings in metric tonnes 2019

Table 1. 7 Lake Naivasha Monthly fish landings by Species, Weight and Value 2019

	O. niloticus		O. leucasticus		M. salmoides		C. gariepinus		Mirror carp		Common carp		Total	
Month	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs
Jan	275,015	19,568,554	43	420	38	16,700	916	64,611	81	6,558	17,846	1,328,757	293,939	20,985,600
Feb	173,120	9,439,871	390	42,900	15	7,100	542	49,740	103	9,640	13,382	1,131,232	187,552	10,680,483
Mar	248,607	24,708,521	240	27,600	9	1,000	730	57,930	188	20,277	18,756	1,247,238	268,530	26,062,566
Apr	307,510	32,274,487	468	93,600	34	11,950	1118	99,387.00	115	7,385	18,306	1,122,389	327,551	33,609,198
May	365,472	48,701,438	468	93600	30	7,475	1032	81,376	252	16,068	10,040	644,373	377,294	49,544,330
June	124,106	12,469,678	67	5,850	102	11,589	1,119	111,895	578	75,710	34,243	7,417,393	160,215	20,092,115
July	272,062	40,265,117	0	0	18	3,600	1,551	206,040	293	45,930	9,504.00	1,238,239	283,428	41,758,926
Aug	223,348	33,741,905	0	0	63	6,400	1,826	164,291	265	32,286	8,709	735,258	234,211	34,680,140
Sep	124,106	12,469,678	67	5,850	102	11,589	1,119	111,895	578	75,710	34,243	7,417,393	160,215	20,092,115
Oct	264,986	80,041,064	0	0	56	7,300	6,242	628,702	198	33,330	18,405	1,698,112	289,887	82,408,508
Nov	249,850	33,026,393	0	0	16	2,200	17,903	1,292,960	355	30,500	20,305	1,438,476	288,429	35,790,529
Dec	70,633	10,210,855	23	4342	178	38045	273	20,707	143	16105	41135	5664830	112,385	15,954,884
Total	2,698,815	356,917,561	1,766	274,162	661	124,948	34,371	2,889,534	3,149	369,499	244,874	31,083,690	3,087,459	391,719,394
	O. niloticus		O. leucasticus		M. salmoides		C. gariepinus		Mirror carp		Common carp		Total	
	M tonnes	000 Kshs	M. tonr	000 Kshs	M tonr	000 Kshs	M tonr	000 Kshs	M tonr	000 Kshs	M. tonne	000 Kshs	M tonnes	000 Kshs
TOTAL	2,699	356,918	2	274	0.7	125	34	2,890	3	369	245	31,084	3,087	391,719

1.7 LAKE JIPE FISHERY

Lake Jipe watershed is an important transponder wetland ecosystem between Kenya and Tanzania. It covers approximately 30Kms square bordered by Tsavo-West national park to the south East, Mt Kilimanjaro to the south, and North Pare Mountains to the west. The lake is fed by river Limu which originates from Mt Kilimanjaro slopes and River Muvulani from Pare Mountains. The lake Outflows into River Ruvu. The lake Jipe is experiencing severe catchment degradation mainly due to anthropogenic activities that lead to eutrophication, siltation and pollution (Doremus *et al.*, 1978).

During the year 2019, a total of 157 MT of both Tilapia and Clarias with an ex-vessel value of Kshs 45.957 million were landed from Lake Jipe. This reflected an increase of 19.8% in quantity and an increase of 20.1% in ex-vessel value compared to previous year 2018 production of 131 MT valued at Kshs 38.26 million, table 1.9, figure 1.15. There are only two species (Tilapia and Clarias) caught in the lake. Tilapia contributed 84.1% (132 MT) and Clarias 15.9% (25 MT), figure 1.16.

Table 1. 8 Lake Jipe Monthly fish landings by Species, Weight and Value 2019

Month	Tilapia		Clarias		Total	
	Kgs	000 Kshs	Kgs	000 Kshs	Kgs	000 Kshs
Jan	10,294	3,088,200	1,719	492,750	12,013	3,580,950
Feb	10,068	3,020,400	1,930	482,500	11,998	3,502,900
Mar	10,124	3,037,200	1,934	483,500	12,058	3,520,700
Apr	10,436	3,130,800	1,836	459,000	12,272	3,589,800
May	10,849	3,254,700	2,057	514,250	12,906	3,768,950
Jun	10,459	3,137,700	2,232	558,000	12,691	3,695,700
Jul	10,675	3,202,500	2,205	551,250	12,880	3,753,750
Aug	11,182	3,354,600	2,065	516,250	13,247	3,870,850
Sep	11,550	3,465,000	1,935	483,750	13,485	3,948,750
Oct	12,007	3,602,100	2,135	533,750	14,142	4,135,850
Nov	12,088	3,626,400	2,353	588,250	14,441	4,214,650
Dec	12,498	3,749,400	2,499	624,750	14,997	4,374,150
TOTAL	132,230	39,669,000	24,900	6,288,000	157,130	45,957,000

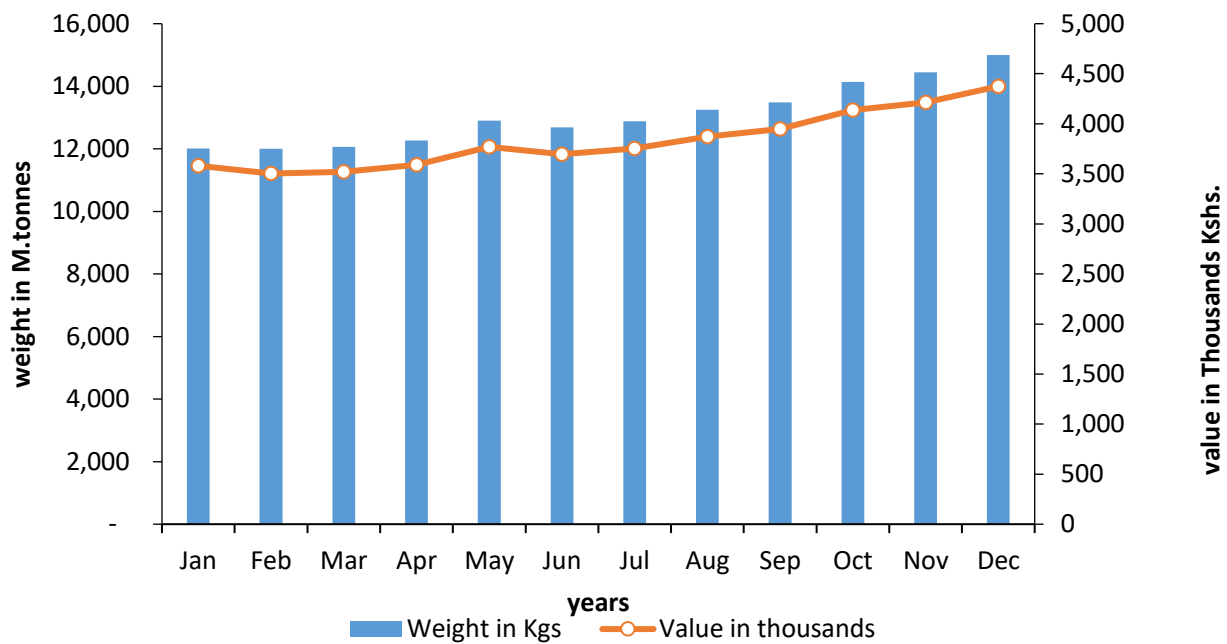


Fig 1. 4 Lake Jipe monthly catches in Kgs 2019

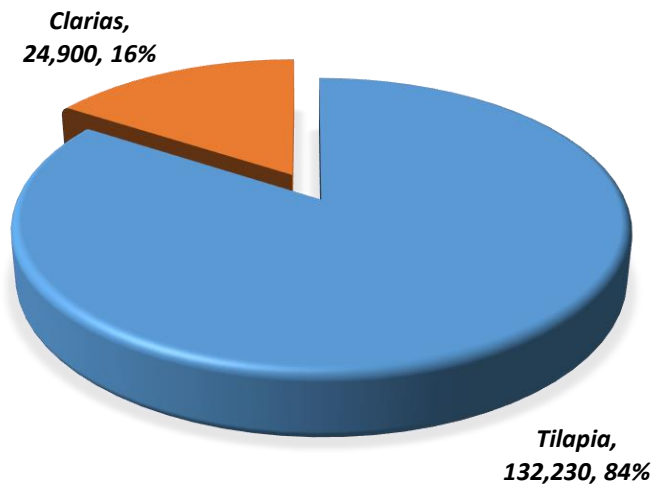


Fig 1. 15 Weight in Kgs and Percentage composition of annual fish species catch in Lake Jipe 2019

1.8 TURKWEL DAM

Turkwel Dam is one of the major hydro-electric power station in Kenya. It is situated in North West of Kenya, in the border of Turkana and West Pokot Counties. The dam has an area of 66

square Km with a capacity of 1,641 cubic meters. Data of fish landings from the dam were recorded for the first time in 2013.

During 2019 a total of 45 MT of fish with an ex-vessel value of Kshs 13.05 million were landed from the dam. This was a 32% increase in quantity and 33% increase in value of the fish landed compared with 2018 figures of 34 MT with a value of Kshs 9.822 million. The fisheries of the dam are comprised of two species: Tilapia (*Oreochromis niloticus*) and *Clarias spp.* Tilapia landings contributed 74% (26 MT) while Clarias contributed 26% (9 MT) during the review period. The monthly catches are shown in figure 1.17 and Table 1.10.

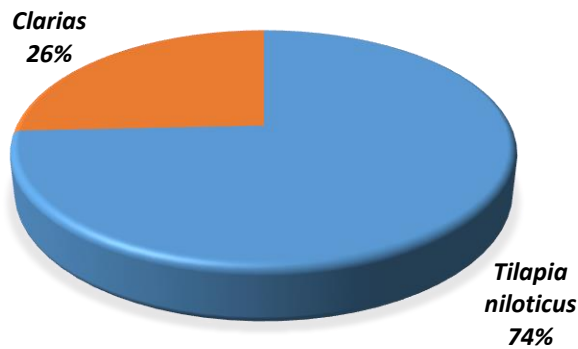


Fig 1. 16 Percentages composition of species catch in Turkwel dam 2019

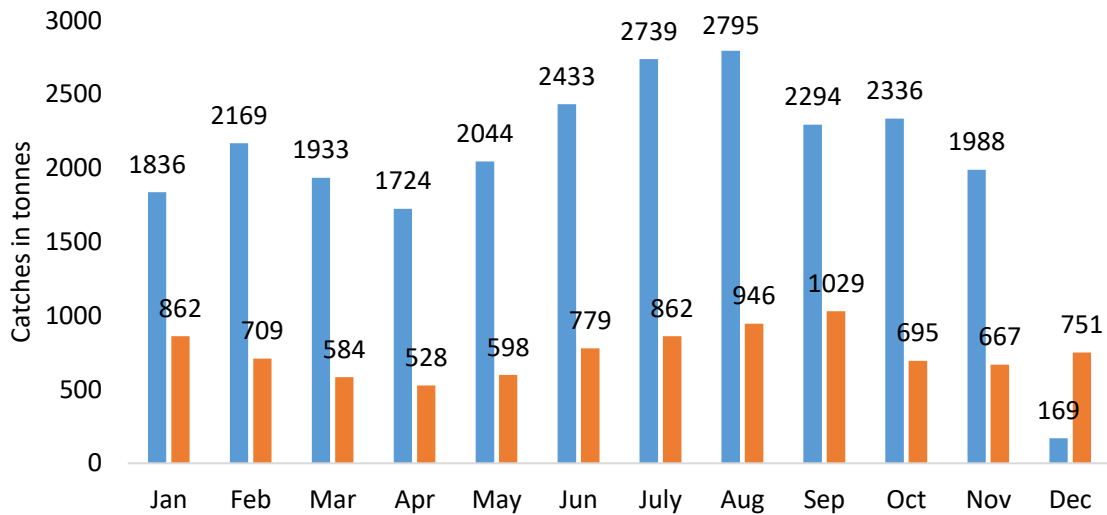


Fig 1. 17 Turkwel dam monthly fish catches in Kgs 2019

Table 1. 9 Turkwel dam Monthly fish landings by Species 2019

Month	Tilapia niloticus		Clarias		Total	
	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs
Jan	2,836	519,452	862	243,985	3,698	763,437
Feb	3,169	613,897	709	200,697	3,878	814,594
Mar	2,933	546,998	584	165,280	3,517	712,278
Apr	2724	487,969	528	149,539	3,252	637,508
May	3044	578,480	598	169,215	3,642	747,695
Jun	3433	688,667	779	220,373	4,212	909,040
July	3739	775,242	862	243,985	4,601	1,019,227
Aug	3795	790,983	946	267,596	4,741	1,058,579
Sep	3294	649,315	1,029	2,912,088	4,323	3,561,403
Oct	3336	661,120	695	196,762	4,031	857,882
Nov	1088	562,739	660	188892	1,748	751,631
Dec	2606	480,099	751	212503	3,357	692,602
Total	35,997	7,354,961	9,003	5,170,915	45,000	12,525,876

1.9 RIVERLINE

During the year under review, fish landings from Riverline amounted to 380 tons with an ex-vessel value of Kshs 106.371 million compared to 320 MT with an ex-vessel value of Kshs 86.4 million landed in 2018, table 1,11.

Table 1. 10 Riverine fish catch trends in metric tons 2015-2019

Year	Quantity (MT)	VALUE (000 Kshs)
2015	11	4,212
2016	5	3,500
2017	10	2,368
2018	320	86,400
2019	380	106,371

1.10 TANA RIVER DELTA

Fresh water fish landings from Tana River delta in Tana River County during the year under review amounted to 93 MT with an ex-vessel value of Kshs.8.821 million. This was an increase of 102% in quantity and a 74% increase in ex-vessel value compared to 46 MT with an ex-vessel value of Kshs. 5.069 million landed in 2018.

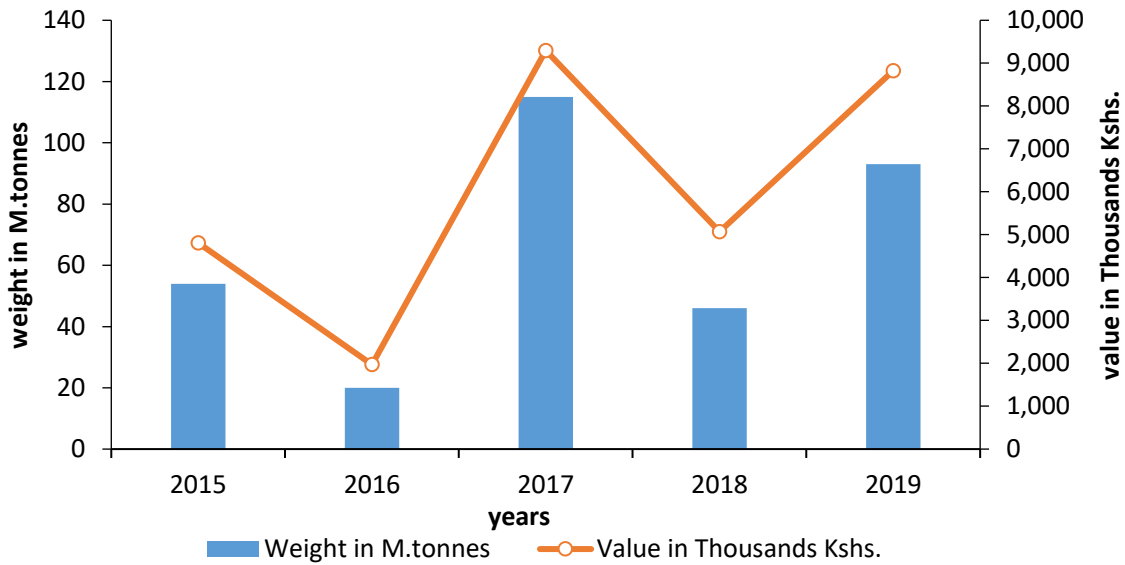


Fig 1. 18 Trends in annual fish landings from Tana River Delta fishery 2015-2019

1.11 LAKE KENYATTA FISHERY

During the year under review a total of 140 MT of fish with an ex-vessel value of Kshs. 5.845 million were landed from Lake Kenyatta in Lamu County of the coast province. This was a 126 % increase in quantity of the fish landed and a corresponding increase of 69 % in ex-vessel value compared with 2018 figures of 62 tons with an ex-vessel value of Kshs 3.451 million.

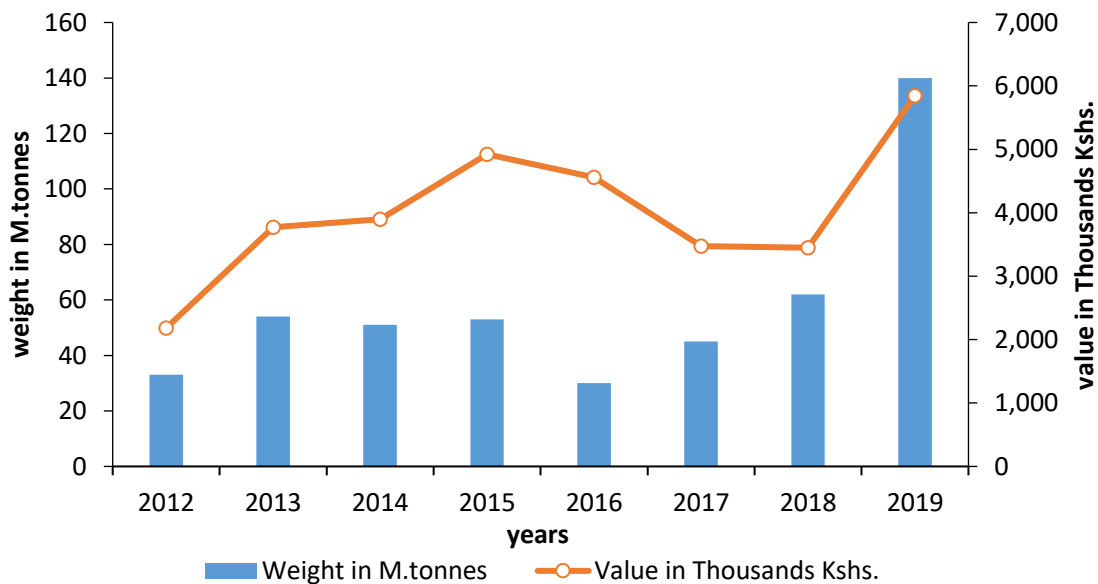


Fig 1. 10 Lake Kenyatta fish catch trends in metric tons 2012 – 2019

Table 1. 11 Lake Kenyatta Monthly fish landings by Species 2019

Month	Tilapia		Clarias		Prot		Others		Total	
	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs
Jan	3,617	308,805	4,830	176,715	5,328	189,819			13,776	675,339
Feb	8,697	354,375	103	8,820	6,954	238,854			15,755	602,049
Mar	9,012	426,426	5,981	256,998	31	5,250	42	7,350	15,066	696,024
Apr	8,357	217,434	5,250	180,831	4,112	140,406			17,718	538,671
May	2,153	72,030	6,625	227,220	4,367	149,100			13,144	448,350
Jun	8,118	340,200	2,879	58,905	4,640	97,104			15,637	496,209
July	3,371	158,445	1,589	58,044	1,005	35,196			5,966	251,685
Aug	3,100	40,215	1,323	48,909	1,261	45,318	1,162	23,625	6,846	158,067
Sep	3,629	198,030	1,379	51,429	1,266	44,730			6,273	294,189
Oct	3,599	272,790	1,525	65,310	1,550	113,400			6,674	451,500
Nov	7,780	437,325	927	22,470	1,979	82,383	2,460	84,000	13,146	626,178
Dec	6,679	450,870	1,629	76,020	2,111	79,380			10,418	606,270
Total	68,111	3,276,945	34,041	1,231,671	34,602	1,220,940	3,664	114,975	140,419	5,844,531

1.12 TANA RIVER DAMS FISHERY

In 2019, a total of 394 MT of fish with an ex-vessel value of Kshs 60.571 million were landed from the main fishery water bodies of the Tana River dams of Masinga, Kamburu, and Kiambere. This was 33% increase in quantity and 62 % increase in value compared to 2018 landings of 297 MT valued at Kshs 37.373 million, Figure 1.21, table 12.

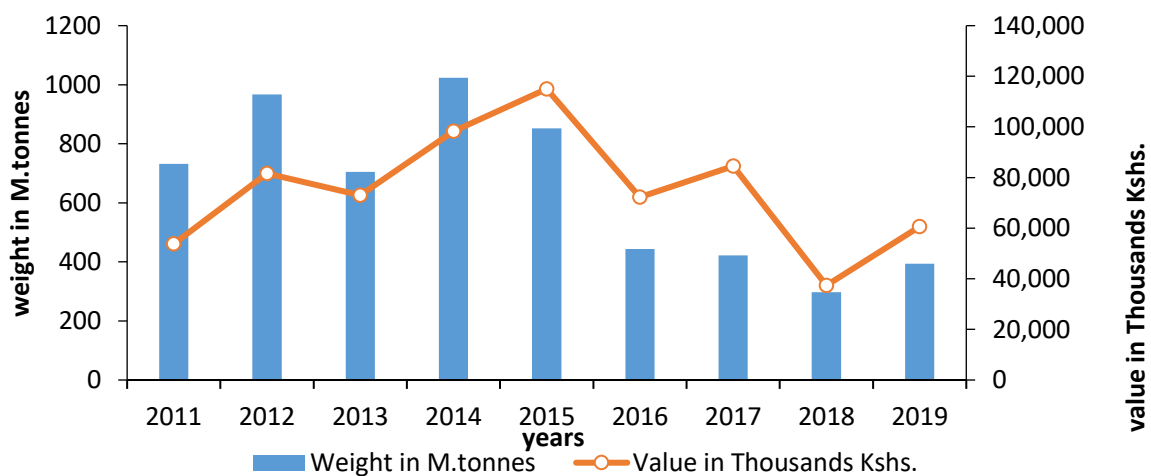


Fig 1. 20 Tana River Dams fish catch trends in metric tons 2011 – 2019

Table 1. 12 Tana River Dams Monthly fish landings by Species 2019

Month	<i>Tilapia niloticus</i>		Carps		Clarias		others		Total	
	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs
Jan	16,488	3,188,960	10,738	1,073,800	10,395	1,152,400	50	9,200	37,671	5,424,360
Feb	19,115	3,574,080	9,226	922,600	8,027	923,000	51	10,600	36,419	5,430,280
Mar	18,249	3,429,800	6,454	645,400	6,925	807,900	47	12,700	31,675	4,895,800
Apr	17,056	3,348,880	5,908	590,800	7,161	864,400	47	14,600	30,172	4,818,680
May	19,473	3,749,780	7,290	729,000	7,009	838,800	61	13,300	33,833	5,330,880
Jun	18,929	3,649,120	9,266	926,600	7,278	860,400	42	10,800	35,515	5,446,920
July	19,084	3,627,520	7,952	795,200	7,004	828,700	38	9,400	34,078	5,260,820
Aug	17,215	3,405,800	8,354	835,400	6,620	785,700	41	12,000	32,230	5,038,900
Sep	16,163	3,253,560	7,402	740,200	6,217	730,800	27	7,000	29,809	4,731,560
Oct	15,958	3,057,040	6,076	607,600	4,331	555,600	34	8,700	26,399	4,228,940
Nov	18,074	3,308,640	9,076	907,600	4,436	567,600	35	9,600	31,621	4,793,440
Dec	18,200	3,361,800	9,714	971,400	6,998	826,600	36	10,600	34,948	5,170,400
Total	214,004	40,954,980	97,456	9,745,600	82,401	9,741,900	508	128,500	394,369	60,570,980

1.13 LAKE KANYABOLI FISHERY

Lake Kanyaboli is one of the satellite lakes of Lake Victoria and it is located in Siaya County. The fisheries of the lake are comprised of the following fish species: *Oreochromis niloticus*, *Protopterus aethiopicus*, *Haplochromis* and *Clarias spp.*

During the year under review, a total of 299.7 MT with an ex-vessel value of Kshs 43.826 million were landed from the lake. This was a 47.7% increase in quantity of the fish landed compared with 2018 figures of 203 MT with a value of Kshs 29.656 million figure 1.22, table 13.

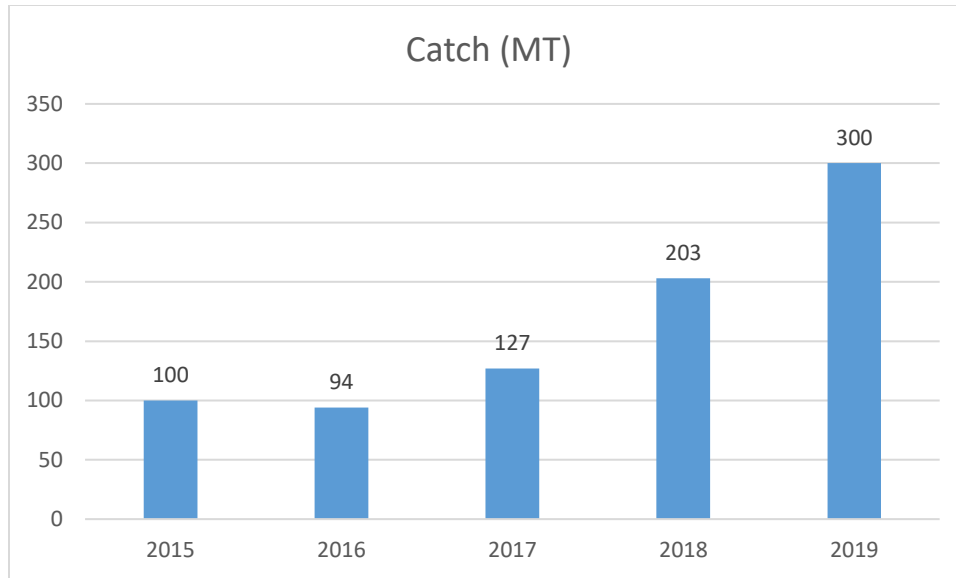


Fig 1. 21 Lake Kanyaboli fish catch trends in metric tons 2015-2019

Table 1. 13 Lake Kanyaboli Monthly fish landings by Species 2019

SPECIES	Wt (Kg)	Value (Ksh)	Wt (Kg)	Value (Ksh)	Wt (Kg)	Value (Ksh)	Wt (Kg)	Value (Ksh)	Wt (Kg)	Value (Ksh)
Months	Clarias		Haplochromiines		Protopterus		Tilapia niloticus		TOTAL	
Jan	2,690	267,744	1,921	214,482	1,495	187,650	14,898	2,934,460	22,964	3,604,336
Feb	2,113	356,460	2,680	236,880	1,970	198,480	17,977	3,429,293	26,813	4,221,113
Mar	3,511	311,870	2,264	202,379	2,506	243,490	15,120	2,327,440	23,277	3,085,179
Apr	5,489	311,082	2,555	189,834	8,629	904,800	13,020	2,466,720	27,169	3,872,436
May	4,577	297,506	2,680	239,234	6,691	644,230	18,332	3,321,398	30,201	4,502,368
Jun	2,341	279,226	6,053	282,654	6,998	727,700	14,859	2,991,300	28,191	4,280,880
Jul	3,278	282,515	1,868	163,868	6,336	652,675	17,109	3,200,225	28,105	4,299,283
Aug	4,129	290,066	3,062	247,834	4,606	479,220	10,130	2,018,099	21,225	3,035,219
Sep	4,322	287,570	1,985	140,658	4,211	449,507	13,599	2,545,970	23,065	3,423,705
Oct	3,411	300,363	3,019	280,576	4,558	486,300	12,020	1,920,407	22,438	2,987,646
Nov	2,398	306,803	2,006	258,330	2,979	341,100	14,284	2,287,060	22,615	3,193,293
Dec	2,948	377,980	2,095	263,090	2,390	232,150	15,333	2,447,610	23,655	3,320,830
TOTAL	40,543	3,660,935	25,810	2,714,869	51,946	5,546,102	180,430	31,904,382	299,718	43,826,288

2.0 AQUACULTURE

Freshwater aquaculture development in Kenya in recent years has been fast growing. Compared to an annual production of about 1,000 MT in 2006, production had increased to an estimated 15,320MT in 2018. This has been mainly the result of a nationwide fish farming mass campaign as part of the Economic Stimulus Programme launched by the Government of Kenya (GoK) during the period 2009-2013. As a result, the area of fishponds has increased and other support has been provided along different aquaculture value chains (Ballestrazzi, 1996).

At present, several ponds are out of production due to issues with quality of feeds and fingerlings, as well as poor selection of sites for some of the ponds. Some of the fingerlings farms, supported by the programme are getting out of business in certain areas due to low demand. This has consequently led to the observed decline in fish production from aquaculture. Mariculture production of seaweeds is being practiced commercially, mainly at Kibuyuni in south coast and is planned for uptake in other areas as it has demonstrated that seaweed production can succeed in Kenya. Also cage culture production is being practiced commercially mainly in Lake Victoria in Kenya.

In 2019, fish farming production was 18,542 metric tons with a farm gate value of 5,581 million Kenya Shillings. This production reflected an increase of 21% in total catch and 24.5% increase compared to 15,320 metric tons valued at 4,480 million Kenya shillings in 2018.

Table 2. 1 Fish landings by Weight and Value from Aquaculture, mariculture and Cage culture 2016-2019 (Reported)

Years	weight in MT	Value in '000 Kshs.	
2016	14,952	4,253,844	
2017	12,356	3,691,046	
2018	15,120	4,480,875	
2019	18,542	5,581,142	
Culture type			
Categories	2017	2018	2019
<i>Pond fishery</i>	8,796	10,186	13,175
<i>Cage Fishing</i>	3,509	4,870	5,291
<i>Marine Culture</i>	51	64	76
Total	12,356	15,120	18,542

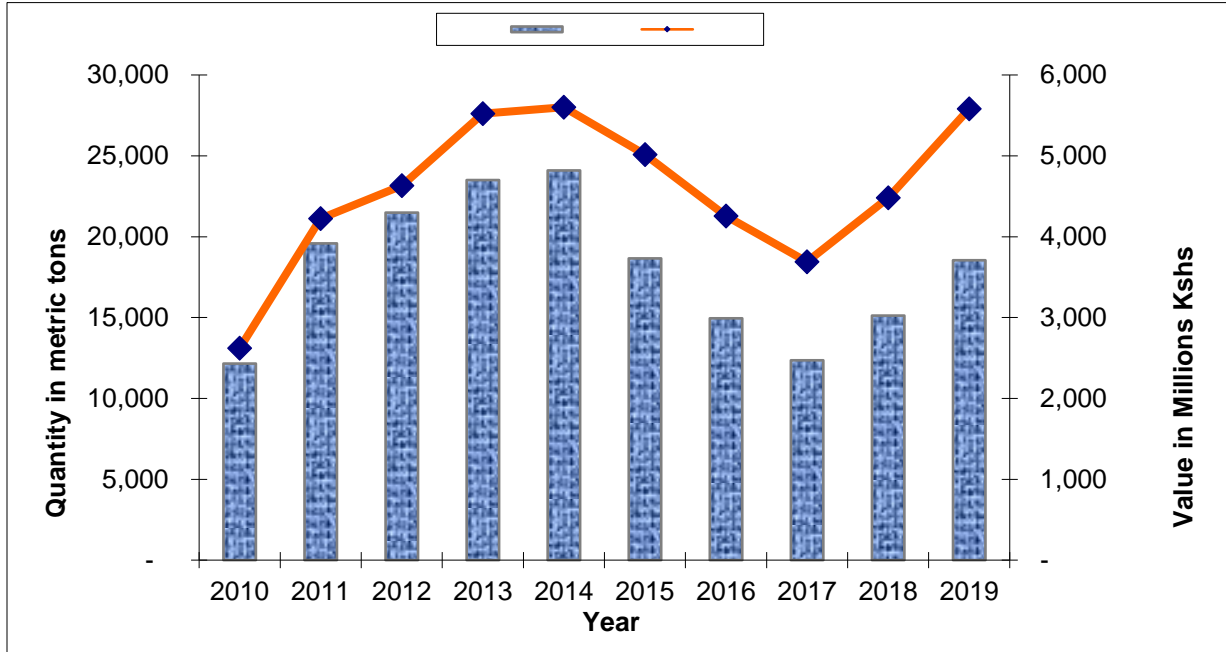


Fig 2. 1 Trends in annual fish landings from Aquaculture fishery 2010-2019

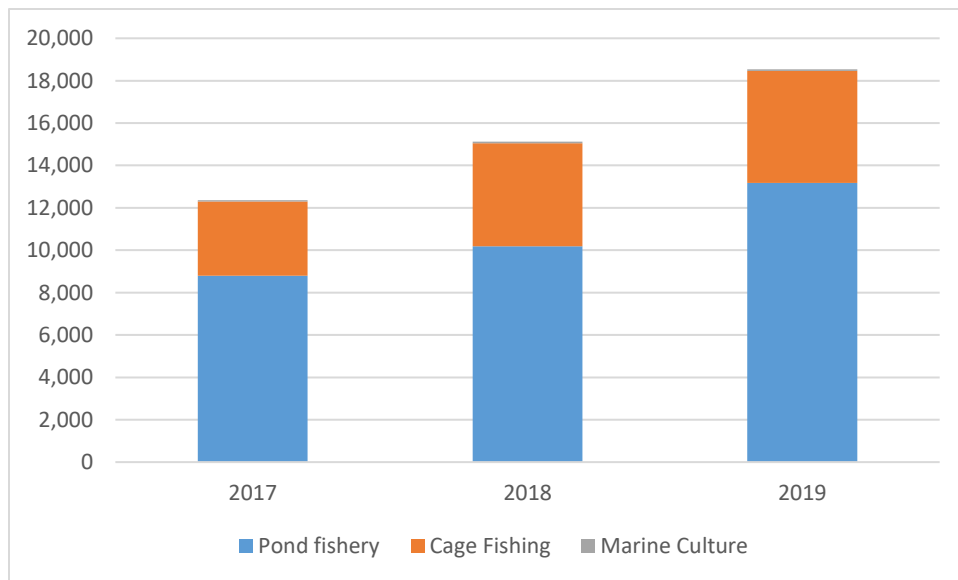


Fig 2. 2 Trends of Aquaculture, cage culture and Mariculture fishery 2017-2019

3.0 MARINE FISHERIES

3.1 MARINE ARTISANAL FISHERIES

During the year under review total production of artisanal marine landings was 25,670 metric tons with an ex-vessel value of 4478 million Kenya shillings. This was an increase of 6% in quantity

and 0.4% increase in value compared to 2018 figures of 24,221 metric tons with an ex-vessel value of 4458 million Kenya shillings.

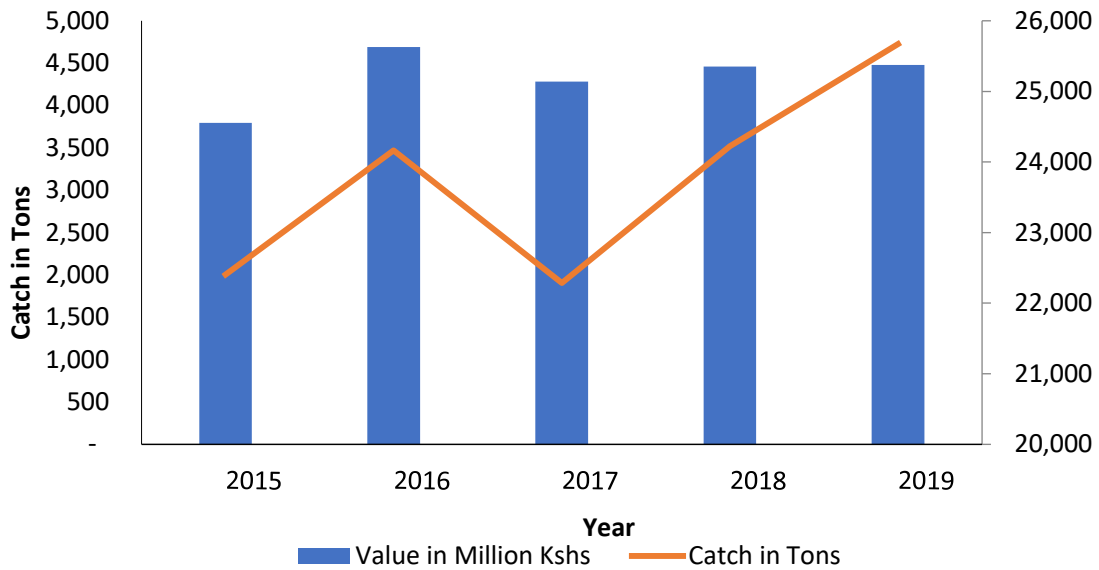


Fig 3. 1 Trends of marine fish production by quantity and value 2015-2019

In 2019, Demersals dominated artisanal marine fisheries catch accounting for 47% (11,990 MT) of the total landings. Pelagics contributed 35% (8,942 MT), miscellaneous accounted for 8% (2,063 MT), Crustaceans contributed 8% (1,934 MT) and Sharks & Rays accounted for 3% (743 MT) Figure 3.2 & 3.3.

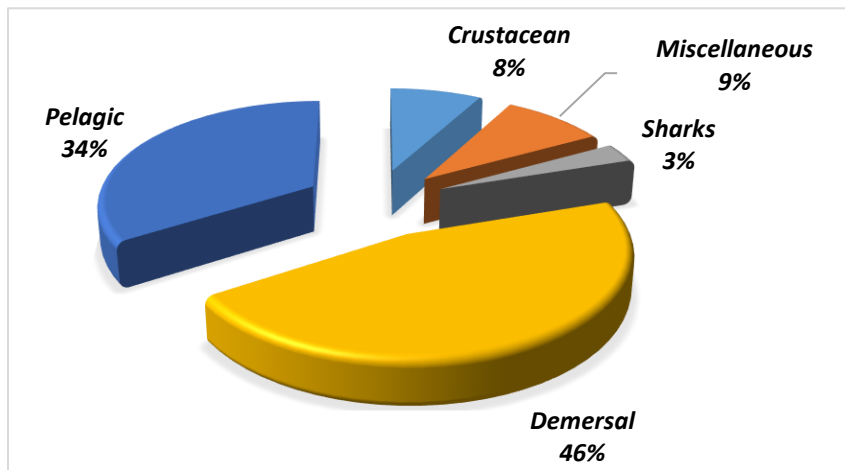


Fig 3. 2 Percentage contribution of marine fish species groups 2019

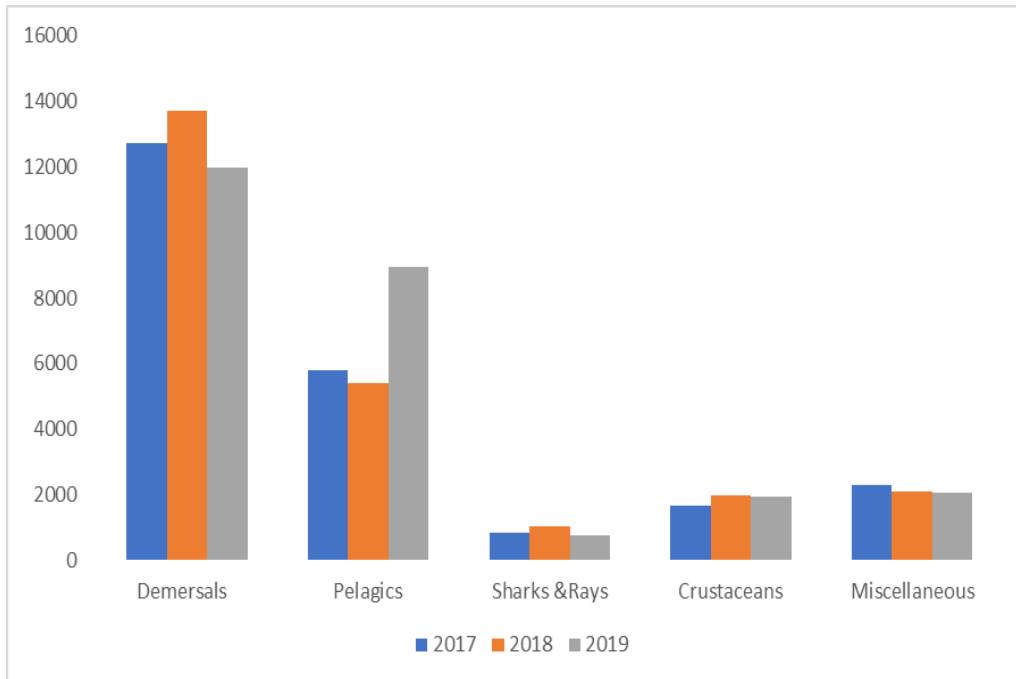


Fig 3. 3 Trend of landing of marine fish species groups 2017-2019

In this reporting period, Kwale county contributed the highest quantity of marine artisanal landing of 11,190 MT (44% of the total landings) with an ex-vessel value of Ksh.1.487 billion (33% of the total ex-vessel value). Lamu county contributed 7,818 MT (30%) with ex- vessel value of Ksh1.215 billion (27%), followed by Kilifi county with 4,053 MT (16%) with ex- vessel value of Ksh.1.001 billion (22%). Mombasa contributed 2, 053 MT (8%) with ex-vessel value of Ksh.674 Million (15%) with Tana River county contributing the least, 558 MT (2%) with ex-vessel value of Ksh.101 Million (2%). See Figure 3.4, table 3.1 & 3.2.

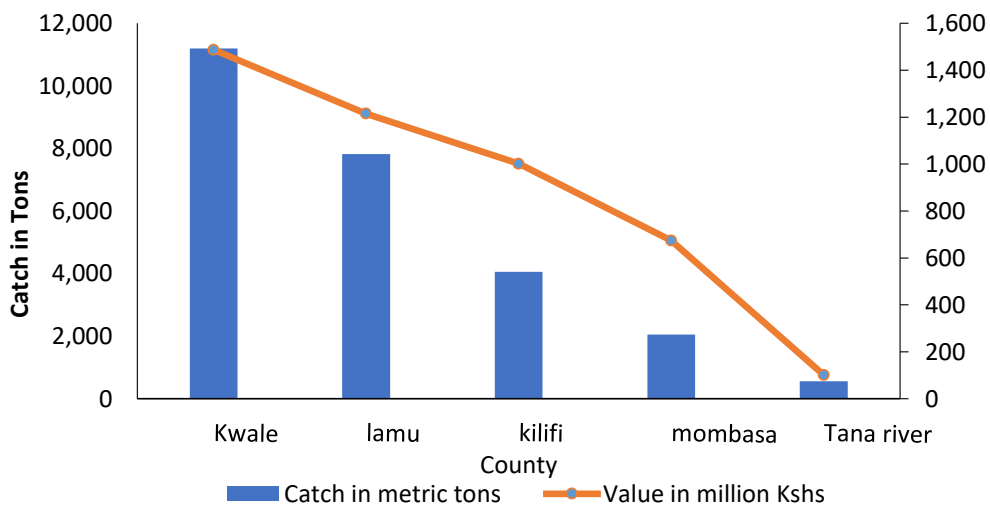


Fig 3. 4 Marine fish production by Quantity, Value and Counties 2019

Table 3. 1 Marine fish landings by species, weight and value 2017-2019

SPECIES		2017		2018		2019	
		Catch (Mt)	000 Kshs	Catch (Mt)	1 Kshs	Catch (Mt)	1 Kshs
Demersals							
Siganidae	Rabbit fish	1,985	325,139	2,006,205	268,879,471	1,859	288,036
Lutjanidae	Scavenger	1,476	233,327	1,369,450	193,955,728	726	113,280
Lethrinidae	Snapper	1,912	334,255	1,958,613	235,796,823	1,849	258,568
Scaridae	Parrot fish	1,588	189,654	1,769,841	185,076,591	1,483	162,695
Serranidae	Rock cod	608	144,041	631,295	104,598,399	479	86,805
Haemulidae	Black skin/grunt	852	126,494	1,305,744	197,975,491	1,013	167,094
Mugilidae	Mullets	489	60,589	623,648	77,011,126	698	88,565
Acanthuridae	Surgeon fish/Ur	673	102,613	839,757	142,587,404	649	108,047
Nemipteridae	Threadfin brear	-	-	-	-	-	-
Mullidae	Goat fish	321	56,803	329,471	54,823,622	280	49,300
Mixed demersal	Mixed dermasal	1,763	187,460	2,021,105	301,890,053	2,126	230,845
Gerreidae	Pouter	455	60,983	379,344	67,569,668	380	73,941
Scatophagidae	Streaker	157	15,332	313,474	74,094,166	258	72,505
Ariidae	Cat fish	457	54,376	179,377	22,707,819	194	22,898
TOTAL		12,736	1,891,066	13,727,325	1,926,966,361	11,990	1,722,581
PELAGICS							
Belonidae	Needle fishes	-	-	-	-	-	-
Scombridae	Little mackerels,	2,077	411,329	1,894,481	323,291,822	2,737	363,699
Carangidae	Cavalla jacks/qu	899	147,141	942,939	174,412,458	1,553	170,879
Sphyraenidae	Barracudas	729	115,885	609,959	141,505,600	1,187	98,456
Hemiramphidae	Halfbeaks	-	-	-	-	-	-
Clupeidae	Sardines	543	62,344	634,163	70,108,336	2,015	148,480
Engraulidae	Anchovies	-	-	-	-	-	-
Istiophoridae	Sail fish	200	35,462	175,962	28,552,294	201	25,858
Xiphidae	Swordfishes	43	11,328	-	-	-	-
Chirocentridae	Wolf Herrings	-	-	-	-	-	-
	Mixed Pelagics	768	106,951	610,256	95,182,045	756	154,276
Chanidae	Milk fish	228	29,231	265,646	51,347,915	292	31,932
Menidae	Moonfish	0	125	-	-	-	-
Congridae	Eel	4	466	-	-	-	-
Coryphaenidae	Dolphin fish	287	7,810	247,867	36,346,700	191	20,991
TOTAL		5,780	928,071	5,381,273	920,747,171	8,942	1,014,571
SHARKS & RAYS							
Carcharhinidae	Sharks	333	62,224	770,489	128,870,132	564	103,399
Dasyatidae	Sting Rays	175	29,135	-	-	-	-
Lamnidae	Mackerel Sharks	266	44,355	-	-	-	-
	Mixed species	-	-	253,389	39,362,858	179	24,770
Myliobatidae	Manta Rays	64	10,703	-	-	-	-
Rhincodontidae	Whale Sharks	0	53	-	-	-	-
Rhinobatidae	Guitarfishes/Ska	-	-	-	-	-	-
Sphyrnidae	Hammerhead sh	4	585	-	-	-	-
Stegostomatidae	Zebra sharks	-	-	-	-	-	-
TOTAL		842	147,055	1,023,878	168,232,990	743	128,168
CRUSTACEANS							
Palinuridae	Lobsters	300	382,870	423,899	407,971,399	347	426,966
Penaeidae	Crabs	584	249,399	664,407	266,601,460	641	287,424
Portunidae	Prawns	763	284,675	899,178	377,961,630	946	412,343
TOTAL		1,647	916,943	1,987,485	999,202,353	1,934	1,126,734
MISCELLANEOUS							
Octopodidae	Octopus	1,469	244,389	1,429,559	261,685,572	939	224,547
Loliginidae	Squids	661	99,254	553,639	148,880,211	614	147,290
Sepiidae	Cuttlefish	-	-	-	-	-	-
Holothuridae	Beche-de-mers	86	47,692	81,828	28,276,031	356	96,212
	Oysters	41	5,970	35,989	3,818,516	155	17,474
	Marine shells	25	585	-	-	-	-
TOTAL		2,282	397,891	2,101,015	442,660,330	2,064	485,524
TOTAL MARINE		23,286	4,281,026	24,220,976	4,457,809,206	25,670	4,477,577

Zoological	English	Kilifi		Kwale		Lamu		Mombasa		Tana River		Total	
Demersals		Catch (Kg)	Value	Catch (Kg)	Value	Catch (Kg)	Value	Catch (Kg)	Value	Catch (Kg)	Value	Catch (Kg)	Value
Siganidae	Rabbit fish	232,182	52,498,322	440,101	90,402,746	990,635	83,381,819	179,161	60,009,100	12,049	1,744,302	1,854,128	288,036,289
Lutjanidae	Scavenger	182,196	40,970,284	180,895	30,811,987	302,041	25,724,860	40,170	12,768,641	21,112	3,004,337	726,414	113,280,109
Lethrinidae	Snapper	164,483	39,201,913	333,518	66,319,398	1,169,497	95,434,467	166,468	55,384,137	15,117	2,228,030	1,849,082	258,567,945
Scaridae	Parrot fish	147,511	27,415,936	306,462	45,080,246	920,256	63,439,121	91,441	24,521,021	17,616	2,238,810	1,483,286	162,695,133
Serranidae	Rock cod	100,538	21,505,115	194,493	35,222,136	114,296	9,757,463	56,034	18,537,484	13,367	1,783,110	478,728	86,805,308
Haemulidae	Black skin/grunters	141,866	31,802,367	235,798	44,752,773	457,957	39,594,208	145,545	47,445,206	31,772	3,499,384	1,012,938	167,093,938
Mugilidae	Mullets	125,750	30,955,615	255,841	27,433,254	283,573	22,791,036	16,256	4,470,246	16,128	2,914,716	697,548	88,564,867
Acanthuridae	Surgeon fish/Unicorn	165,698	27,107,650	194,686	28,155,131	180,529	21,030,211	88,222	29,836,909	19,955	1,916,880	649,090	108,046,780
Nemipteridae	Threadfin breams	-	-	-	-	-	-	-	-	-	-	-	-
Mullidae	Goat fish	65,058	14,754,099	102,388	20,737,973	83,298	7,995,723	16,256	4,470,246	12,703	1,342,380	279,704	49,300,419
Gerreidae	Pouter	54,288	12,545,706	255,299	49,765,719	40,394	3,572,115	24,995	7,014,889	5,214	1,042,720	380,189	73,941,149
Scatophagidae	Streaker	15,499	3,760,726	46,247	8,495,334	179,355	58,510,072	-	-	16,979	1,739,010	258,079	72,505,142
Aridae	Cat fish	53,327	10,371,416	98,954	8,339,773	13,148	1,182,533	4,814	1,047,939	24,250	1,956,325	194,493	22,897,985
Mixed demersal	Mixed demersal	360,394	69,516,677	177,792	30,728,985	1,469,465	101,539,277	81,897	25,719,439	36,411	3,341,065	2,125,959	230,845,443
TOTAL		1,808,790	382,405,826	2,822,474	486,245,454	6,204,443	533,952,905	911,259	291,225,253	242,671	28,751,069	11,989,637	1,722,580,506
PELAGICS													
Belonidae	Needle fishes	-	-	-	-	-	-	-	-	-	-	-	-
Scombridae	Little mackerels/Kingfish/bonitos/tuna	545,894	136,470,231	1,764,965	119,936,806	281,264	68,584,320	92,299	28,053,431	52,835	10,654,315	2,737,257	363,699,102
Carangidae	Cavalla jacks/queenfish	184,337	44,263,453	1,067,663	83,922,857	199,968	17,739,568	74,833	21,335,066	26,122	3,617,695	1,552,923	170,878,638
Sphyrnidae	Barracudas	215,125	40,106,961	916,966	45,851,149	-	-	36,941	10,538,038	18,351	1,959,510	1,187,383	98,455,658
Hemiramphidae	Halfbeaks	-	-	-	-	-	-	-	-	-	-	-	-
Clupeidae	Sardines	76,661	17,357,037	1,819,371	107,704,919	-	-	99,316	21,662,778	19,926	1,755,577	2,015,273	148,480,311
Engraulidae	Anchovies	-	-	-	-	-	-	-	-	-	-	-	-
Istiophoridae	Sail fish	65,137	15,095,185	102,325	6,072,269	16,669	1,449,152	8,004	2,130,569	8,502	1,111,320	200,636	25,858,495
Xiphiidae	Swordfishes	-	-	-	-	-	-	-	-	-	-	-	-
Chirocentridae	Wolf Herrings	-	-	-	-	-	-	-	-	-	-	-	-
Chanidae	Milk fish	65,435	17,293,957	131,339	4,200,196	69,758	5,821,207	10,261	2,614,028	14,749	2,002,140	291,542	31,931,527
Menidae	Moonfish	-	-	-	-	-	-	-	-	-	-	-	-
Congridae	Eel	-	-	-	-	-	-	-	-	-	-	-	-
Coryphaenidae	Dolphin fish	42,718	12,909,124	145,851	7,463,677	-	-	2,114	618,258	-	-	190,684	20,991,058
	Mixed Pelagics	290,891	77,460,854	288,348	51,480,479	89,753	9,756,968	55,653	11,598,423	41,202	3,979,266	765,846	154,275,988
TOTAL		1,486,198	360,956,801	6,236,828	426,632,352	657,412	103,351,214	379,420	98,550,589	181,686	25,079,822	8,941,544	1,014,570,777
SHARKS & RAYS													
	Sharks & Rays	114,752	21,730,694	258,409	42,973,712	60,689	7,411,211	108,126	26,072,606	21,582	5,210,415	563,557	103,398,638
	mixed fish/Others	101,786	15,440,875	54,566	7,138,574	1,862	238,471	-	-	20,908	1,951,817	179,123	24,769,737
TOTAL		216,538	37,171,569	312,975	50,112,286	62,551	7,649,682	108,126	26,072,606	42,490	7,162,232	742,680	128,168,375
CRUSTACEANS													
Palinuridae	Lobsters	64,914	68,392,424	101,244	88,331,987	159,858	256,004,100	9,604	6,154,155	10,961	8,083,775	346,580	426,966,440
Penaeidae	Crabs	35,375	12,491,325	175,607	53,615,087	374,258	197,763,361	39,675	13,371,782	16,089	10,182,935	641,004	287,424,490
Portunidae	Prawns	60,862	27,915,080	308,151	128,515,168	105,222	47,857,782	457,937	198,602,929	13,904	9,452,100	946,076	412,343,058
		-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		161,151	108,798,828	585,002	270,462,242	639,338	501,625,243	507,216	218,128,866	40,954	27,718,810	1,933,661	1,126,733,989
MISCELLANEOUS													
Octopodidae	Octopus	279,436	79,879,691	358,029	93,940,116	203,405	23,670,502	63,827	18,353,906	34,182	8,703,135	938,880	224,547,349
Loiginidae	Squids	79,162	26,453,028	485,022	108,984,266	31,268	6,786,626	4,082	1,117,029	13,867	3,949,400	613,401	147,290,349
Sepiidae	Cuttlefish	-	-	-	-	-	-	-	-	-	-	-	-
Holothuridae	Beche-de-mers	14,666	2,468,620	254,138	37,935,380	19,243	37,495,319	66,378	18,208,351	1,789	104,370	356,213	96,212,040
	Oysters	7,063	2,960,433	135,449	12,311,061	-	-	12,431	2,202,305	-	-	154,944	17,473,799
	Marine shells	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		380,327	111,761,772	1,232,639	253,170,822	253,916	67,952,447	146,718	39,881,590	49,838	12,756,905	2,063,438	485,523,537
TOTAL MARINE		4,053,003	1,001,094,796	11,189,918	1,486,623,157	7,817,660	1,214,531,491	2,052,739	673,858,903	557,639	101,468,838	25,670,960	4,477,577,184

Table 3. 2 Marine fish landing by species, weight, value and by counties 2019

County	Kilifi		Kwale		Lamu		Mombasa		Tana River		Total	
	Catch (Kg)	Value	Catch (Kg)	Value	Catch (Kg)	Value	Catch (Kg)	Value	Catch (Kg)	Value	Catch (Kg)	Value
Marine fishes												
Demersals	3,072,794	650,276,803	2,641,647	331,961,234	5,085,819	516,452,730	1,014,119	281,118,283	921,547	111,256,937	12,735,927	1,891,065,987
Pelagics	2,784,497	514,663,115	1,849,992	205,708,226	536,627	99,147,028	456,698	93,259,536	151,904	15,292,740	5,779,719	928,070,645
Sharks and rays	437,301	72,986,706	158,335	26,426,530	49,757	8,304,491	165,455	34,215,384	30,688	5,121,883	841,535	147,054,994
Sub Total	6,294,592	1,237,926,624	4,649,975	564,095,990	5,672,203	623,904,249	1,636,272	408,593,203	1,104,139	131,671,560	19,357,181	2,966,191,625
Crustacean	333,343	169,357,416	258,496	63,499,831	526,025	480,123,034	456,657	176,665,032	72,666	27,298,130	1,647,186	916,943,443
Molluscs	685,654	149,109,790	921,531	115,635,960	233,005	66,118,605	184,884	41,212,200	256,559	25,814,444	2,281,633	397,890,998
TOTALS	7,313,588	1,556,393,830	5,830,001	743,231,781	6,431,233	1,170,145,888	2,277,813	626,470,435	1,433,364	184,784,133	23,286,000	4,281,026,067

3.2 MARINE INDUSTRIAL LANDINGS

3.2.1 Trawling

The shallow water prawn fishery sector is significant to the national economy of Kenya as well as the coast region by contributing to employment, food security and income generation through local and export markets. To optimize and sustain the benefits from the fishery a management plan was developed and gazetted in 2010 (Morel *et al.*, 2007).

Current information on the status of different marine fisheries resources in Kenya is needed in order to update management regulations within the plan and provide guidelines to ensure optimum benefits to the coastal communities and the nation. To provide and update information and data on the status of the fish stocks to support improved management of the country's marine and coastal fishery resources, one of the most cost effective means of collecting data and information of commercial fisheries is through a fisheries observer program. Four vessels were issued with licenses to fish for shallow water prawn fishery. Consequently, 5 industrial trawl vessels were licensed in 2019 for deep water trawling.

3.2.2 Shallow Water Prawn Fishery

Catch, Effort, Species Composition and value of landings in 2019

During the year under review, the semi-industrial fleet had 4 licensed trawlers. A total of 535 tons of prawns, assorted fin fish species, others and trash with an estimated ex-vessel value of Kshs. 186 million Kshs. were landed by the industrial trawlers (Table 18, Figure 30). This production reflected an increase of 2.8% in total catch from last year's (2018) production of 520 tons with an ex-vessel value of Kshs. 190 million Kshs. The notable increase in value and catch was due to trawling in the deeper waters after the closure of the shallow fishing season where deep water prawns and lobsters are the main targets.

Table 3. 3 Catch, Effort, Species Composition and Value of Landings in 2019 Fishing Effort

No. of vessels	4
No. of fishing days	460
No. of nets	7
Fishing Distance(nm)	3.0-9.1
Fishing Depth(m)	6.6-62

Species Composition and value of landings in 2019

During the year under review, a total of 535.2 MT was caught which was a 2.8% increase compared to 2018 which recorded a total of 520.4 MT. The catch was valued at Kshs. 185.9 million compared to the value of Kshs 189.6 million in 2018. The landed catch comprised of prawns, assorted finfish species, others and trash were landed by the industrial trawlers (Table 3.4). The other species consisted of octopus, squids, cuttlefish, lobsters and Crabs.

Table 3. 4 Monthly fish catch from shallow prawn trawl fishery, 2019

Months	Prawns (Kg)	Fin Fish (Kg)	Others (Kg)	Total catch (Kg)	Trash (Kg)	Value (Kshs)
April	17,496	98,679	283	116,458	2,364	35,552,950
May	26,320	42,415	25	68,760	604	32,177,250
June	14,305	42,187	25	56,517	433	21,318,150
July	16,722	63,751	24	80,497	193	27,806,000
August	13,730	63,069	5	76,804	420	24,972,050
September	10,000	58,853	18	68,871	915	20,775,100
October	14,045	53,159	66	67,270	136	23,288,800
Total	112,618	422,113	486	535,217	5,065	185,900,300

The month that registered the highest production was April at 116.5 MT with an ex vessel value of Kshs 35.6 million whereas the least catch was June at 56.5 MT valued at Kshs 21.3 million (Table 3.4).

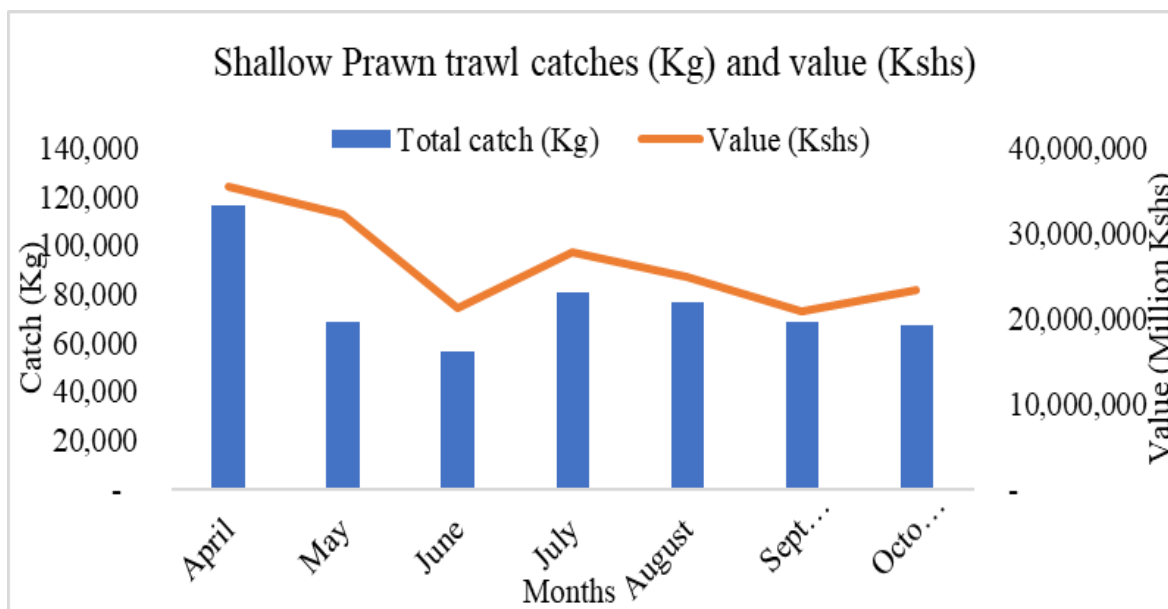


Fig 3. 5 Monthly trends in catch levels and value from the shallow prawn trawl fishery, 2019

3.2.3 Deep water trawl fishery

Catch, Effort, Species Composition and Value of Landings in 2019

Fishing Effort

A total of 5 industrial trawl vessels were licensed to fish for deep water fish resources in 2019. While 3 of the vessels fished during shallow water off season, two vessels fished from January to December. The vessel fished for a maximum of 510 fishing days within 3.2 -14 nautical miles from the baseline and at depths of between 6.8- 280m.

During the year under review, a total of 625.8 tons which was an increase compared to a total of 141 tons caught in 2018. The catch was valued at Kshs 170 Million an increase compared to Kshs 42.3Million in 2018. This could be attributed to the fact that deep water trawlers carried out their fishing operations throughout the year in 2019 as opposed to 2018 whereby fishing took place in only four months. There are some shallow water prawn trawlers that had been licensed to fish in the deep sea during the seasonal closure of the shallow water prawn fishery.

The highest production was recorded in the month of December at 175.2 MT with an ex vessel value of Kshs 39.3 million and the least catch was recorded in the month of April (1.4 MT) with an ex-vessel value of Kshs 1.1 million (Figure 3.5).

Table 3. 5 Monthly fish catch from trawl fishery off Malindi-Ungwana Bay (deep sea), 2019

Months	Prawns(Kg)	Finfish(Kg)	Others (Kg)	Total (Kg)	Trash (Kg)	Value(M' Kshs)
January	6,457	24,177	7,792	38,426	5,779	12,594,575
February	5,076	4,495	1,197	10,768	-	5,766,650
March	12,755	2,756	484	15,995	-	12,151,700
April	1,134	200	92	1,426	-	1,083,600
May	2,428	3,140	64	5,632	404	2,829,200
June	5,165	12,760	107	18,032	1,115	7,227,250
July	5,261	39,032	134	44,427	531	12,574,800
August	7,686	70,431	82	78,199	4,287	21,024,100
September	1,917	51,275	72	53,264	625	22,253,300
October	4,987	60,548	1,869	67,404	11,342	17,065,150
November	4,190	109,611	3,178	116,979	2,920	26,487,575
December	5,658	163,998	5,576	175,232	675	39,285,800
Grand Total	62,714	542,423	20,646	625,783	27,678	170,088,700

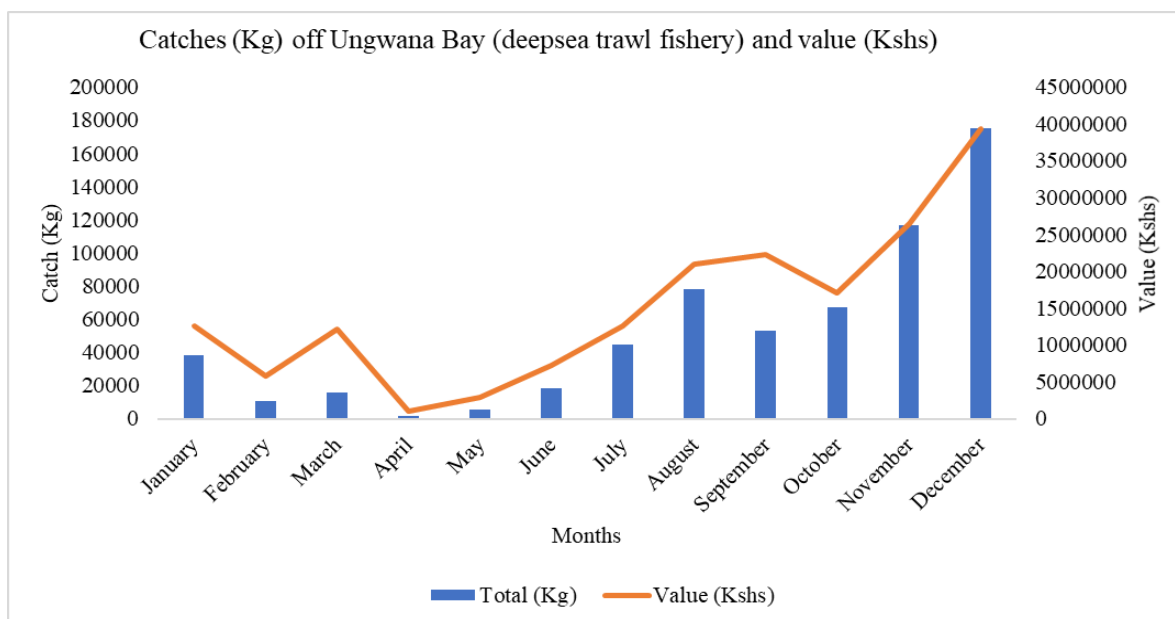


Fig 3. 6 Monthly trends in catch levels and value from the trawl fishery off Malindi-Ungwana Bay (deep sea), 2019

Deepwater crab pot fishery

Two deep water crab longline pot vessels were licensed to fish beyond 12 nm. These vessels target deep-water crab fishery of the species *Chaceon fenneri*. The total number of traps deployed were 53,807 with most traps deployed in the month of January (30,256). During 2019, a total of 38.1 tons of deep water crabs were caught valued at Kshs. 19.0 million. from a total of 53,807 traps.

Table 3. 6 Monthly fish catch from the deep sea pot-crab fishery, 2019

Months	No. of traps	Crabs (<i>Chaceon fenneri</i>) (Kgs)	Value (Kshs)
January	30,256	2,025	1,012,500
February	1,739	175	87,500
April	1,766	3,292	1,646,000
May	718	535	267,500
July	3,388	5,221	2,610,500
August	4,829	7,351	3,675,500
September	1,366	3,359	1,679,500
October	1,261	2,037	1,018,500
November	5,166	6,140	3,070,000
December	3,318	8,008	4,004,000
Total	53807	38143	19,071,500

The highest catch was recorded in the month of December estimated at 8 tons and valued at Kshs. 4 million, followed by August (7.4 tons) valued at Kshs 3.7 million (Table 3.6). The lowest catch was in the month of February where only 535kg were caught.

Catch (Kg) and value (Kshs) of *C. fenneri* (deepsea crabs) off Malindi-Ungwana Bay, 2019

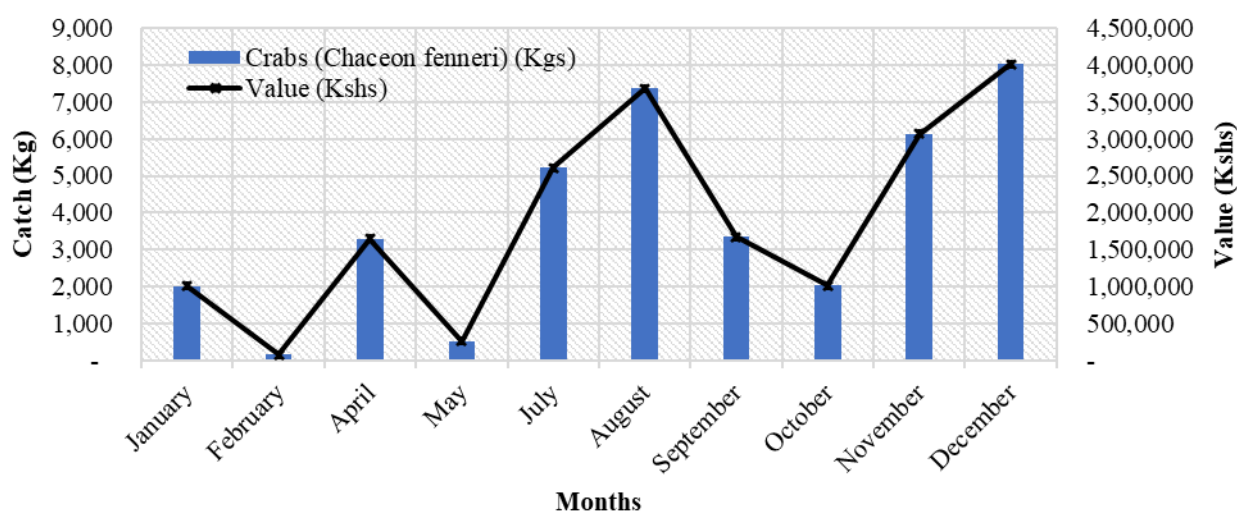


Fig 3. 7 Monthly trends in catch levels and value from the deep sea pot-crab fishery, 2019

Industrial longline fishery

Longlining

The longline fishery is conducted beyond the 12 nautical miles, within the 200 nautical miles in the Kenya's Exclusive Economic Zone (EEZ) and the high seas. Within the year under review, three industrial longline vessels were licensed to fish in the Kenya EEZ. The fishing effort was based on number of days fished, the number of hooked deployed, average length of setline and hours fished per set. The vessels fished for a total of 573 days, with a total of 4987 hooks. The average length of the setline for the three vessels was 80,466, 87,294 and the average fishing hours per set was 20.88.

Table 3. 7 Monthly fish catch from Longline offshore fishery, 2019

Months	Barracuda	Bigeye tuna	Blue sharks	Common dolphinfish/ Dorado	Indopacifi c sail fish	Mako sharks	Oil fish/ Escolar	Other marlins	Other sharks	Other species	Silky sharks	Sword fish	Total (Kg)	Value (Kshs)
January	0	14,088	7,274	0	123	1,510	26	0	0	3,306	304	17,342	43,973	12,312,440
February	0	858	9,656	0		585	0	0	0	4,068	0	19,250	34,417	9,636,760
March	0	4,922	3,065	0	38	74	0	0	0	2,413	327	5,544	16,383	4,587,240
April	0	35,017	7,189	0	193	745	0	0	0	8,329	588	18,055	70,116	19,632,480
May	0	41,819	5,240	0	1,131	669	0	0	0	5,547	0	15,287	69,693	19,514,040
June	28	5,234	9,536	106	333	1,695	13	0	0	1,267	142	32,066	50,420	14,117,600
July	73	40,260	17,210	24	141	2,902	105	314	0	944	711	77,378	140,062	39,217,360
August	124	10,242	12,114	18	59	2,445	128	349	225	176	772	47,230	73,882	20,686,960
September	186	16,667	13,050	0	58	1,348	75	111	75	547	922	28,693	61,732	17,284,960
October	142	31,479	3,351	0	248	2,913	250	194	338	3,786	1,526	59,558	103,785	29,059,800
November	28	11,032	4,291	0	859	1,285	65	134	174	1,335	594	19,185	38,982	10,914,960
December	120	25,757	8,189	0	1,794	2,912	235	549	51	853	2,003	48,697	91,160	25,524,800
Total	701	237,375	100,165	148	4,977	19,083	897	1,651	863	32,571	7,889	388,285	794,605	222,489,400

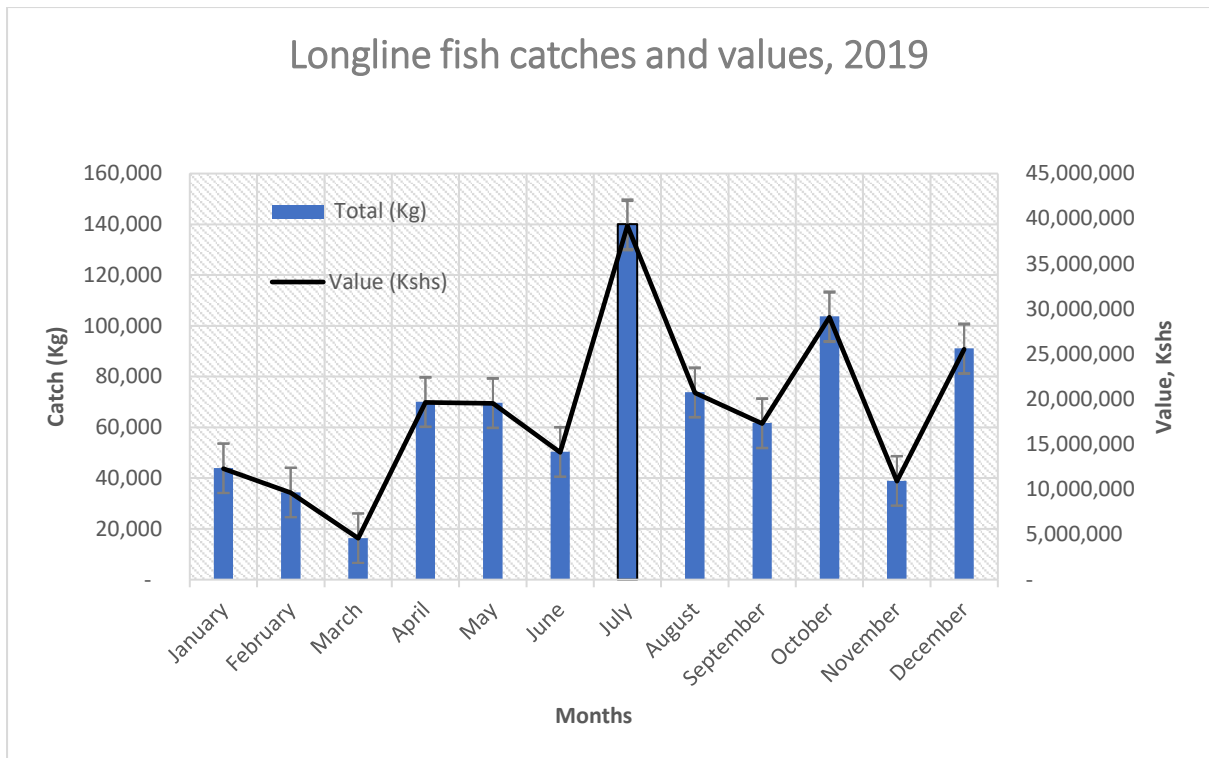


Fig 3. 8 Longline fish catches and Values in 2019

4.0 EXPORTS OF FISH AND FISHERY PRODUCTS

During the period under review, a total of 8821 metric tons of fish and fishery products were exported earning the country Kshs. 3.4 billion in foreign exchange. This was a 21.7% increase equivalent to 1571 metric tons from the previous year of 7250 metric tons. The leading export products were 1399 metric tons of molluscs valued at Kshs 572 million, 867 metric tons of Nile perch valued at Kshs 342 million, 509 metric tons of crustacea valued at Kshs 286 million. In the marine sub-sector only 14 metric tons of tuna valued at 4.5 million were processed compared to 1,915 metric tons in the previous year 2015 (Odoli et al., 2019).

The main markets for the marine ornamental fishes were the EU, USA, China and Japan (Figure 4.1).

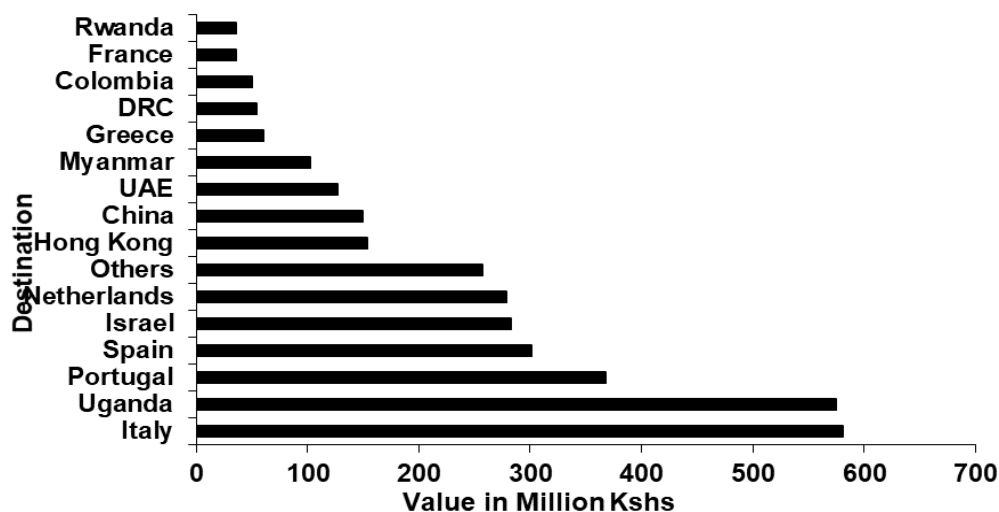


Fig 4. 1 Exports Products by destinations- 2019

By product types, molluscs was the leading export product 572 million Kshs representing 16% of the total export value from Kenya. Nile perch, crustaceans and sword fish represented 10.2%, 6% and 2.5% of the export respectively for 2016. Other export products were lobsters, prawns and dried tilapia representing 4%, 4% and 2% of the export values respectively (Figure 4.2). The main constraints faced by all exporters of fish and fishery products during the year under review were international market competition and insufficient supply of raw materials.

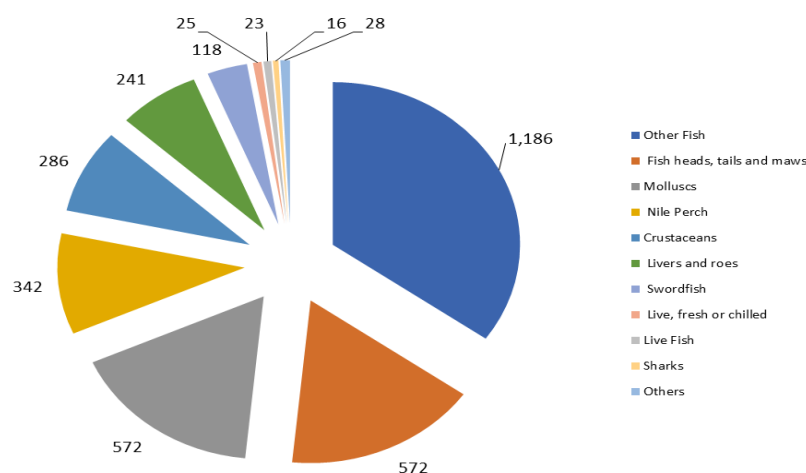


Fig 4. 2 Exports value of fish by product type in millions of Kshs during 2019

Table 4. 1 Exports of Fish and Fishery Products 2019

Commodity	M. Tons	000Kshs	% Quantity	% Value
Other Fish	4,868	1,185,508.82	57.3	35.1
Molluscs	1,399	571,720.42	16.5	16.9
Nile Perch	867	341,945.54	10.2	10.1
Crustaceans	509	285,995.13	6	8.5
Swordfish	214	118,177.22	2.5	3.5
Fillets	181	3,792.74	2.1	0.1
Live, fresh or chilled	117	24,897.67	1.4	0.7
Fish heads, tails and maws	107	572,083.63	1.3	16.9
Sharks	81	16,220.19	1	0.5
Tilapia	56	1,512.05	0.7	0
Livers and roes	55	240,544.65	0.6	7.1
Crab	22	8,646.81	0.3	0.3
Yellowfin Tuna	9	3,011.27	0.1	0.1
Bigeye tuna	5	1,493.68	0.1	0
Others	6	3,209.86	0.1	0.1
Sub-Total	8,496	3,378,759.69	100	100
Live Fish	M. Tons	000Kshs	% Quantity	% Value
Live Fish	215	22,518.23	66.2	78.2
live ornamental fish	109.65	6,260.96	33.7	21.7
Live ornamental freshwater fish.	0.31	9.31	0.1	0
Sub-Total	324.96	28,788.50	100	100
GRAND TOTAL	8,821,248	3,407,548,189		

4.1 Marine Aquarium exports

4.1.1 Aquarium Fin Fish

In 2019, 297,367 aquarium fish were exported compared with an average of 366,776 fish exported in 2015. This represented a 18.9% decline in the volumes of aquarium fish exported. The trend of aquarium fish export between 2010 and 2019 is shown in Figure 4.3. Twenty species made up 51.2% of the total exports, with the top 5 species being *Paracanthurus hepatus*, *Centropyge acanthops*, *Anthias squamipinnis*, *Pomacanthus-chrysurus* and *Ecenius midas* (table 4.2) The dominance of these species in the export market is similar to that of 2018.

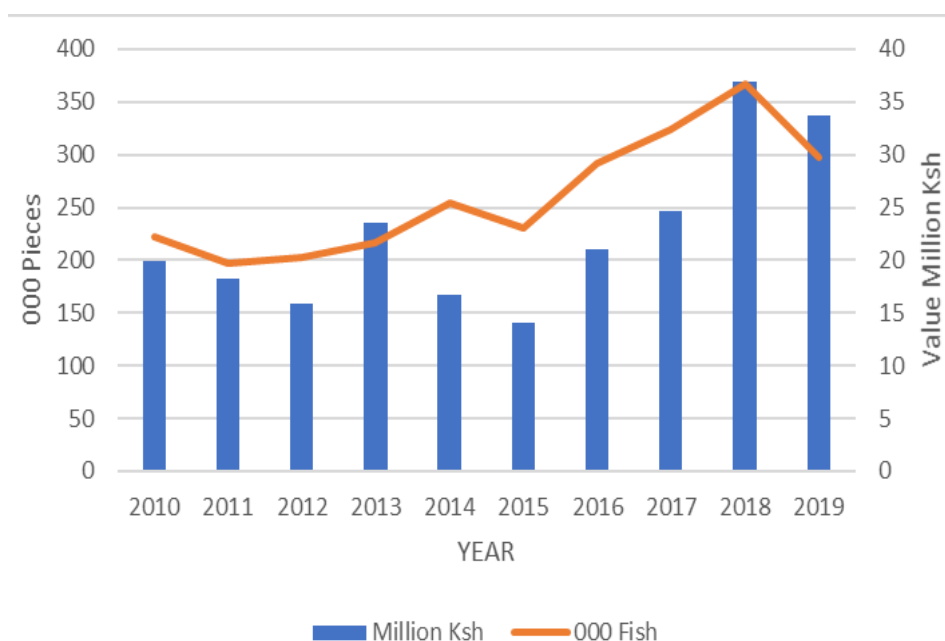


Fig 4. 3 Annual trends of aquarium fish exports in numbers and value in during 2010 -2019.

Table 4. 2 The monthly composition of the top 20 most exported marine aquarium species in 2019

Species	Common Name	Number	Value (Kshs)
1 Paracanthurus hepatus	Blue Surgeonfish	11361	2,618,848,848
2 Centropyge acanthops	Orangeback Angelfish	11485	1,230,730,300
3 Anthias squamipinnis	Lyretail Coralfish	18721	990,429,000
4 Pomacanthus-chrysurus	Goldtail Angelfish	1230	829,769,925
5 Ecenius midas	Golden Blenny	7492	795,911,300
6 Chromis viridis	Blue-green Chromis	20685	788,446,750
7 Acanthurus leucosternon	Powder Blue Tang	4816	726,041,550
8 Nemateleotris manificia	Fire Goby	8478	687,717,375
9 Arothron citrinellus	Black-Spotted Puffer	453	646,869,500
10 Halichoeres iridis	Rainbow Wrasse	6177	634,989,200
11 Valenciennesa strigata	Bluestreak Goby	8399	612,937,875
12 Labroides dimidiatus	Bluestreak Cleaner Wrasse	12613	580,779,335
13 Pseudocheilinus hexataenia	Six-line Wrasse	9024	481,361,525
14 Chromis Vanderbilt	Vanderbilt's Chromis	10728	480,091,250
15 Zebrasoma Gemmatum	Spotted Tang	174	480,022,750
16 Salaria fasciatus	Lawnmower Blenny	10621	465,369,750
17 Zebrasoma xanthurum	Yellowtail Tang	865	410,910,000
18 Balistoides conspicillum	Clown Triggerfish	118	392,052,000
19 Macropharyngodon bipartitus	Rare Wrasse	5446	389,385,047
20 Anampses meleagrides	Spotted Wrasse	3394	360,592,075
21 Others		145087	16,616,480,344
22 Grand Total		297367	31,219,735,698

4.1.2 Invertebrates

The number of marine invertebrates exported in 2019 was 133,844 valued at 7.3 million which was an increase of 57% from compared to 191,672 invertebrates exported in 2018 (Figure 4.4). Twenty species made up 75.3% of the invertebrates exports, with the top 5 species being *Lysmata grabhanii*, *Heteractis magnifica*, *Sarcophyton spp*, *Hymenocera picta* and *Clibinareus sp.* (table 4.3).

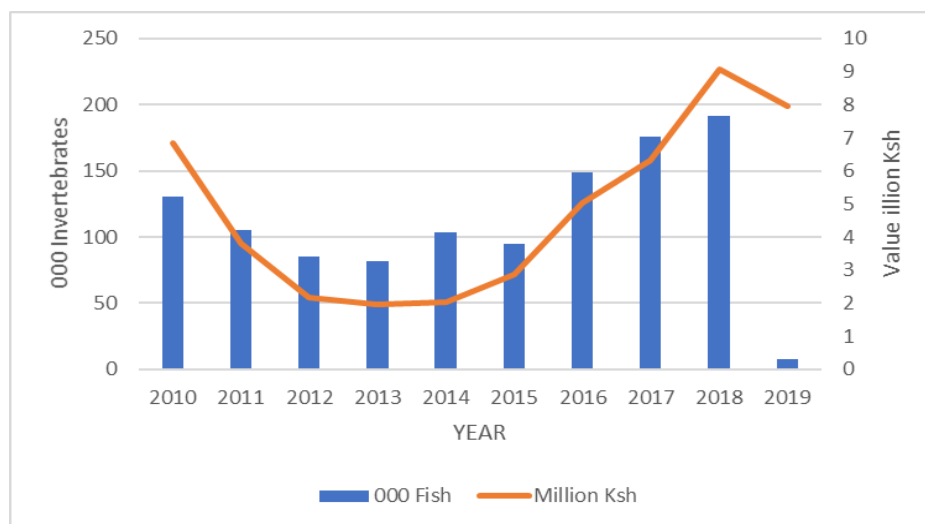


Fig 4. 4 Annual trends in the marine invertebrates' exports in numbers and value during 2010 – 2019

Table 4. 3The monthly composition of the top 20 most exported marine invertebrate species in 2019

Species	Number	Values(Ksh, 000)
<i>Lysmata - grabhanii</i>	14,363	13,286
<i>Heteractis Magnifica</i>	4,721	5,343
<i>Sarcophyton spp.</i>	2,538	4,075
<i>Hymenocera - picta</i>	4,370	3,769
<i>Clibinareus spp.</i>	20,842	3,671
<i>Nerita - spp</i>	17,913	2,933
<i>Hippolysmata spp.</i>	2,974	2,845
<i>Cespitularia spp</i>	1,041	2,497
<i>Radianthus spp.</i>	1,366	2,412
<i>Dolabella spp.</i>	4,894	2,377
<i>Lobophytum spp.</i>	1,010	1,730
<i>Stichodactyla - spp.</i>	640	1,728
<i>Cerithium spp.</i>	10,486	1,671
<i>Stoichactis spp.</i>	1,130	1,437
<i>Cladiella spp.</i>	870	1,398
<i>Protogaster spp.</i>	2,579	1,250
<i>Capnella spp.</i>	878	1,228
<i>Petrolisthes spp.</i>	2,121	960
<i>Lunella coronata</i>	5,220	733
<i>Sabellastarte spp.</i>	792	699
others	33,096	17,519
Grand Total	133,844	73,562

5.0 IMPORTS OF FISH AND FISHERY PRODUCTS

In 2019, Kenya imported 22,813 metric tons of fish and fishery products worth Kshs 2.8 billion (Table 5.1). The value of imported fish was 0.5 billion Kenya shillings less than the exported fish. The imports were mainly composed of mackerel 7609 metric tons (33%), *Oreochromis niloticus* 3016 (13.2% of the total fish and fishery products imported during the year. These were followed by skipjack Tuna 508 metric tons, sardines 335 metric tons and salmons 149 metric ton (1.4%). The imports originated largely from Asian countries, notably China, Korea and Vietnam with most of the *Oreochromis niloticus* was imported from China, Tanzania and Uganda (Fig 5.2).

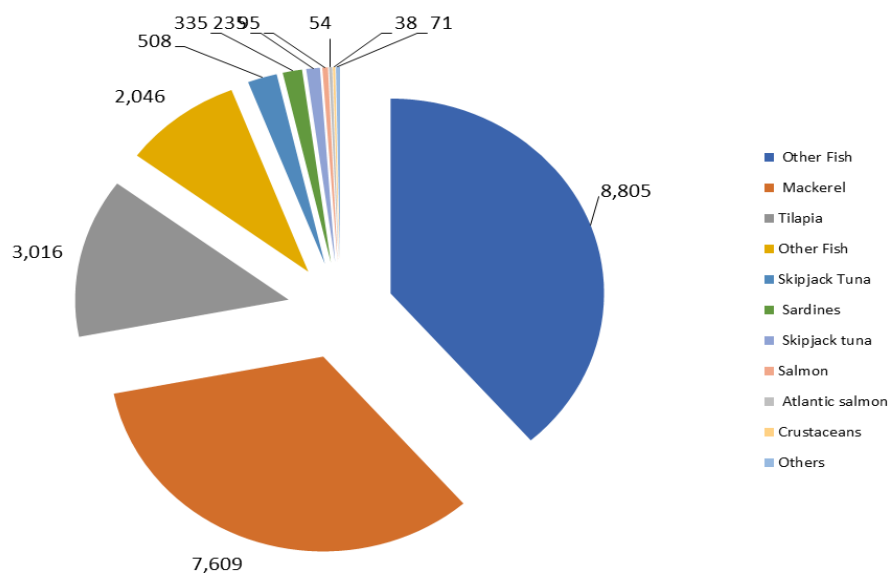


Fig 5. 1 Import of fish and fish products by quantities (MT) for 2019

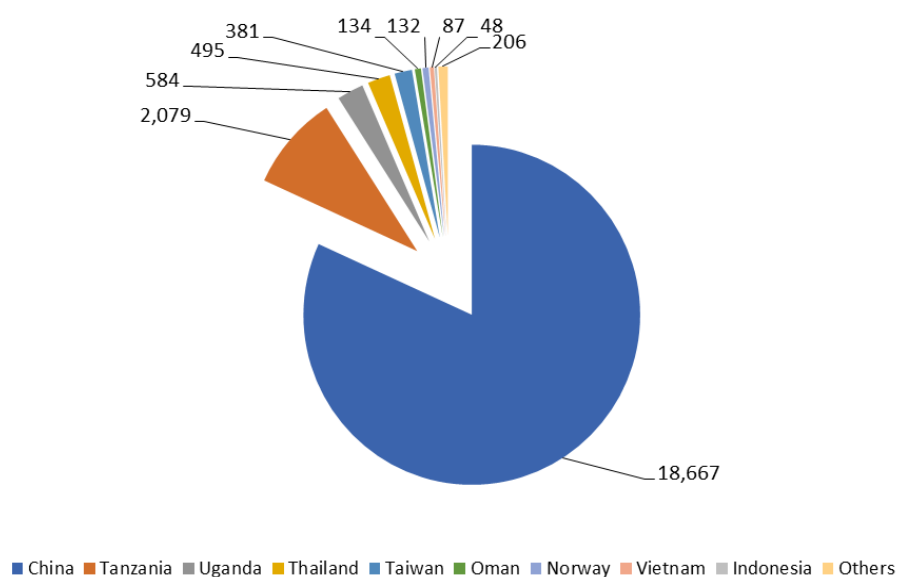


Fig 5. 2 Fish imports in tons by Country of origin in 2019

Table 5. 1 Imports of Fish and Fishery Products 2019

Product	Quantity (M. Tons)	Value ('000Kshs)	% Quantity	% Value
Other Fish	10,851	1,267,239	47.57	45.28
Mackerel	7,609	849,879	33.35	30.36
Tilapia	3,016	440,241	13.22	15.73
Skipjack Tuna	508	102,838	2.23	3.67
Sardines	335	22,055	1.47	0.79
Skipjack tuna	235	24,990	1.03	0.89
Salmon	95	13,056	0.42	0.47
Atlantic salmon	54	13,351	0.24	0.48
Crustaceans	38	28,487	0.17	1.02
shrimps and prawns	21	12,242	0.09	0.44
Molluscs	11	5,111	0.05	0.18
Nile Perch	10	3,187	0.04	0.11
live ornamental fish	6	2,175	0.03	0.08
Salmon	5	3,065	0.02	0.11
Caviar	4	2,111	0.02	0.08
Anchovies	3	1,738	0.01	0.06
Trout	3	4,162	0.01	0.15
Other crustaceans	3	261	0.01	0.01
Live, fresh or chilled	2	1,360	0.01	0.05
Others	3	1,401	0.01	0.05
Grand Total	22,813	2,798,951	100	100

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