REPUBLIC OF KENYA

MINISTRY OF FISHERIES DEVELOPMENT

FISHERIES DEPARTMENT

FISHERIES ANNUAL STATISTICAL BULLETIN 2010

With compliments of the Fisheries Secretary and the entire Fisheries staff

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NATIONAL FISH PRODUCTION

The fisheries sector plays a significant role in the social and economic development through the sector's positive contribution to employment creation, revenue generation and food security – all of which are crucial for the attainment of the Millennium Development Goals. During the year 2010 the sector supported a total of 76,263 people directly as fishers/farmers deriving their livelihood from the various fishery resources in the country. Out of this number, 14,120 were fish farmers while the rest were fishermen. During the same period the sector supported about a million people directly and indirectly, working as fishers, traders, processors, suppliers and merchants of fishing accessories and employees and their dependants.

The Kenyan fishery is mainly artisanal with very few commercial/industrial vessels targeting mainly shrimps and several tens of 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 commercial/industrial vessels did not operate during the year under review for there was a ban on trawling. The artisanal fishery accounts for almost all the inland and marine water catches 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 300,000 metric tons (Commonwealth secretariat report 2003 by Dr. George Habib).

During the year under review, total national fish production was 140,751 metric tons with an ex-vessel value of Kshs 15,369,477,000 (approximately US $ 197million). During the same period, the country earned over Kshs. 4.1billion (approximately US $ 54 million) in foreign exchange from export of fish and fishery products. Fish production in the country has been declining since 1999 when the highest quantity (214,709 metric tons) of fish was landed but the ex-vessel value has been increasing year after year (figure 1).

Inland capture fisheries contributed 85.4% of Kenya's total fish production, with the principal fishery being that of Lake Victoria. The lake accounted for 111,868 metric tons or 79.5% of the country's total annual fish production in 2010. Lake Turkana, Kenya's largest freshwater body (7,400 km^2) produced 6,430 metric tons of fish with an ex-vessel value of Kshs. 271,687,000. Other freshwater-bodies of commercial importance include lakes Naivasha, Baringo, Jipe, the Tana river dams and the Tana river's delta. Marine artisanal fish production was 8,406 metric tons equivalent of 6.0% of the national production while aquaculture production amounted to 12,153 metric tons contributing 8.6%

of the total production, figure 2. Aquaculture earned the farmers Kshs. 2,620,790.000 during the year under review.

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 fillets, Nile perch maws, Octopus, Marine shells, Crabs and Sword fish. Fish and fishery products imported into the country included the following frozen products among others: Mackerels, Lizard fish, Sardines, tuna, Herrings, Kahawai, Tilapia, and Barracuda.

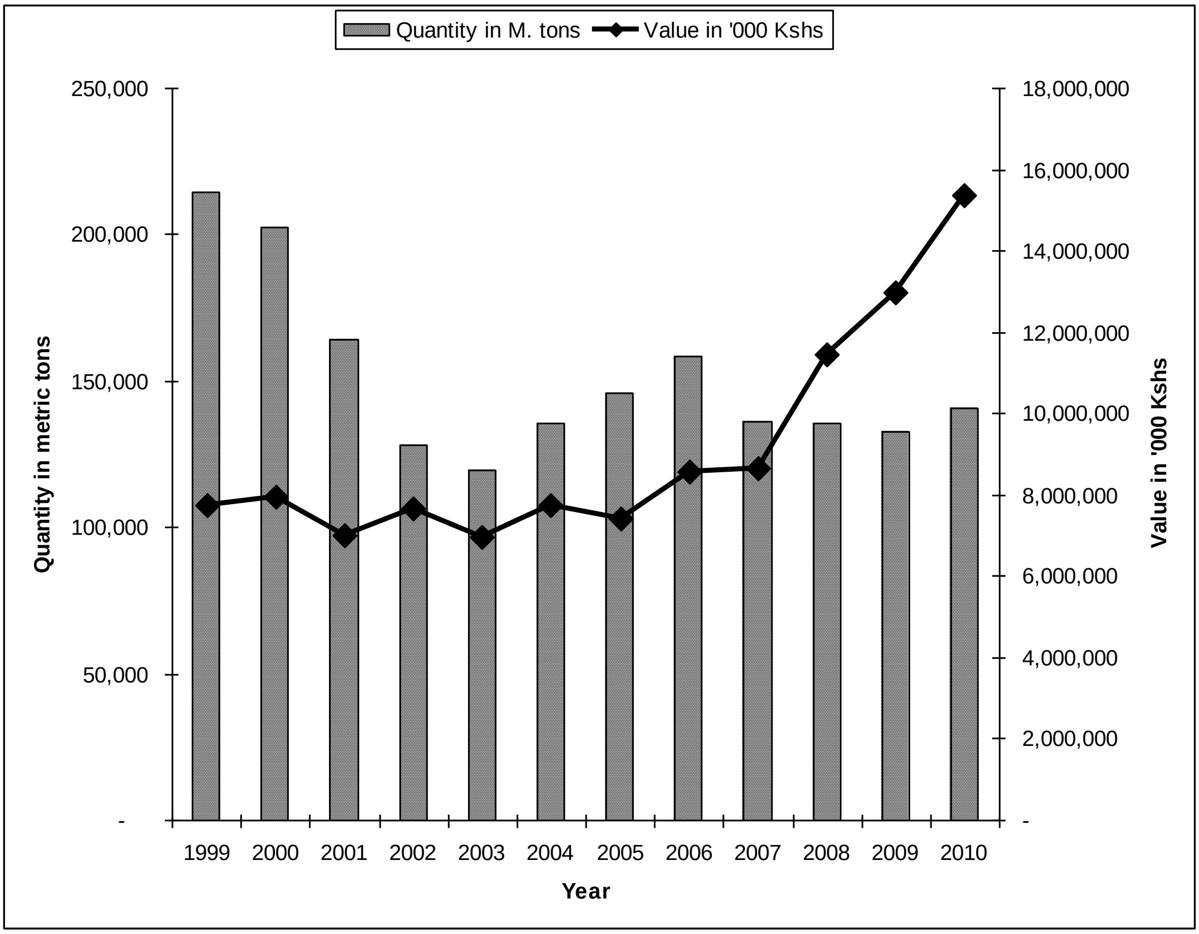

Figure 1: Fish production by quantity and Value 1999-2010

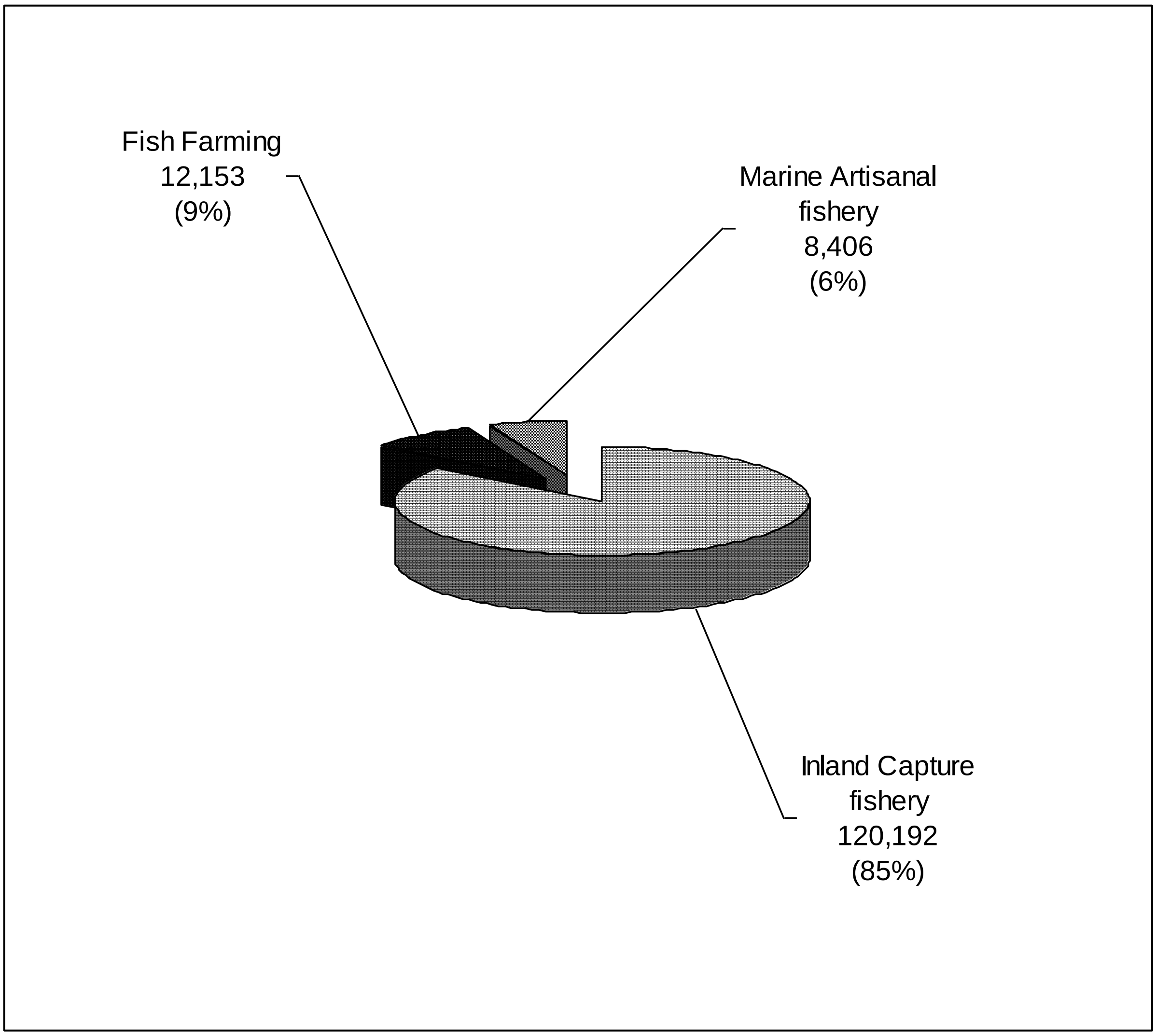

Figure 2: National fish production by Fishery Category 2010

The main challenges facing fisheries sub sector in Kenya today is conservation of fisheries resources and aquaculture development.

2.0 CAPTURE FISHERIES

Capture fisheries in Kenya is mainly from lakes Victoria, Turkana, Naivasha, Baringo, Jipe, Tana River dams, Tana river delta and Indian Ocean and it accounted for 91.4% down from 96.3% the previous year. Lake Victoria accounted for 86.99% of all the fish from capture fisheries in Kenya during the year under review. Lake Turkana contributed 5.00%, Tana river dams 0.45%, Kenyatta 0.29%, Tana river delta 0.28%, Lake Kanyamboli 0.17%, Lake Naivasha 0.16%, Lake Jipe 0.08% and Lake Baringo 0.04% while marine artisanal fisheries contributed 6.54% of all the fish from capture fisheries.

In capture fisheries, gill netting was the most used fishing method during the year. The other methods included use of gears such as long line hooks, hand line, traditional traps, trolling, cast nets and small (mosquito) seines for *Rastrineobola argentea* fishing. There are other methods which were used but are currently prohibited due to their destructive nature. They include; Beach seining, Monofilament gill netting, Trawl netting, Scuba diving, spear gunning and vertical integration of gears.

2.1 LAKE VICTORIA FISHERY

Lake Victoria, the second largest lake in the world is also the largest lake by area in Africa; covering a surface area of 68,000km^2 and a catchment area of 184,000 km^2. The lake fishery is a shared resource with Uganda (45 %), Tanzania (49%) while Kenya has only 6% of the lake which translates to 3,755 km^2 in surface area.

The lake has recorded a total of 500 endemic and introduced fish species with 90 % of them from the cichlid family. The fish community in the lake supports a vibrant fishery based mainly on cyprinid and cichlid families. The historical trends in the fish catches over the last twenty one years in Lake Victoria are shown in figure 3. A salient feature is the declining pattern of catches of all species over the years due to problems associated with overcapacity.

From 1963 through mid 1970s Lake Victoria fish production remained below 20,000 metric tons per year. However, this state of the fishery changed from the early 1980s, when the landings steadily increased to levels of well over 130,000 metric tons by 1989. The highest landed volume was 200,153 metric tons in 1999 a figure that fell by about 94,000 metric tons four year later in 2003. Between 2004 and 2006 production from the lake was increasing steadily having increased from 115,747 metric tons in 2004 to 143,908 metric tons in 2006. After that the production has been declining reaching a low of 117,231 in 2007 then further declined to 111,369 in 2008. In 2009 the lake’s fish production further declined to 108,934metric tons before increasing slightly to 111,868 metric tons in 2010 with an ex-vessel value of Kshs 11,543,125,000.

During the year under review, Lake Victoria continued to dominate the country’s nominal fish catches contributing 79%. This year’s production reflected an increase in catches from 108,934 metric tons to 111,868 metric tons in the years 2009 and 2010 respectively. There was a corresponding increase in ex-vessel value of the catches from Kshs 10,800,831,000 in year 2009 to

11,543,125,000 in year 2010 mainly due to steep increases in the price of fish particularly for *Lates niloticus*

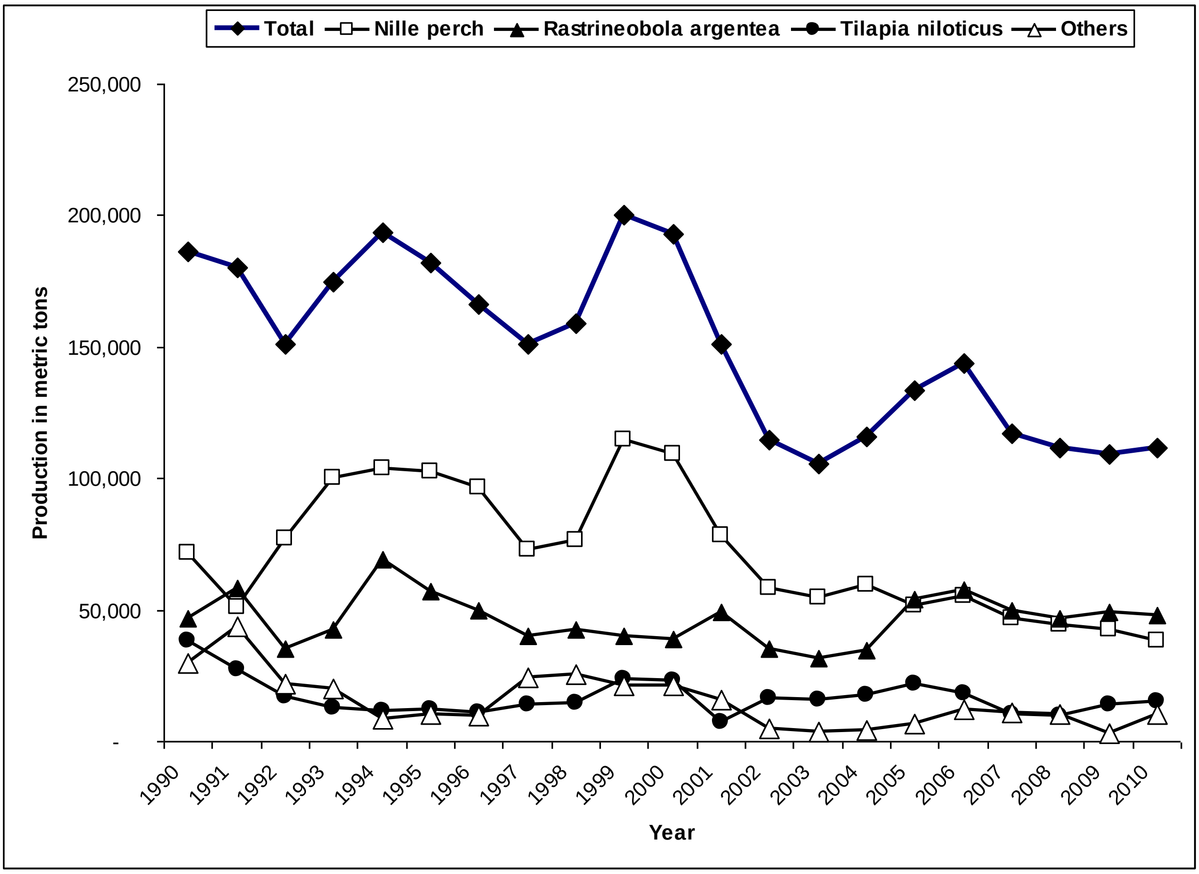

Figure 3: Trends of the main fish species composition in annual catches of Lake Victoria (K) in the last twenty one years

For the last six consecutive years *Rastrineobola argentea* has continued to dominate the catches of lake Victoria, Figure 4. In 2010, the species catch composition was dominated by *Rastrineobola argentea, Lates niloticus, Oreochromis niloticus* besides other species respectively. These were the most commercially important species, figure 5.

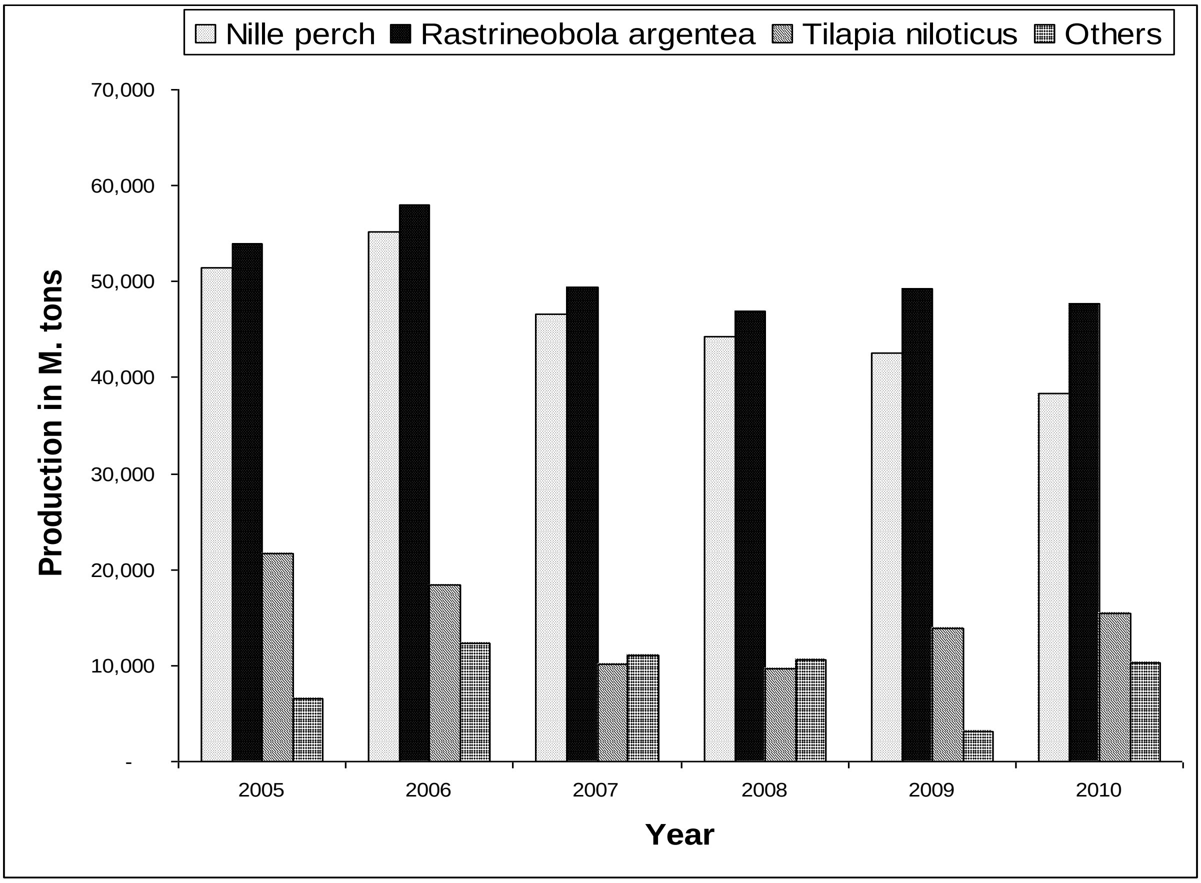

Figure 4: Lake Victoria species catch composition 2005-2010

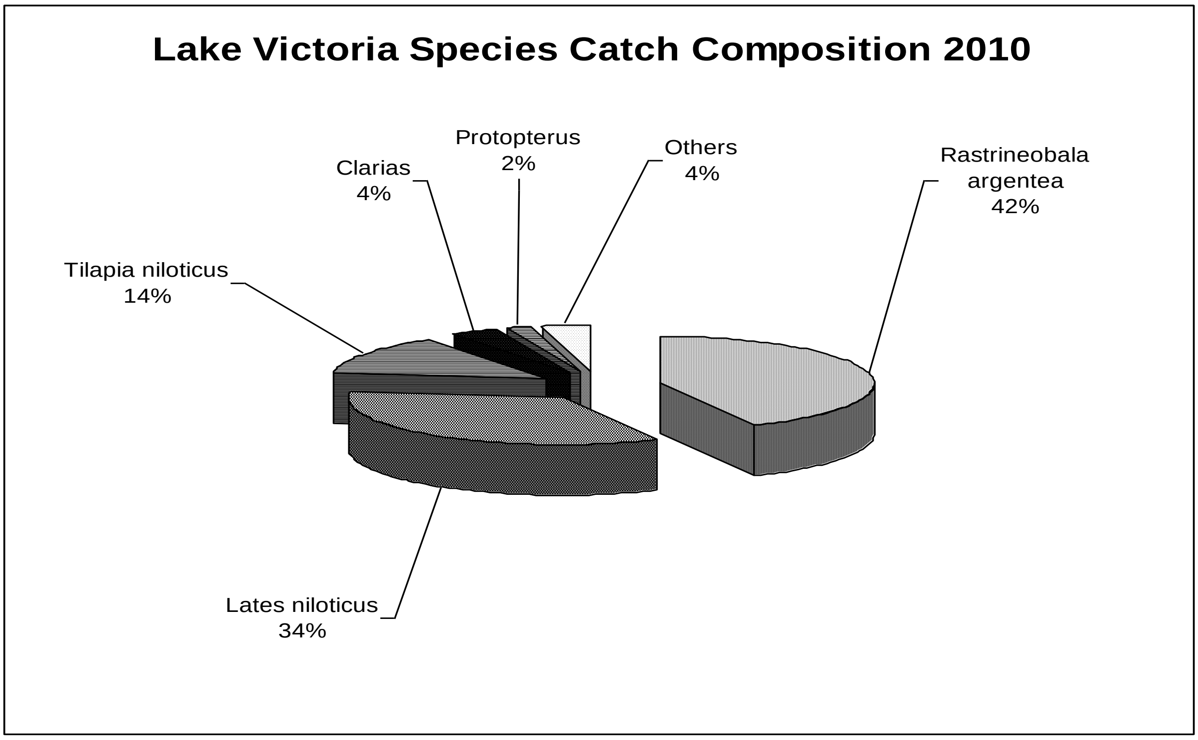

Figure 5: Lake Victoria species catch composition 2010

The bulk of the fish landings from lake Victoria was landed in the county of Homa bay (61.5%) followed by Siaya (25.7%), Busia (5.6%), Migori (5.4%) and lastly Kisumu (1.8%), figure 6.

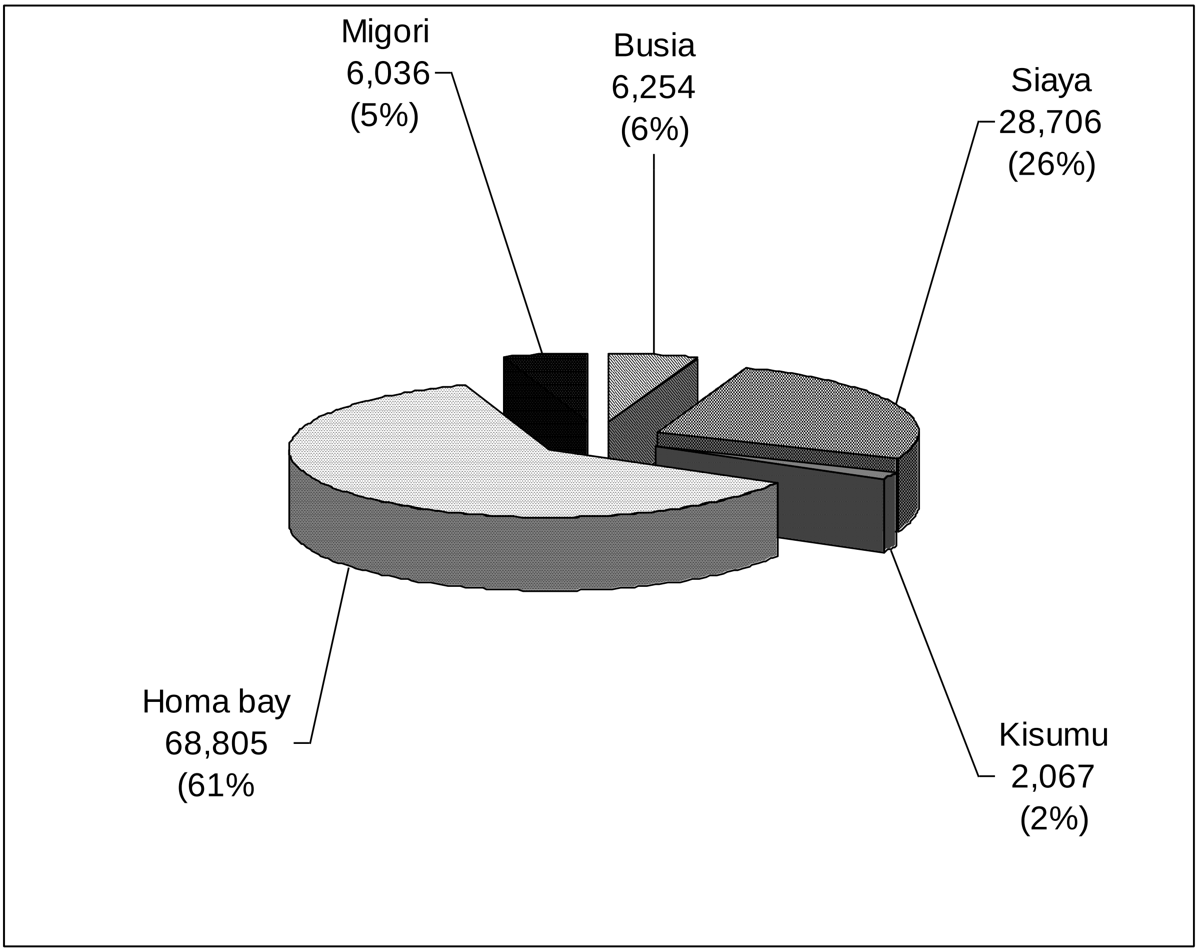

Figure 6: Lake Victoria Fish Landings by Counties 2010

2.1.1 Challenges to Lake Victoria fisheries

The declining trend in fish catches over the last ten years could be an indicator of reduced fish stocks and every effort towards fish stock rejuvenation, including restocking, deserve attention since it directly threatens food security and income for livelihoods, which eventually culminates into hunger, joblessness, wrangles among the stakeholders, increased crime rates and social aspects.

Significant change in attitude by fishers towards conservation of the lakes' resources is necessary to curb on the illegalities within the lake.

During the better part of the review period water hyacinth was a real problem to fishing activities by virtually blocking most landing sites and fishing grounds resulting into relocation of fishers to the open areas.

There are weaknesses in the collection of statistics and fisheries related data, as most of the data collected is not accompanied by general observations and discussions. Providing training to the BMUs on data collection and resource management might be a solution to this problem.

The major challenge afflicting the fisheries of Lake Victoria is still mainly attributed to over fishing and habitat degradation. These have had adverse impacts to the fishery by changing the species diversity and reduction in total harvestable biomass.

Over fishing is caused typically by problems associated with open access fisheries as outlined below:

a). Increased number of fishers and fishing crafts

The number of fishers in Lake Victoria (Kenyan side) has increased from 38,431 in 2000 to 41,912 in 2010. The number of fishing crafts increased from 11,515 in 2000 to 14,251 in 2010 on the Kenyan side of the lake while lake wide fishers increased from 129,305 to 194,172 and fishing crafts from 42,519 to 64,595 during the same period. (*Lake Victoria (Kenya) biennial fisheries frame survey 2010 National report and Lake Victoria biennial fisheries frame survey 2010 Regional report).*

b). Increase in legal and illegal fishing nets:

The effort in terms of legal gear such as gill net and long line hooks have increased tremendously. The number of legal gill net of mesh size >5 inches increased from 99,821 in 2000 to 165,355 in 2010 while the number of the illegal mesh sizes <5 inches increased from 33,544 to 47,638 during the same period. Generally, the total number of gillnets of all mesh sizes continued to increase over the years with an increase of 159.8% between 2000 and 2010.The number of Long line hooks had the highest increase during the same period having increased from 1,039,893 to 2,710,395 an increase of 160.6%. Other illegal nets, such as monofilament gillnets, have increased from 58 in 2004 to 469 in 2006, 4,190 in 2008 before declining to 1,468 in 2010. Efforts to remove these destructive gears should be stepped up and the effects of the expanding long line fishery in particular need to be evaluated and the fishery regulated accordingly.

Factors responsible for habitat degradation are as outlined below:

Increased Pollution

a). Point and Non-point Pollution: Both point and non-point pollution from the riparian and catchment activities has increased the pollutant load in the Lake. The growing towns around the Lake shores have non-functional or inadequate solid waste treatment plants while their population is on the rise. There is too much fertilizer and other chemicals, including plastics, entering the lake due to agriculture, industrial, trade and other development activities.

b). Invasive Weeds: Invasive weeds, such as the water hyacinth and Hippo grass have re-surfaced due to the highly fertilized and nutrient levels in the lake water.

c). Soil Erosion: Soil erosion due to deforestation and other poor land use practices in the catchment area have led to deteriorating environmental health status of the rivers and the lake waters as a home for fish and other living organisms that are part of the food chain/food web.

The Ministry of Fisheries Development is concerned about the sustainability of Lake Victoria Fisheries. Scientists have advised that the fish stocks are continuously declining and unless this is effectively dealt with, the sustainability of the fishery remains under threat. This will eventually have a negative impact on other business and the fishers.

All stakeholders especially fish processors and gear distributors should collaborate with fisheries management in order to manage Lake Victoria fisheries resources sustainably together. As it has been noted above, many illegal gears are still in use and this can only be controlled with the cooperation of all the stake holders.

2.2 ARTISANAL MARINE FISHERY

Capture fisheries is the main type of fisheries in the Marine waters predominantly undertaken by artisanal fishers in the shallow waters and within the reef using small non mechanized fishing crafts. Semi industrial fishing vessels do land their catches in Mombasa for export and local consumption although they did not operate for there was a ban imposed on trawling during the year under review.

Fishing activities by the artisanal fishers is influenced by the weather pattern. During the month of September to March when the north east monsoon winds (*Kazi kazi*) blow, the sea is calm and there is a lot of fishing activities and fish landings are normally high during that time. As from April to August, the landings do decrease due to string south east monsoon winds (*Kusi*) prevailing during that time which renders the sea rough thus unfavorable for fishing voyages.

The territorial waters cover 12 nautical miles where the artisanal fishermen do operate from, while the Exclusive Economic Zone (EEZ) covers 200 nautical miles from the Coast line. The marine fishery is estimated to have a potential of between 150,000 – 300,000 metric per year. At the moment the EEZ fishery is still being exploited by Distance Water Fishing Nations (DWFNs) with little knowledge on the amount of fish being caught due to lack of Monitoring, Control and Surveillance (MCS) system.

During the year under review, a total of 8,406 metric tons of assorted fish species valued at Ksh. 822,341,000 to the fishers were landed. This production reflected an increase of 6.1% from last year's production of 7,929 metric tons. The landings were done at some 141 landing sites distributed all along the whole stretch of the Kenyan Coastline.

Landings from artisanal fishery have been increasing, declining then increasing in cycles while the value of the fish has maintained an upward trend over the years. Fish production from the marine artisanal fishery has remained fairly constant between 5,000 and 8,000 metric tons over the years only showing marginal fluctuations as shown in figure 7 below.

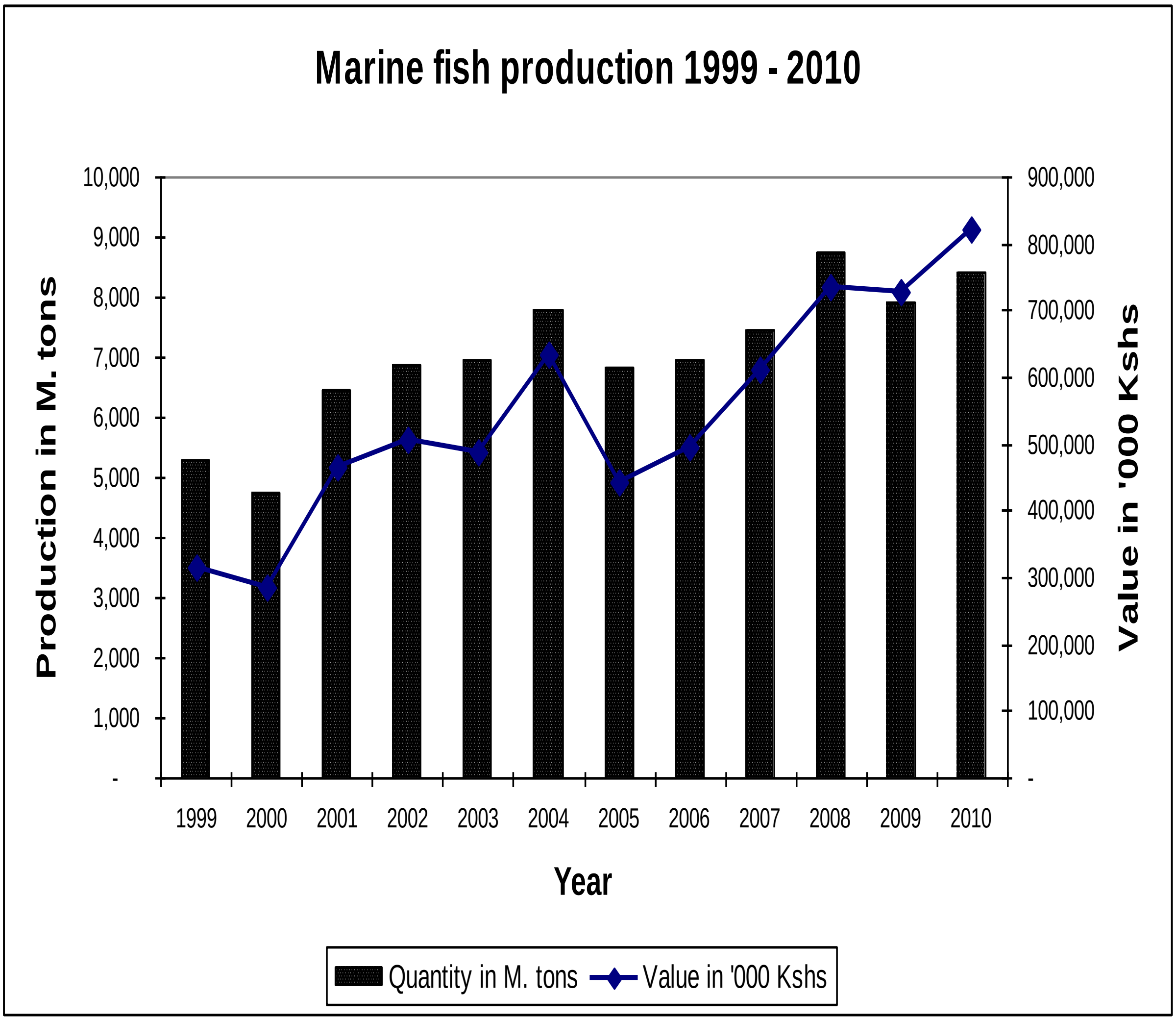

Figure 7: Trends of marine fish production by quantity and value 1999-2010

In 2010, dermersal fish species category dominated the marine artisanal fish landings by contributing 4,146 metric tons (50%) of the landings while pelagic fish category contributed 2,344 metric tons (28%), the sharks, rays and sardines category made up 792 metric tons (9%) of the landings, mollusks 604 (7%) and crustaceans 519 metric tons (6%), figures 8 and 9.

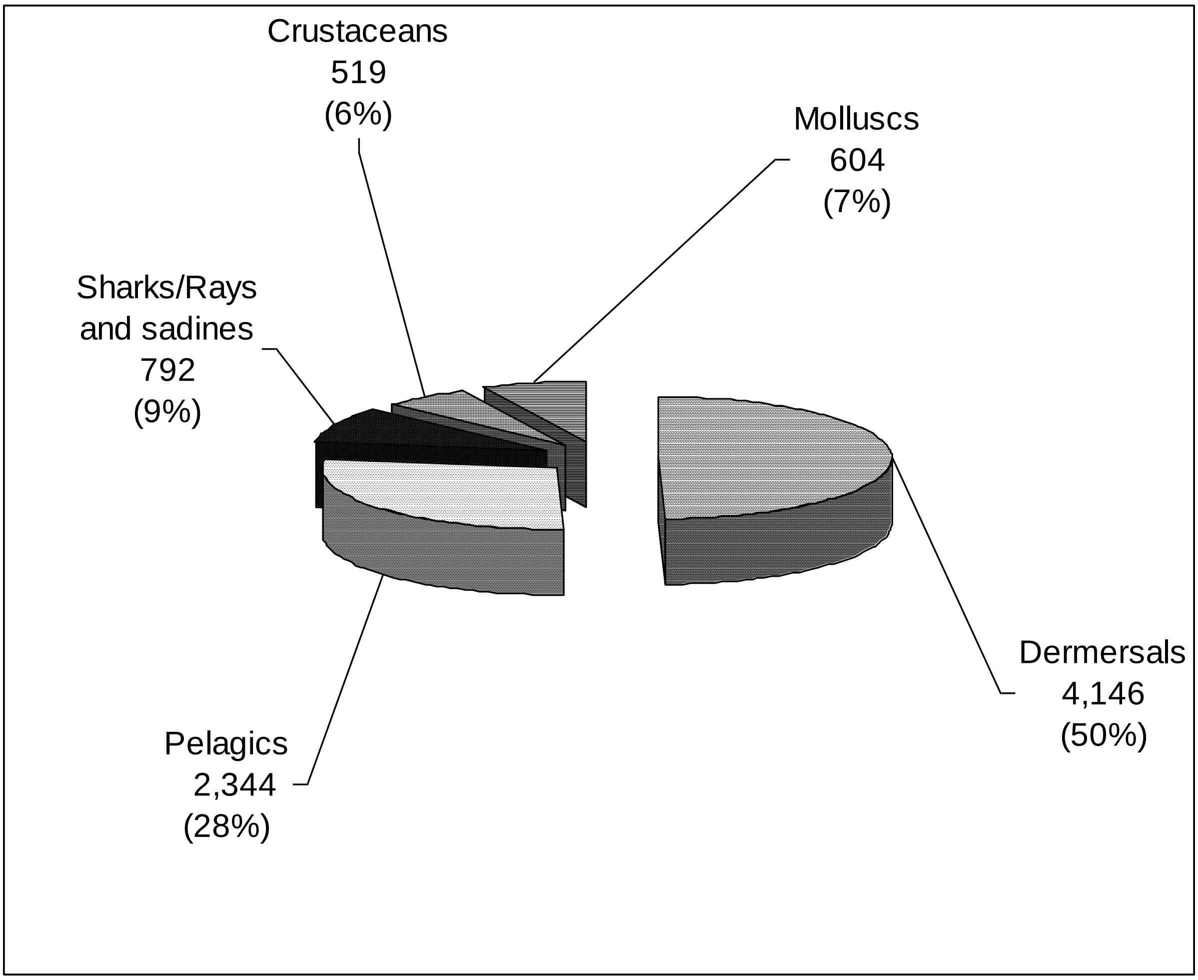

Figure 8: Percentage marine fish species group contribution 2010

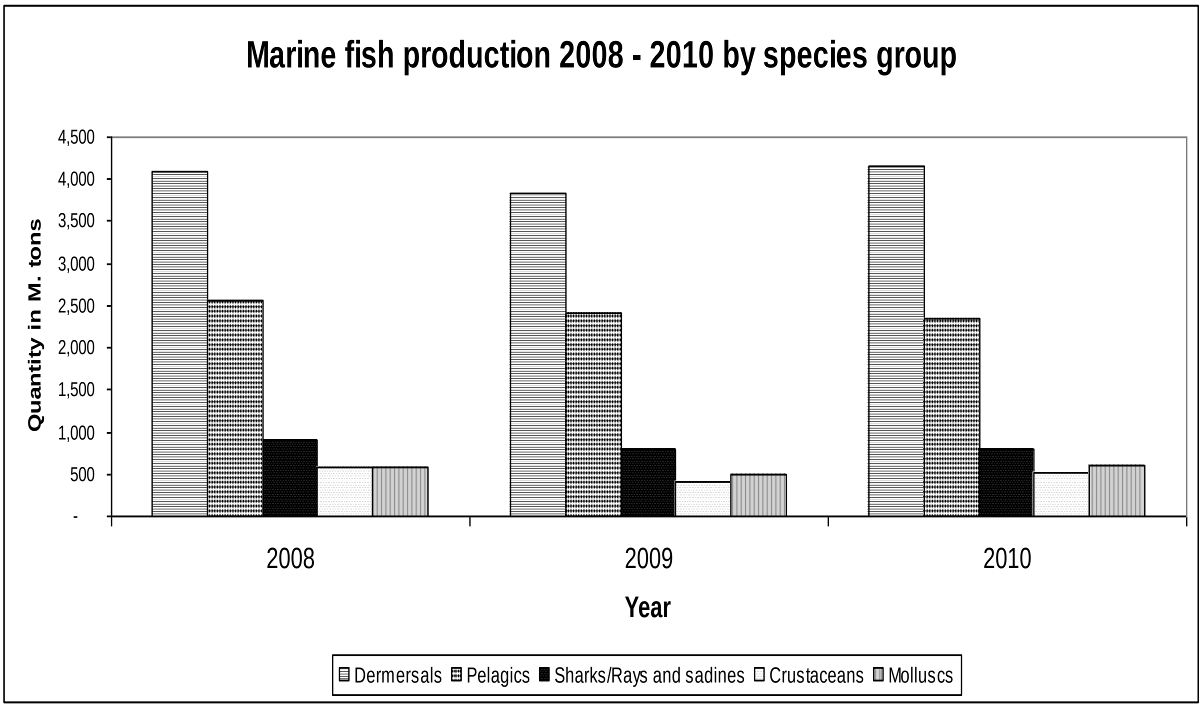

Figure 9: Trends of marine fish species landings 2008-2010

The aggregated fish production from the marine and coastal fisheries has remained fairly constant. There has been fluctuation in production quantities when analyzed at County level but generally the trend and order of contribution has remained very similar. In this case Kwale continued to be the leading county, followed by Lamu, Kilifi, Mombasa and Tana River respectively as shown in figure 10.

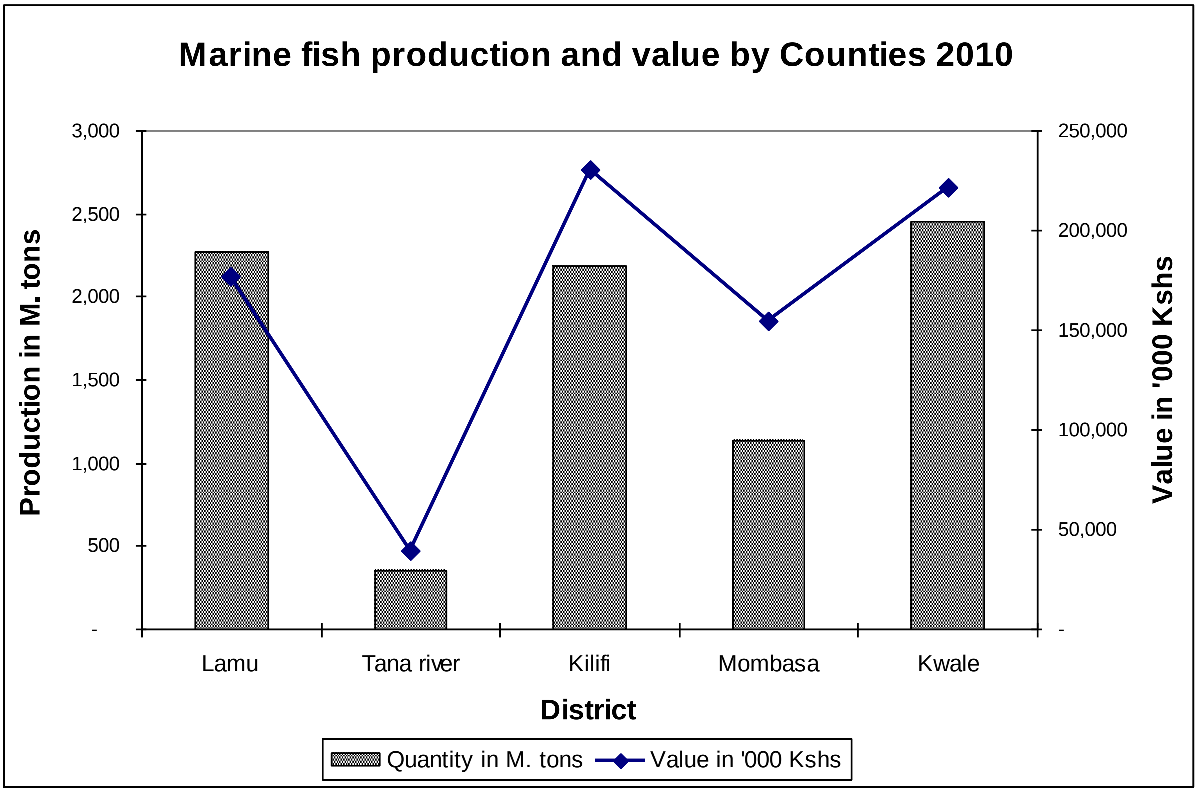

Figure 10: Marine fish production by Quantity, Value and Counties 2010

The most common fishing gears used by the artisanal fishers were gillnets, traditional traps (usio, malema), seine nets (which include beach, prawn and reef seines), long line hooks, hand lines cast nets and trammel nets among others.

2.3 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. The lake has three volcanic islands namely the north, central and south islands. The central island has three saline crater lakes known for endemic species of tilapias. The islands are listed as UNESCOs world heritage sites.

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 damning 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 *(Oreocromis niloticus),* Catfish *(Clarias gariepinus), synodontis schall, Hydrocynus forskalii, Momyrus spp, Labeo horie, Bagrus spp, Distichodus niloticus, Citharinus spp, citharus, Barbus spp* and *Alestes spp.* The fishery is characterized by decadal boom and 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. The peripheral communities entirely rely on fishing directly supporting about 7,000 fishers and 6,500 fish traders and transporters.

During the year under review, a total of 6,430 metric tons of fish were landed with a ex-vessel value of Kshs. 272 millions. This years' production had a decline of 32% in quantity and 11% in ex-vessel value compared to 2009 production. This decline was attributed to the inflow of river Omo, which is the lake's main feeder which drastically reduced due to persistent drought and sustainable use upstream. 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, figure 11.

During the year under review, *Tilapia spp* dominated the landings by contributing 46.8% followed by *Laleo horie* (17.8%), *Distichodus niloticus (*12.6%), *Lates niloticus* (10.4%), *Barbus spp (5.5%)* and *Synodontis spp* (2.1%). All the other species combined contributed the remaining 4.8%, figure 12.

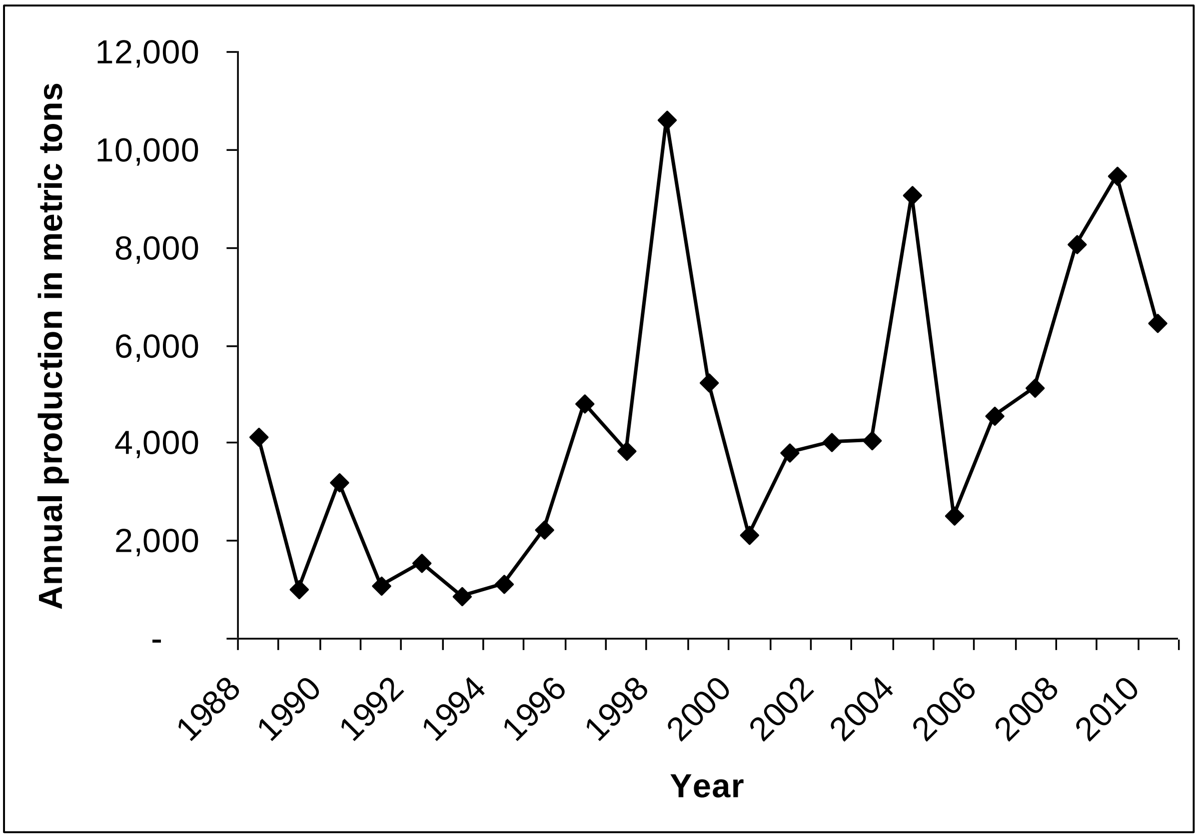

Figure 11: Trends in annual fish landings from Lake Turkana fishery 1988-2010

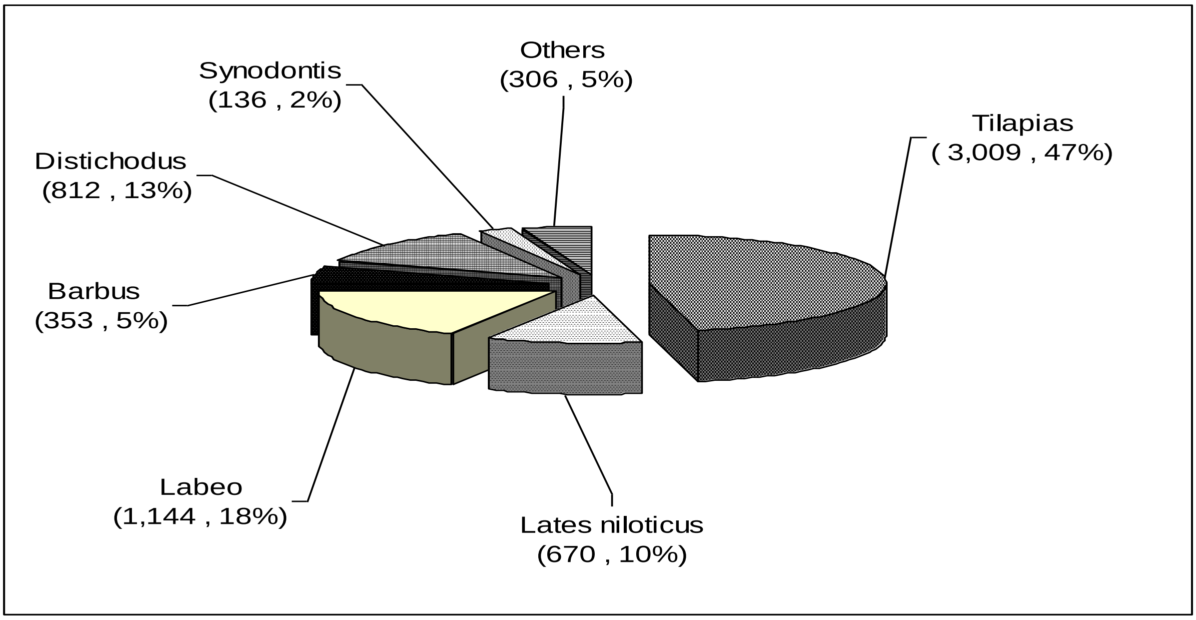

Figure 12: Species composition in catches of Lake Turkana Fishery 2010

One of the major challenges in the exploitation of the Lake Turkana fishery is lack of cold storage facilities within reach forcing all fishers to sale almost all there catches as dried or smoked products which are inferior products and consequently fetch highly reduced market prices per nominal unit weight.

There is also need to evaluate the data collection system in the region due to the expansiveness of the lake shoreline and build capacity of the local fishers groups and Beach Management Units (BMUs) through training to effectively undertake primary data collection. With fisheries staff strength of just 9 persons, it is important to enlist the support of the fishing communities to help in collecting timely and accurate data for planning and policy review.

Some of the main challenges facing Lake Turkana fishery particularly the western side and which need to addressed include the following:

- Intermittent transport due to lack of effective transport system;
- Regular unpredicted strong winds patterns which hinder fishing activities;
- Lack of appropriate fish handling and preservation facilities that lead to post harvest losses and poor quality of fish and fish products;
- Poor state of landing sites, lack/poor access roads which make marketing impossible at some landing sites such as Todonyang and Namukuse landing sites;
- Armed conflicts between the Turkana in Kenya and the Dasanach in Ethiopia over fishing and grazing grounds in the River Omo delta. Many lives have been lost especially on the Kenyan side;
- Weak and unfavorable fish marketing systems along the fish landing sites;
- The ever receding water levels means diminishing fish breeding grounds especially in the River Omo delta and the Ferguson gulf which have greatly affected fish stock;
- The prevailing high temperatures in Turkana immensely contribute to fish spoilage hence loss of income to fishers and traders.

There is an urgent need to develop a sound management plan for lake Turkana fishery.

2.4 LAKE NAIVASHA FISHERY

The present fish population of Lake Naivasha comprises of the introduced species including large mouth bass (*Micropterus salmoides*) which was introduced in 1927, 1951 and 1956 from the United States of America, *Tilapia zilli* introduced form Lake Victoria in 1956. The introduction of *Tilapia zilli* also contained *Oreochromis leucostictus* and other tilapine species which are presently not encountered in the lake. The exotic rainbow trout (*Onchorhynchus mykiss*) occasionally strays into the lake from river Malewa while *Barbus* *amphigramma* migrates between the lake and the river. The Louisiana red swamp cratfish (*Procambarus clarkii*) was introduced in 1970 as a source of food for the bass. The crayfish and *Barbus amphigramma* are not under commercial exploitation currently in the lake.

Lake Naivasha commercial fishery had been declining before the year 2001 necessitating a one year ban on fishing in 2001. n the subsequent years, up to date, there has been an annual closed season during the breeding season (1st June to 31st August), to allow the fish stocks to recover. The recent accidental introduction of Common carp (*Cyprinus carpio*) has created a shift in the fish production. The *Cyprinus carpio* is believed to have come through river Malewa from Nyandarua highlands during the El-Nino period of 1998-1999.

Species composition in the catches from the lake has drastically changed since the year 2002 where total catches were dominated by the *tilapiines*. However over the last eight years, *tilapiines* contribution in catches has declined with the introduced *Cyprinus carpio* assuming greater prominence in the catches.

It is imperative for management and research to understand the implications of the *Cyprinus carpio* on the other fish species in the ecosystem. Besides, it is also important to understand the effects of the feeding habits of the *Cyprinus carpio* a detritivore, on the breeding grounds/nests of the *tilapiines* in the fishery.

During the year under review, a total of 209 metric tons of fish with an ex-vessel value of Kshs. 12,711, 911 were landed from Lake Naivasha. This was a decline of 69.6% in quantity and 58.3% in value compared to 2009 landings of 688 metric tons valued at Kshs 31,470,000 to the fishers. Common carp (*Cyprinus carpio*) continued to be the most dominant species accounting for 96.37% (201,502 Kg) of the total catch. The other species have been on the decline with Mirror carp accounting for 3.26% (6,819 Kg), *Micropyerus salmoides*) 0.32% (672 Kg) lake 'Naivasha tilapia' (*Oreochromis leucostictus*) accounting for only 0.05% (98 Kg), figure 13

In February there were incidents of dead fish being caught in the fishing gears and this led to a two (2) weeks imposed closure of the lake for fishing to monitor the situation. Average monthly catches from that month declined up to the end of the year and this contributed to the decline in annual catch figure figure 14.

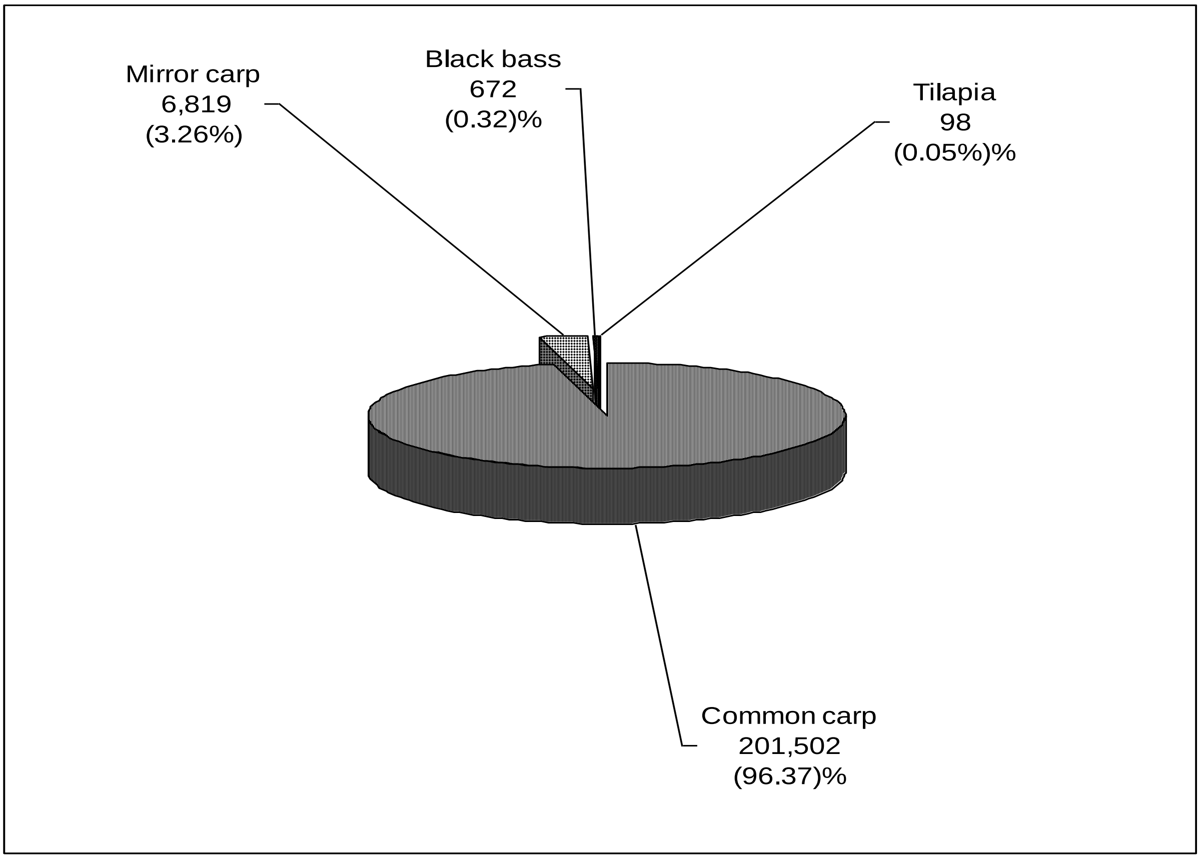

Figure 13: ***Lake Naivasha species percentage landings 2010***

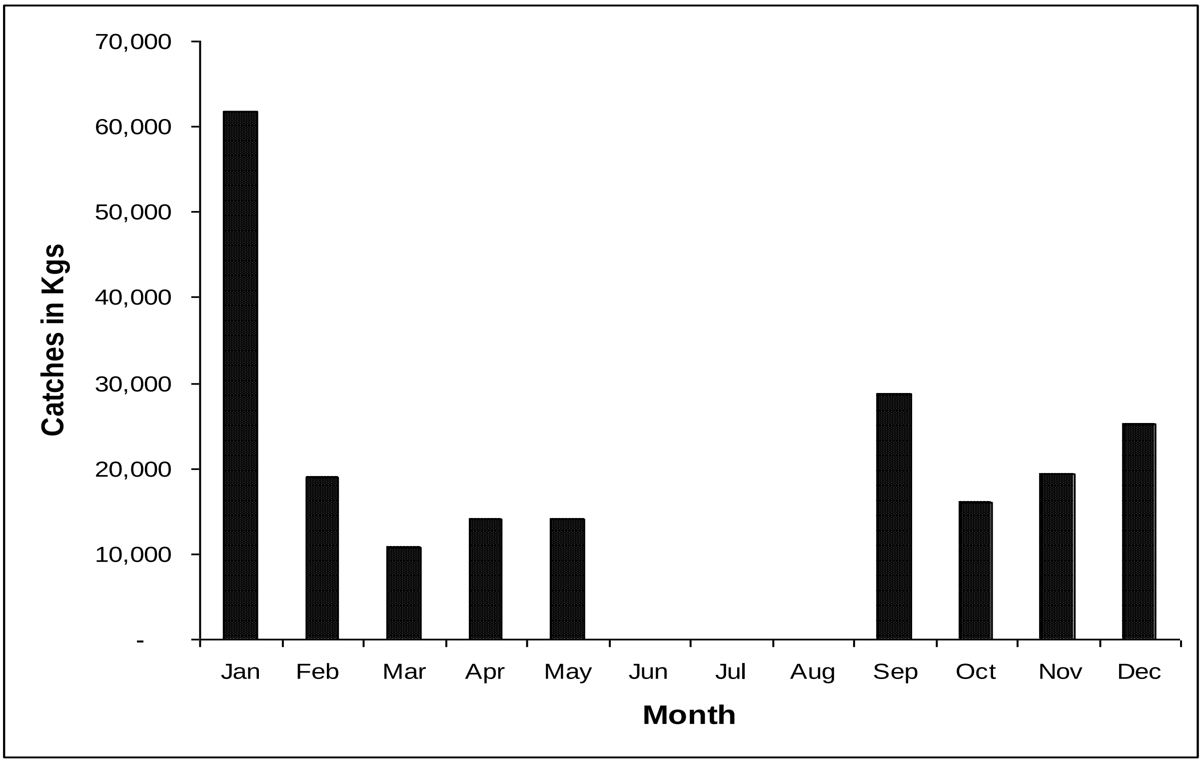

Figure 14: Lake Naivasha monthly catches 2010

During the year 2010, a total of 50 fishing crafts were licensed to operate in the lake for a period of 9 months (3 months were closed fishing season) and these were operated by an average of 150 fishers per month.

The annual closed season on fishing activities in Lake Naivasha was effected from 1st June to 30th September during the year under review, as a part of management measure to allow the fishery to recover. Other management measures employed included control of the fishing effort and protection of breeding areas. Collaborative research on the lake fishery was conducted by the Kenya Marine and Fisheries Research Institute (KMFRI), in collaboration with the Department of fisheries and fisher folk.

2.5 LAKE BARINGO FISHERY

Lake Baringo is one of the Rift valley lakes with a surface area of 130 km^2 and a mean depth of 5.6 metres. The lake has river 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, Barbus lineomaculatus, Clarias mossambicus* and *Protopterus aethiopicus* which was introduced in the lake.

The fishery was previously based on the tilapiine species, however owing to changes in the lakes biophysical processes such as siltation and species introductions, the fishery is currently dominated by *Protopterus aethiopicus.*

During the year under review a total of 53,320 Kg of fish with an ex-vessel value of Kshs. 4,529,066 were landed. This was a huge decline of 72% in quantity and 61% in value compared last year’s production of 192,00 Kg valued at Kshs. 11,562 191.

The species catch composition was dominated by *Protopterus aethiopicus* having contributed 72% followed by Clarias (24%), Tilapia (3%) and Barbus with 1%, figure 15.

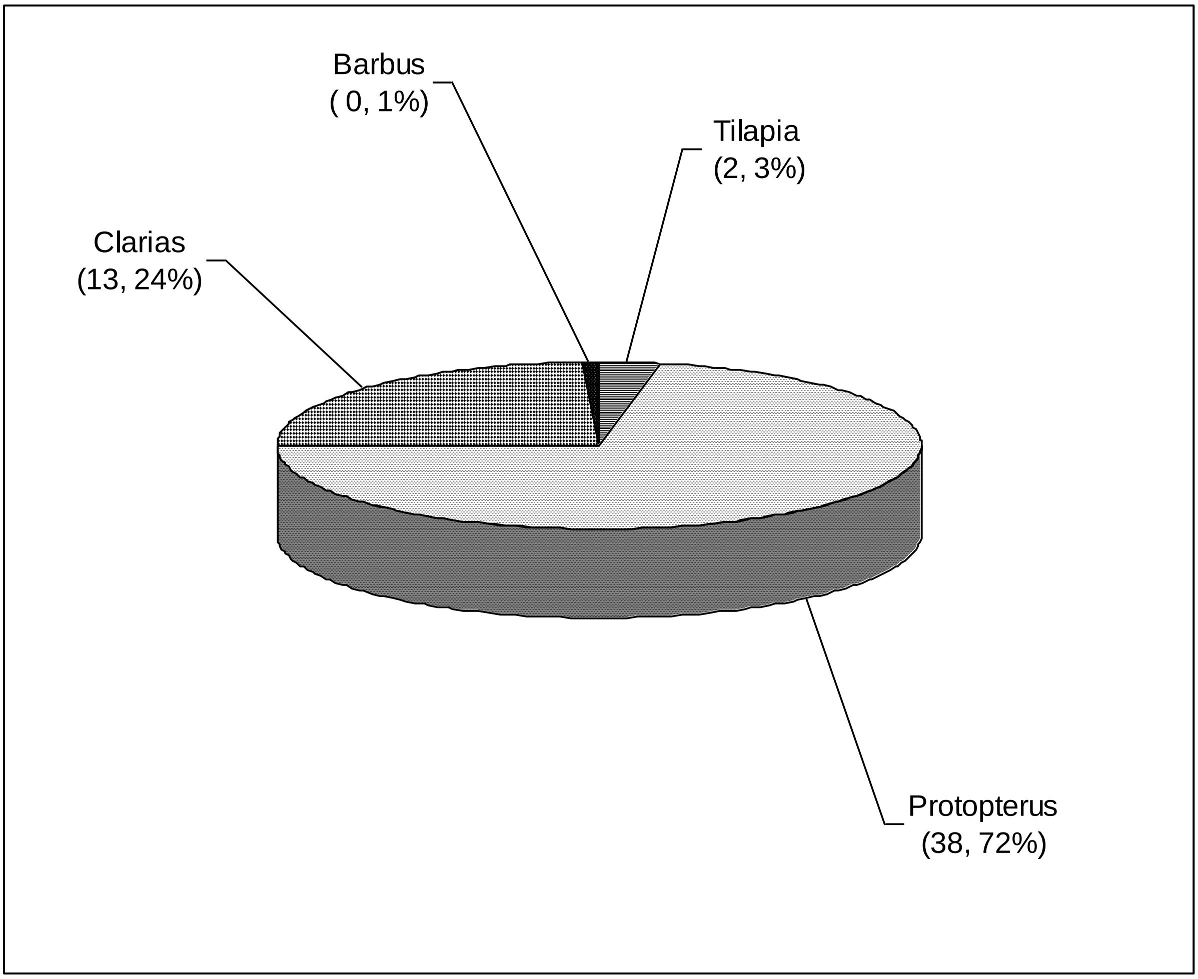

Figure 15: Percentages catch species composition in Lake Baringo in 2010

2.6 LAKE JIPE AND NEIGHBOURING DAMS FISHERY

During the year 2010, a total of 103 metric tons of both Clarias and Tilapia valued at Kshs 6,017,000 were landed. This reflected a small decline 0f 5.5% in quantity and 4.96% in value compared to previous year 2009 production. The only two species (Tilapia and Clarias) caught in the lake showed a steady average production of 8 metric tons per month for Tilapia and 1 metric ton for Clarias. Tilapia contributed 88% and Clarias 12%, figure 16.

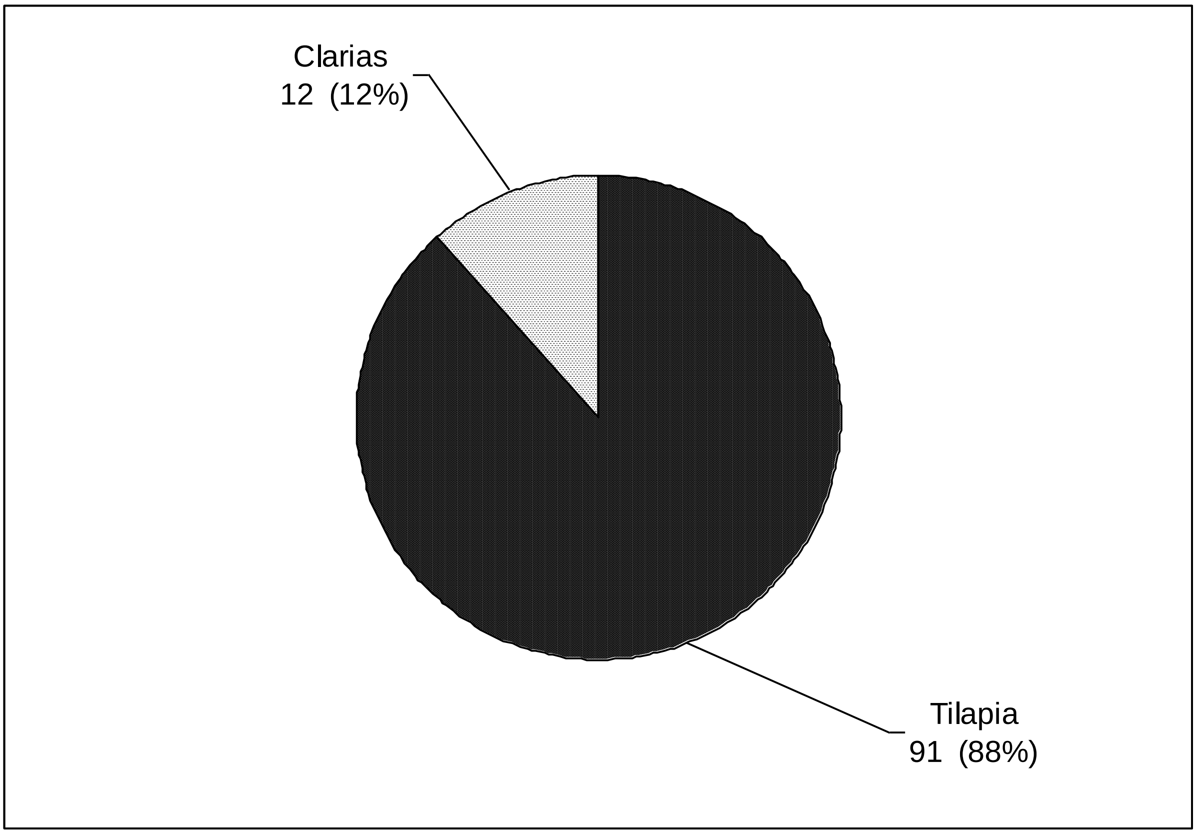

Figure 16: ***Percentages catch species composition in Lake Jipe in 2010***

The fishing activities of the lake were undertaken by an average of 50 fishers using 35 fishing crafts. The fishers fished with an average of 37 gillnets, 1,200 hand line hooks and 54 local traps (Migono).

2.7 TANA RIVER DAMS FISHERY

The year 2010 bore the blunt of the severe drought that bit the country through the years from 2008/09. The drought saw a serious drop in water levels in all the Tana River dams with Masinga dam being the most hit since its water had to be released to refill the dawn stream dams in a desperate effort by KenGen company to produce power for the country. During that drought period, three of the four landing sites in Masinga dam namely Mananja, Riakanau and Tumutumu had to be vacated after drying up. Due to loss of the extensive fishing grounds, hundreds of fishers concentrated around the water spill.

The beginning of the year 2010 was characterized by heavy rains which fitted the El-nino phenomena. The rains extended to the month of May and they were a blessing to the fishery of Tana dams as the landing sites that had been rendered inhabitable by the drought were by then beginning to show some activities and catch records began to be recorded from them.

It is worthy noting that though the Tana dams filled up to capacity during the year under review, the downward trend of fish production depicted in the year 2009 continued to be exhibited over the year. During the year a total of 583 metric tons of fish were landed from the Tana dams which was a slight decline of 1 metric tons (0.2%) from 584 metric tons landed in 2009, figure 17. Ex-vessel value of the fish landed in 2010 was Kshs. 37,391,210 as opposed to Kshs. 33,536,000 realised in 2009.

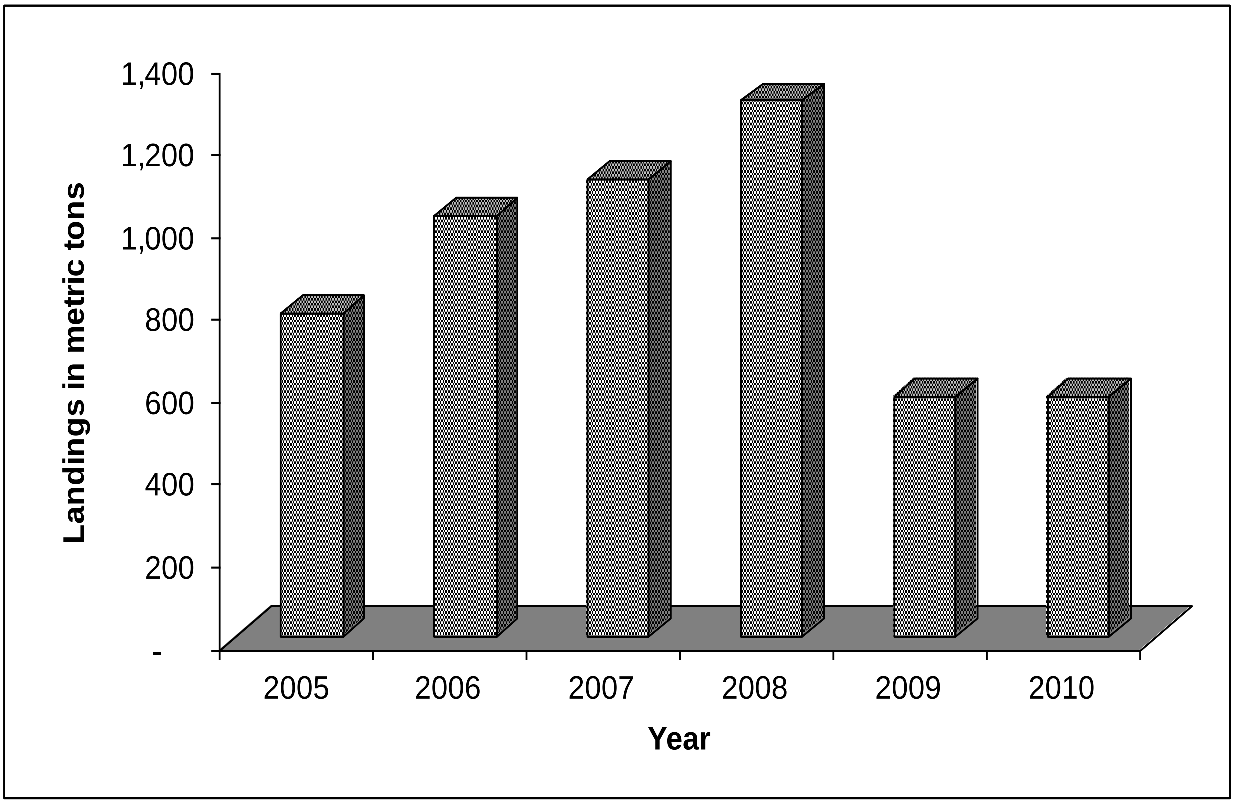

Figure 17: Tana River dams' fish catch trends 2005 – 2010

The contribution of the landings by dams was as follows: Masinga dam 357metric tons (61%), Kamburu 101 metric tons (17%) and Kiambere 125 metric tons (21%) while by landing sites Mananja had the lion's share of 141 metric tons (24%) of the total dams landings. This was followed by Ekalakala 106 metric tons (18%), Kisumu ndogo 101 metric tons (17%), Tumutumu 73 metric tons (13%), Katooni/Korokocho 68 metric tons (12%), Jua kali 57 metric tons (10%) and finally Riakanau with 37metric tons or 6% of the total landings from the dams.

The most important species in the catches included *Tilapia spp (*223 metric tons or 38.2%), *Cyprinus carpio* (Common carp) 209 metric tons (35.9%) and

Clarias spp 145 metric tons (25.2%). The other species (Momyrus, Eels and Barbus) contributed less than 0.7%.

Fishing was by passive methods namely gillnetting, traditional traps and hooks. The fishing effort was estimated at 284 fishers per month using 166 fishing crafts and on average operating 4,786 gillnets 12,951 hooks and 1,537 traditional traps. Most of the fish harvested is sold fresh, dry or smoked in Nairobi and the neighboring local markets.

2.8 LAKE KENYATTA FISHERY

During the year under review a total of 369 metric tons of fish with an ex-vessel value of Kshs. 11,014,953 was landed from Lake Kenyatta in Lamu district of the coast province. The catch composition from this lake comprised of three species namely Tilapia, Protopterus and Clarias. Tilapia contributed 43% of the total catch, Protopterus 29% and Clarias 28% figure 18. The fishing effort was 120 fishers using 60 fishing crafts. Fishing was mainly passive with gillnetting, long line hooks and hand line hooks being the most common methods of fishing.

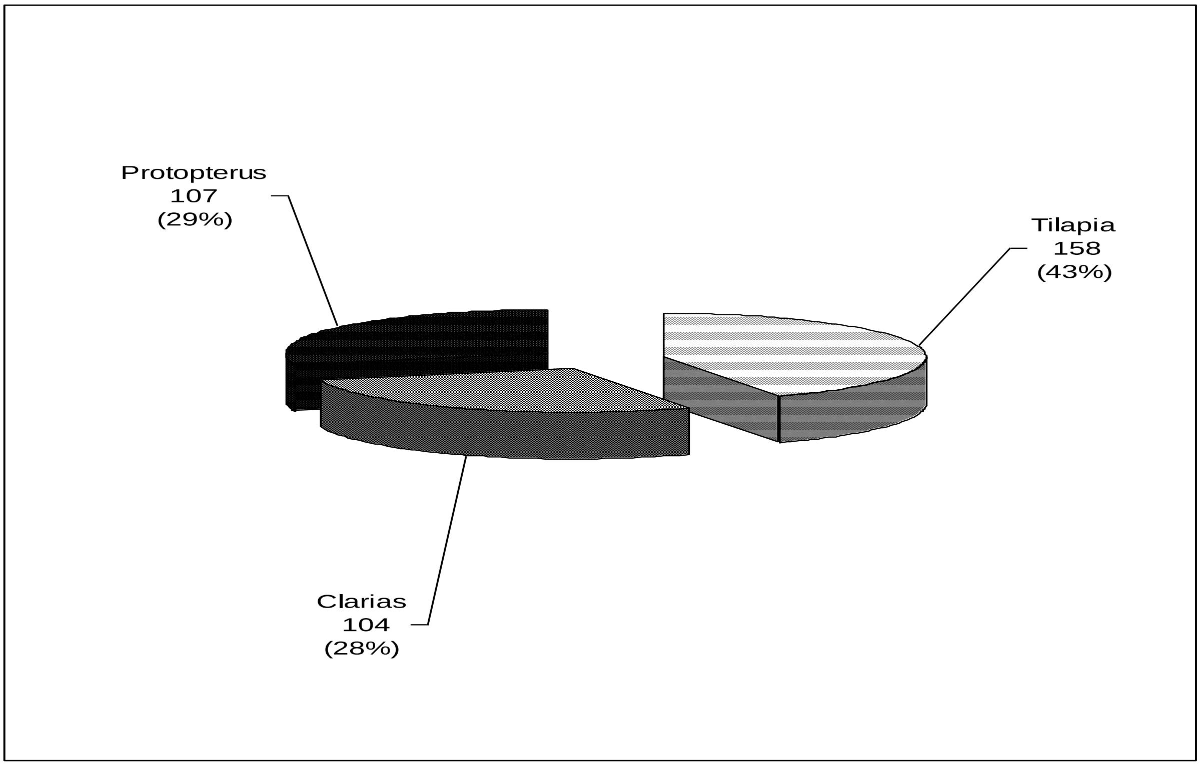

Figure 18: ***Percentages catch species composition in Lake Kenyatta in 2010***

2.9 LAKE KANYABOLI FISHERY

This is a complex of wetlands in the delta of Yala river, on the north-east shore of Lake Victoria. The predominant vegetation is papyrus (*Cyperus papyrus)*, with *Phragmites mauritianus* in shallower areas and swamp grasses around the periphery. A thick fringe of papyrus surrounds Lake Kanyaboli, which merges with the main swamp. The swamp acts as a natural filter for a variety of biocides and other agricultural pollutants from the surrounding catchment, and also effectively removes silt before the water enters Lake Victoria.

During the year under review a total of 215 metric tons of fish were landed valued at Ksh. 11,329,000. The main species in catches were Tilapia which contributed 65.6% of the total catch followed by Protopterus (16.3%), Clarias (14.9%) and Haplochromis (3.3%). The fishing activities were undertaken by 120 fishers operating 60 fishing crafts.

3.0 AQUACULTURE (FISH FARMING)

During the year under review the Ministry of Fisheries Development rolled out the Fish Farming Enterprise Productivity Programme (FFEPP) under the Economic Stimulus Programme (ESP) and the Economic Recovery, Poverty Alleviation and Regional Development Programme (ERPARDP). The fish farming enterprise productivity programme phase I under the national economic stimulus programme was implemented over the year under review while FFEPP phase II under the economic recovery, poverty alleviation and regional development programme began towards the end of the year. Development of commercial aquaculture was the main function throughout the country. This was executed through extension services, farmers' training, implementation of government's fish farming enterprise productivity programmes and provision of quality fish seed. The African catfish (*Clarias gariepinus*), Nile Tilapia (*Oreochromis niloticus*), Common carp (*Cyrinus carpio*) and Rainbow trout (*Onchorynchus mykiss*) were the main species cultured in the country.

The Fish Farming Enterprise Productivity Programme aims at promoting culture of fish for food, profits and employment, and to supplement the capture fisheries in-terms of supply of fish, which currently is acutely threatened. Sustainable fish production can contribute to food security and maintain adequate supply of fish and other aquaculture products create wealth and reduce poverty.

Fish farming production during the year was 12,153 metric tons valued at Kshs. 2,620,794,000 to the farmers compared to 4,895 metric tons valued at Kshs. 1,041,420,000 in 2009. Of the total farmed fish production, Nile tilapia contributed 75% (9,115 metric tons), African catfish 18% (2,188 metric tons), Common carp 6% (729 metric tons) and Rainbow trout 1% (122 metric tons), figure 19. This production was from 15,529 ponds with an area of 4,678.390 metres square, 161 tangs measuring 23,085 metres square and 331 dams with an area of 5,473,346 square metres throughout the country.

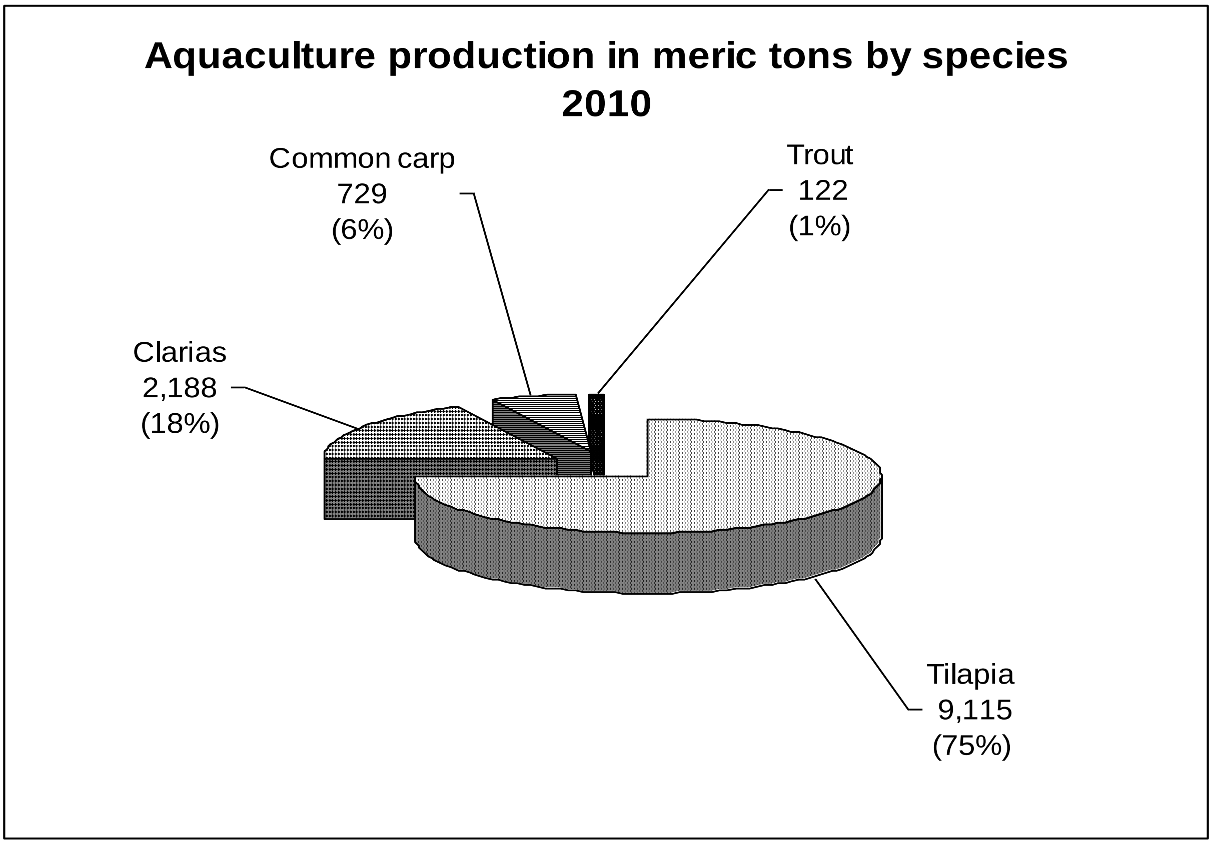

Figure 19: Aquaculture production by species 2010

There were constraints which affected aquaculture during the year and they can be categorized into two broad categories namely:

- **(i)** Constraints that affected our clients (farmers)
- **(ii)** Constraints that affected the service provider i.e. the Ministry and the Department.

3.1 Constraints that affected our clients

1. Lack of readily available and affordable quality fish seed (fingerlings);
2. Lack of good quality and affordable fish feeds;
3. Exorbitantly higher prices of fish nets and other basic aquaculture inputs;
4. Inefficient aquaculture production technologies;
5. Water scarcity due to other competing uses – industry, domestic and agriculture;
6. Lack of and /or inadequate accurate market information for use by fish farmers;

7. Lack of good credit facilities and schemes for fish farmers;
8. Lack of suitable insurance schemes appropriate to aquaculturists;
9. Security and safety of fish in ponds posed by thieves and predators
10. Multifarious diseases and parasites;
11. Limited land sizes that disqualified some willing individuals from constructing the FFEPP ponds.

3.2 Constraints that affected the service provider

1. Sub optimal staffing levels especially extension personnel;
2. Weak legislation governing the sector;
3. Weak or no linkages of the department with universities, research institutions, regional and international organizations concerned with fisheries issues. This curtails the departments' access to critical important information on new aquaculture technologies, markets future potential and challenges for the sector;
4. Inadequate facilitation in terms of transport and timely funds towards carrying out of fisheries extension service provision.

3.3 Opportunities and potential

Despite of the above constraints, there exists opportunities and potential for aquaculture growth that would greatly enhance the country's economy and raise rural incomes. These include:

1. Ornamental fish farming to supply existing Kenyan and East African Community markets;
2. Intensification of aquaculture to raise production from the current 12,000 metric tons worth 2.6 billion Kenya shillings to 20,000 metric tons worth 4.8 billion Kenya shillings in the next two years;
3. Development of dam fisheries through careful restocking and exploitation programs plus promotion of cage culture, which can yield thousands of tons of fish annually;
4. Promotion of high value trout fish culture in all the cold zones of the country
5. Ancillary industries: With the envisioned rise in aquaculture, other auxiliary industries will spring up e.g. production of fish feed, fish processing, ice making plants and transportation among others.

Management and ownership of fish ponds is mainly by individual fish farmers while self-help groups are the ones who manage dams in the country. Fisheries extension staff assists the farmer in the best pond and dam management practices.

The department policy on shifting fish farming from subsistence to commercial enterprise demands increased and reliable fish seed production for the farmers.

4.0 EXPORTS OF FISH AND FISHERY PRODUCTS

During the year under review, a total of 11,998 metric tons of fish and fishery products were exported earning the country Kshs. 4,173,924,000 in foreign exchange. The export products were mainly Nile perch fillets, fish maws, Octopus, Sword fish, marine Shells, Crabs, Sardines, Sharks fins and sea Cucumbers. Nile perch fillets exports accounted for 85.8% of the total quantity and 85.6% of the total earnings. Fish maws contributed 4.6% in quantity and 10.5% in value while Octopus contributed 5.8% in quantity and 3.8% in value. This year's Nile perch fillets export increased by 6% from the previous years' export of 9,712 metric tons. By country destination, Israel had the lion's share of Nile perch exports at 3,962 metric tons or 38.5% of the total Nile perch exports. Israel was followed by Netherlands with 1,860 metric tons (18.1%), Portugal with 763 metric tons (7.4%), Spain 598 metric tons (5.8%), UAE 499 metric tons (4.8%) and Germany with 459 metric tons (4.5%) among others, figure 20.

By product type the exports of frozen Nile perch fillets contributed the highest percentage of 62.5% (6,433 metric tons) followed by fresh fillets 29.6 % (3,047 metric tons), frozen headless and gutted Nile perch 7.9% (811 metric tons) then fresh headless and gutted Nile perch 0.03% (3 metric tons) figure 21.

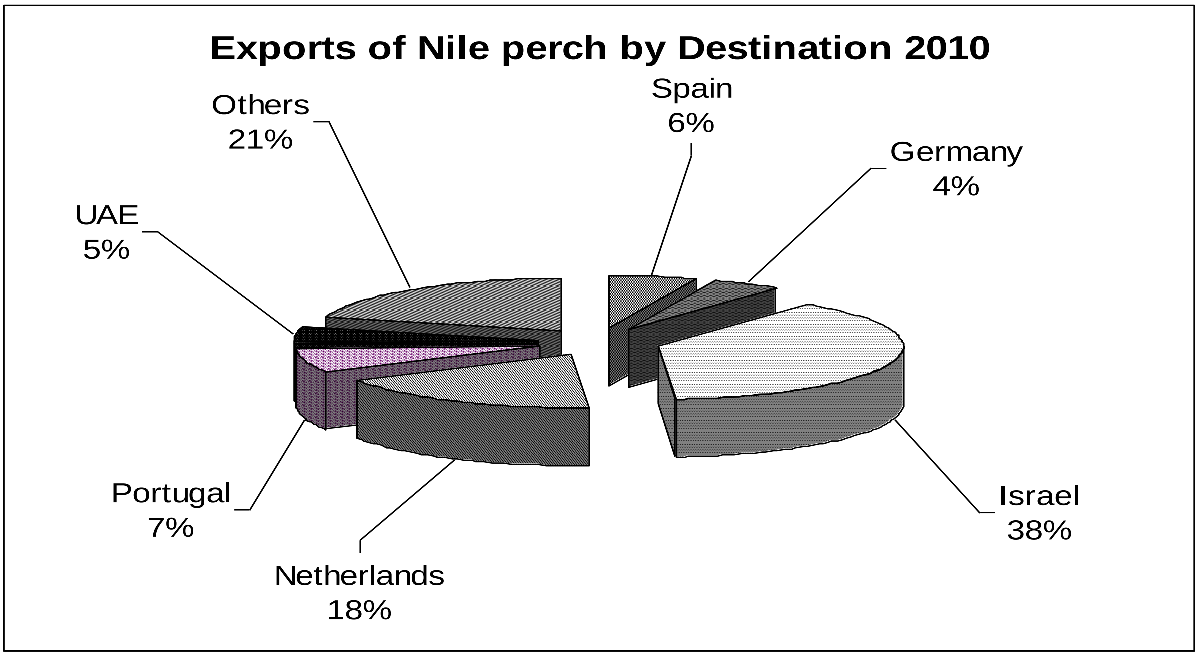

Figure 20: Exports of Nile Perch By destinations- 2010

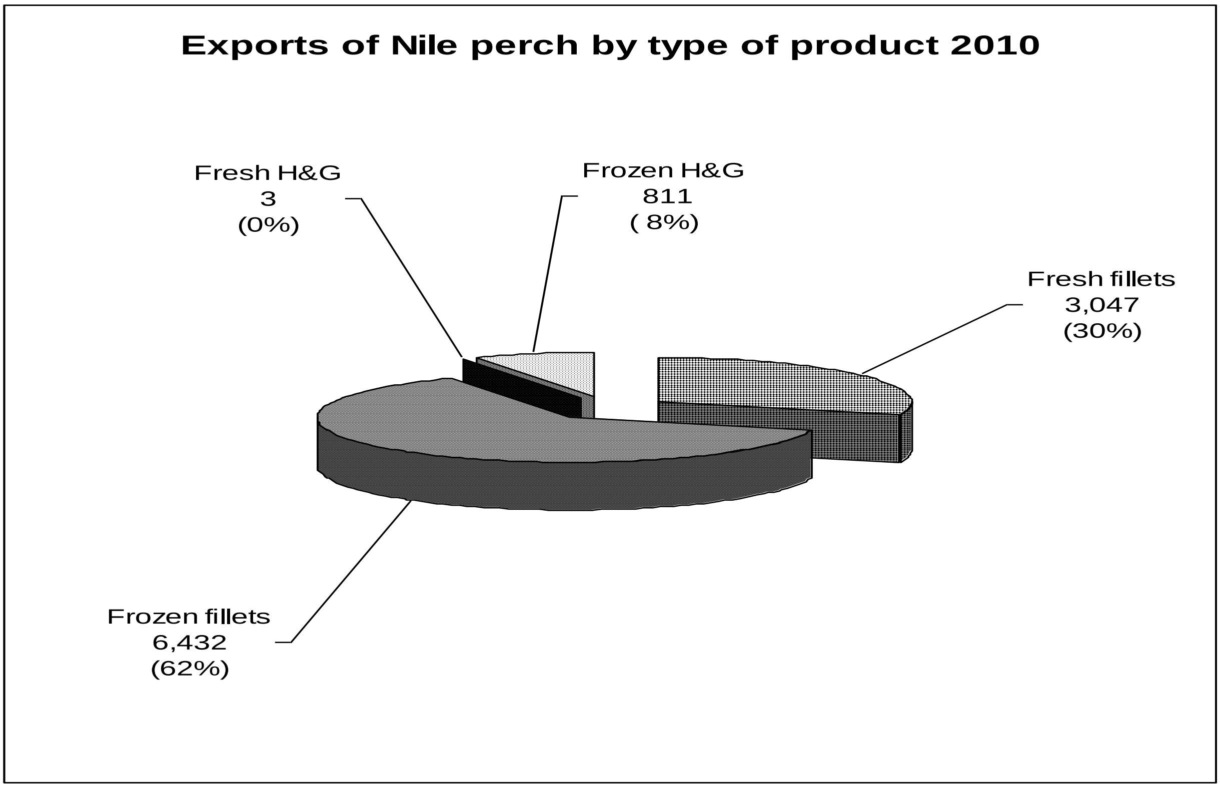

Figure 21: Exports of Nile perch by product type 2010

Apart from the above mentioned exports, 9,207 metric tons of Tuna loins were processed and trans-shipped through the port of Mombasa. This quantity was an increase of 27.8% from the previous year's trans-shipment of 7,209 metric tons.

5.0 IMPORTS

In 2010, Kenya imported 3,150 metric tons of fish and fishery products worth Kshs 109,400,000. The imports were mainly composed of frozen mackerels with 1,749 metric tons (55.2%), frozen sardines 485 metric tons (15.3%), frozen tilapia 91 metric tons (3.5%) and frozen kahawai 259 metric tons (8.2%), figure 22. The imports originated largely from Asian countries, notably India, Pakistan, Korea and China.

Some 35,104 pieces of Ornamental fish worthy Kshs 503,144 were imported from Thailand, Malaysia and Singapore while 200,000 ova eggs worthy Kshs 311,850 were imported from USA and UK.

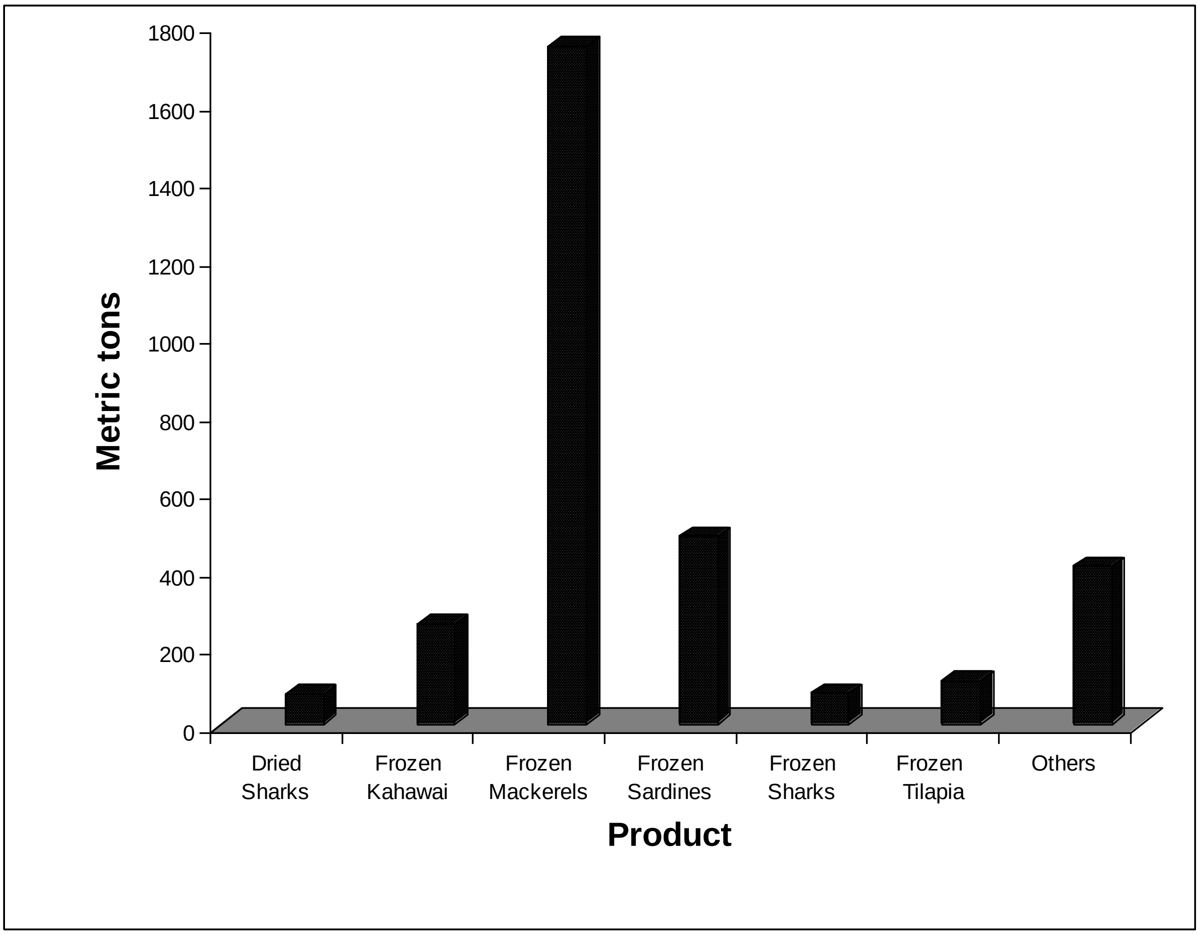

Figure 22: Import of fish and fish products 2010

6.0 LAKE VICTORIA FISHERIES FRAME SURVEYS 2010

One Frame Surveys was conducted during the year under review on Lake Victoria fisheries. The survey was a complete census of crafts, gears, and fishers operating and all landing sites facilities. This was the sixth lake wide Frame survey to be conducted in the lake others having been conducted in 2000, 2002, 2004, 2006 and 2008.

The overall objective of the Frame Survey was to provide information on the facilities and services at landing sites and the composition, magnitude and distribution of fishing effort to guide development and management of the fisheries resources in the lake.

The specific objectives were to provide information on:

a) The number of fish landing sites;
b) The facilities available at the fish landing sites to service the sector including accessibility;

c) The service providers, especially fisheries staff and Beach Management Units (BMUs) at the fish landing sites;
d) The number of fishers;
e) The number and types of fishing crafts and their mode of propulsion;
f) The number, types and sizes of fishing gears used and their mode of operation.

The key management questions which the Frame Survey was seeking to answer included:

a) Are the number of landing sites and fishing crafts increasing or decreasing?
b) Are the numbers of fishers increasing or decreasing?
c) Are the types of gillnets and their mesh sizes changing?
d) Are the numbers of illegal fishing gears increasing or decreasing?
e) Are the facilities on the landing sites changing (toilets, banda, electricity, potable waters, cold room, fish store, accessibility to all weather road, designated net and boat repair facilities, and pantoons/jetties)?
f) Are service providers adequate (Fisheries staff and BMUs)?
g) What is the situation of fishing crafts propulsion?

The outputs which were expected from the Frame Survey were as follows:

a) Information on the number of fish landing sites;
b) Information on the facilities available at the fish landing sites to service the fisheries sector including those landing sites that can be accessed by all weather roads;
c) Information on the number of fishers and how the number changed since the last surveys;
d) Information on the number and types of fishing crafts and how the number changed since the previous Frame Surveys;
e) Information on the modes of propulsion of the fishing craft to provide an insight on how far the crafts can fish;
f) Information on the number, types and sizes of fishing gears especially the number of illegal fishing gears in the fishery;
g) An indication of the impact of management measures e.g. enforcement of the legal fishing gears and methods;
h) Recommendations on development and management of the fisheries resources.

The results of Lake Victoria fisheries Frame survey 2010 are summarized and presented in tables 1.

From the results of the six Frame surveys conducted on lake Victoria fisheries the following Conclusions and recommendations were made:-

1. There is little improvement in facilities servicing the fisheries sector at the fish landing sites. The low coverage in the basic hygiene requirements at landing sites, especially toilet facilities and portable water still raises serious concern. The BMU leadership at landing sites should be sensitized to prioritize sanitation. A mechanism to plough back part of the revenue collected from licensing and other levies in the fisheries sector should be setup to provide for improvement of facilities at the landing sites.

2. The number of resident fisheries staff at landing sites is inadequate. There is need to deploy more fisheries field staff and facilitate them to establish offices at landing sites. The capacity of BMUs to undertake some of the functions of fisheries staff should also be enhanced.

3. The total number of fishers and fishing crafts has increased substantially since 2000 Frame survey. In order to address this increased fishing effort, the following actions are recommended:
    i. New entry of crafts and fishers should be controlled;
    ii. Unregistered and/or unlicensed fishing crafts and fishers should be removed from the fisheries;
    iii. The attitude of licensing authorities in the fisheries sector of increasing the number of fishers and crafts to increase revenue collection should be discouraged to control fishing effort and enhance sustainable fisheries exploitation;
    iv. Options for alternative livelihood should be assessed and developed;
    v. The use of dugouts, parachutes and rafts, which do not meet the required safety standards of fishing crafts, should be prohibited.

4. The use of illegal fishing gears is still rampant in the lake despite MCS efforts. Efforts to remove these destructive gears should be stepped up. It is recommended that:
    i. The strategy of involving communities in combating illegal fishing by engaging them in policing of the resource should be strengthened;
    ii. BMU should take the lead in prohibiting illegal fishing and fishing gears in their respective areas;
    iii. Awareness raising programs targeting fishing communities through different mass media e.g. radios, TV, posters and public rallies should be strengthened;

iv. The Fisheries laws should be amended to provide for confiscation of illegal gears and materials at all levels, i.e. importation, manufacture, transportation, sale and use in fishing;

v. Informers should be planted in hot spot areas to provide quick and reliable information on where the illegal fishing gears are used.

5. There is need to establish the level of optimal fishing effort that marches the available stocks in order to guide regulation of effort. This could be achieved by analyzing the results of Frame Surveys together with those of related surveys such as catch assessment, trawl and hydro-acoustics. The Fisheries Management Decision Support Tool should be used to assess the optimal effort.

NB

The following symbols have been used in this Bulletin:

0	Meaning Nil
*	Meaning the value was less than half of the unit used
-	Meaning no data was available

Table 1: **Summary Results of Lake Victoria Fisheries Frame Survey 2010**

Landings/Fishers	Busiao	Bondoa	Kisumu	Nyando	Rachuonyo	Homa Bay	Suba	Migoria	Total
Number of landing	23	86	33	7	38	6	107	31	331
Number of fishers	3,196	1,2024	2,682	467	2,643	597	15,131	5,172	41,912
Fishing Craft type	**Busiao**	**Bondoa**	**Kisumu**	**Nyando**	**Rachuonyo**	**Homa Bay**	**Suba**	**Migoria**	**Total**
Dug out	-	56	-	-	1	-	7	1	65
Foot Fishers	2	27	17		2	2	17	30	97
Parachute	171	864	387	122	161	80	657	713	3,155
Rafts	-	16	-	-	-	-	2	15	33
Sesse flat at one end	179	325	24	-	5	-	1220	366	2119
Sesse pointed at both ends	797	2,791	621	64	839	150	2,950	568	8,780
Total	1,149	4,079	1,049	186	1,008	232	4,855	1,693	14,251
Gill nets	**Busiao**	**Bondoa**	**Kisumu**	**Nyando**	**Rachuonyo**	**Homa Bay**	**Suba**	**Migoria**	**Total**
Gill net, mesh size < 2½"	954	321	4,300	190	1,043	1,415	974	183	9,380
Gill net, mesh size 2½"	1,141	2,452	1,866	42	1,076	859	2,534	234	10,204
Gill net, mesh size 3"	1,155	589	990	85	799	295	706	600	5,219
Gill net, mesh size 3½"	295	499	1,002	187	873	261	425	363	3,905
Gill net, mesh size 4"	49	725	2,348	336	2,460	281	856	71	7,126
Gill net, mesh size 4½"	180	876	1,791	375	4,433	434	1,411	24	9,524
Gill net, mesh size 5"	728	2,857	5,489	760	4,631	787	2,334	389	17,975
Gill net, mesh size 5½"	211	2,195	3,136	761	2,5248	663	2,121	116	11,727
Gill net, mesh size 6"	188	1,573	1,174	241	2,820	194	2,643	158	8,991
Gill net, mesh size 6½"	217	392	47	94	278	23	2,646	95	3,792
Gill net, mesh size 7"	315	422	459	75	418	20	1,618	184	3,511
Gill net, mesh size 7½"	-	20	-	38	45	15	155	-	273
Gill net, mesh size 8"	62	29	8	46	110	-	122	-	377
Gill net, mesh size 9"	-	66	-	13	-	-	60	-	139
Gill net, mesh size 10"	51	30	-	-	-	-	-	-	81
Gill net, mesh size > 10"	11	300	14	-	-	-	-	-	325
Total gill nets	10,199	27,633	24,354	3,231	22,934	5,412	90,802	28,310	212,875
Long lines, Size <4	-	2,645	200	-	-	-	400	-	3,245
Long lines, Size 4-7	2,292	18,365	3980	2,600	4,850	5130	27,253	32,600	97,070
Long lines, Size 8-10	86,545	306,470	84330	3,891	219,740	12880	489,295	361,488	1,564,039

Long lines, Size >10	145,918	311,288	40620	16740	40,530	1,000	439,689	50,460	1,046,041
Total long lines	234,755	638,968	129,130	23,231	265,120	19,010	956,733	444,548	2,710,395
Small seine, mesh size <=5 mm	181	726	9	2	97	0	757	277	2,001
Small seine, mesh size 6-9 mm	17	238	140	51	8	-	354	29	837
Small seine, mesh size 10mm	1	4	43	28	16	-	27	24	143
Total small seines	199	968	191	82	121	0	1138	330	2,981
Beach seine	40	291	43	-	38	53	471	55	991
Cast net	29	94	10	-	-	-	7	3	143
Hook and line/Handline	1,606	3868	429	-	9	12	2,521	2755	11,210
Monofilament	75	1,063	7		1	4	273	45	1,468
Traps/Baskets	91	977	348	321	17	77	89	20	1,940
Propulsion method	**Busiao**	**Bondoa**	**Kisumu**	**Nyando**	**Rachuonyo**	**Homa Bay**	**Suba**	**Migoria**	**Total**
Foot fishers	2	27	17		2	2	17	30	97
Inboard engine	-	1	1	-	-	-	8	-	10
Outboard engine	66	176	6	-	2	-	1181	342	1773
Paddles	715	2,637	499	103	165	151	2,565	711	7,546
Sail	366	1239	498	83	839	79	1083	610	4,797
Grand Total	1,149	4,079	1,049	186	1,008	232	4,855	1,693	14,251

Table 2: **Fish landings by Weight, Value, number of Fishers and Fishing crafts by Areas 2010**

Freshwater	**M. tons**	**000 Kshs.**	**No.Fishers/Farmers**	**Fishing crafts/ponds**
Lake Victoria	111,868	11,543,125	41,912	14,152
Lake Turkana	6,430	271,687	7,000	1,650
Lake Baringo	53	4,529	47	47
Lake Naivasha	209	12,712	150	50
LakeJipe/Dams	103	6,017	50	35
Lake Kanyaboli	215	11,329	182	98
Lake Kenyatta	369	11,015	120	60
Tana River dams	583	37,391	284	166
Fish Farming	12,153	2,620,794	14,120	15,529
Tana River delta	362	28,537	299	40
Total	**132,345**	**14,547,136**	**64,164**	**31,827**
Marine water				
Dermersal	4,146	325,133		
Pelagic	2,344	219,628		
Crustaceans	519	148,974		
Other Marine	792	67,274		
Miscellaneous	605	61,332		
Total Marine	**8,406**	**822,341**	**12,077**	**2,687**
Grand Total	**140,751**	**15,369,477**	**76,241**	**34,514**

Table 3: **Quantity and value of Fish landings to Fishers 2008 - 2010**

	2008		2009		2010	
FRESHWATER	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
L. Victoria	111,369	9,429,765	108,934	10,800,831	111,868	11,543,125
L. Turkana	8,070	229,171	9,445	305,178	6,430	271,687
L. Naivasha	225	13,384	688	31,470	209	12,712
L. Baringo	262	10,065	191	11,562	53	4,529
L. Jipe/Dams	109	6,470	109	6,331	103	6,017
Lake Kanyaboli	164	10,193	31	1,554	215	11,329
Lake Kenyatta	292	8,535	369	12,401	369	11,015
Tana River Dams	1,302	62,205	584	33,536	583	37,391
Fish Farming	4,452	917,860	4,895	1,041,420	12,153	2,620,794
Tana river delta	427	30,001	428	30,009	362	28,537
TOTAL	**126,672**	**10,717,649**	**125,674**	**12,274,292**	**132,345**	**14,547,136**
MARINE FISH						
Lamu District	2,028	92,920	1,943	109,585	2,056	112,215
Tana River District	89	5,593	85	5,382	276	20,194
Malindi District	1,345	113,677	1,061	104,210	1,516	156,110
Kilifi District	817	66,647	593	50,691	485	45,253
Mombasa District	676	76,086	858	103,542	926	116,939
Kwale District	2,606	186,031	2,484	183,136	2,024	161,325
TOTAL	**7,561**	**540,954**	**7,024**	**556,546**	**7,283**	**612,036**
CRUSTACEA						
Lamu District	151	54,187	111	54,349	163	57,456
Tana River District	42	12,614	42	12,615	58	17,465
Malindi District	71	21,500	32	12,219	44	12,331
Kilifi District	25	3,947	1	426	3	833
Mombasa District	192	31,818	122	24,249	154	31,700
Kwale District	97	22,564	99	22,712	97	29,189
TOTAL	**578**	**146,630**	**407**	**126,570**	**519**	**148,974**
MOLLUSCS						
Lamu District	16	4,071	37	4,010	52	7,355
Tana River District	13	777	14	777	24	1,425
Malindi District	93	9,106	41	4,392	119	13,914
Kilifi District	57	2,945	18	1,260	23	1,830
Mombasa District	59	5,221	61	5,484	55	5,548
Kwale District	359	27,062	324	27,686	331	31,259
TOTAL	**597**	**49,182**	**495**	**43,609**	**604**	**61,331**
MARINE TOTAL	**8,736**	**736,766**	**7,926**	**726,725**	**8,406**	**822,341**
GRAND TOTAL	**135,408**	**11,454,415**	**133,600**	**13,001,017**	**140,751**	**15,369,477**

Table 4: **Fresh Water and Marine Fish Catches by Species, Weight and Value 2008- 2010**

	2008		2009		2010	
FRSH WATER	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Alestes	145	2,893	53	1,056	50	1,550
Bagrus	58.5	2,251	306	16,759	101	2,995
Barbus	418	8,386	524	10,497	353	10,506
Black bass	2	229	2	185	1	65
Clarias	2,269	270,702	2,736	311,010	6,916	763,025
Rastreonobola	46,966	1,650,286	49,326	2,219,624	47,716	2,225,780
Labeo	1,900	39,097	1,900	40,442	1,144	36,567
Haplochromis	5,423	314,514	822	51,621	21	1,120
Lates niloticus	45,026	6,017,748	43,650	6,705,665	39,045	6,656,608
Momyrus	*	6	*	8	*	4
Protopterus	3,077	259,032	930	54,406	3,891	234,310
Synodontis	20	409	16	309	136	4,085
Tilapia niloticus	12,732	1,751,812	17,274	2,501,777	24,572	4,113,299
Tilapia others	5,092	179,028	5,041	204,810	3,726	184,913
Trout	49	26,950	51	28,050	122	66,842
Carps	947	59,115	1,238	74,877	1,146	91,989
Eels	*	28	1	51	4	228
Citharinus	13	263	103	2,058	63	1,845
Hydrocynus	18	361	229	4,578	39	1,150
Distichodu niloticus	765	15,315	1,022	20,443	812	23,920
Unspecified	1,751	119,223	450	26,067	2,487	126,335
TOTAL	**126,672**	**10,717,649**	**125,674**	**12,274,292**	**132,345**	**14,547,136**
MARINE FISH						
Demersal	4,092	274,088	3,836	287,916	4,146	325,133
Pelagic	2,572	193,379	2,401	201,538	2,344	219,628
Sharks/Rays	183	16,655	232	22,384	274	26,948
Sardines	151	10,570	130	8,390	224	14,068
Unspecified	553	46,262	425	36,318	294	26,259
TOTAL	**7,551**	**540,954**	**7,024**	**556,546**	**7,282**	**612,036**
CRUSTACEA						
Lobster	112	58,830	84	55,321	100	69,674
Prawns	243	50,608	153	34,877	251	51,450
Crabs	148	18,067	117	19,863	168	27,850
Others	75	19,125	53	16,509	-	-
TOTAL	**578**	**146630**	**407**	**126,570**	**519**	**148,974**
MOLLUSCS						
Oysters	33	2,903	23	501	33	507
Squids	162	11,854	140	13,504	142	17,980
Octopus	291	22,415	256	20,056	407	36,697
Beche-de-mers	33	5,595	11	3,860	22	6,147
Others	78	6,415	65	5,688	-	-
TOTAL	**597**	**49182**	**495**	**43,609**	**604**	**61,331**
TOTAL MARINE	**8,726**	**736,766**	**7,926**	**726,725**	**8,406**	**822,341**
GRAND TOTAL	**135,398**	**11,454,415**	**133,600**	**13,001,017**	**140,751**	**15,369,477**

Table 5: **Marine Fish landings by Species, Weight and Value 2008 - 2010**

	2008		2009		2010	
SPECIES	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
DEMERSAL						
Rabbit fish	484	34,546	504	45,528	675	60,281
Scarvenger	499	33,769	447	32,788	642	53,349
Snapper	244	19,326	254	20,576	298	27,477
Parrot fish	315	18,303	405	28,999	475	30,444
Surgeon fish	75	4,618	85	5,472	121	7,797
Unicorn fish	107	6,655	80	5,051	164	11,484
Grunter	135	9,909	110	9,488	149	13,215
Pouter	127	9,046	154	9,858	181	12,817
Black skin	179	11,813	170	10,625	181	13,336
Goat fish	98	7,463	96	8,277	110	9,855
Steaker	56	3,642	37	2,761	30	2,593
Rock cod	127	9,069	110	8,787	150	12,450
Cat fish	74	4,978	86	5,914	92	6,759
Mixed dermasal	1,039	65,201	796	56,238	878	63,276
Not Acc. for	533	35,750	500	37,554	-	-
TOTAL	**4,092**	**274,088**	**3,836**	**287,916**	**4,146**	**325,133**
PELAGICS						
Cavalla jacks	219	15,014	170	14,214	227	21,667
Mullets	236	15,274	232	14,317	292	22,464
Littla mackerels	212	16,853	268	21,967	419	37,204
Barracudas	325	25,988	292	25,994	281	26,924
Milk fish	91	6,929	55	3,161	78	5,689
King fish	77	7,276	75	7,967	119	13,982
Queen fish	85	5,640	70	4,639	141	11,867
Sail fish	105	9,609	160	17,506	165	19,360
Tuna	320	23,229	295	26,437	180	18,539
Dolphin fish	28	2,674	35	2,952	41	3,321
Mixed Pelagics	539	39,670	437	36,095	400	38,612
Not Acc. For	335	25,223	313	26,288	-	-
TOTAL	**2,572**	**193,379**	**2,401**	**201,538**	**2,344**	**219,628**
Sharks &Rays	183	16,655	232	22,384	274	26,948
Sardines	151	10,570	130	8,390	224	14,068
Mixed fish	447	36,677	322	27,567	294	26,258
Not Acc. For	116	9,585	103	8,751	-	-
TOTAL	**897**	**73,487**	**787**	**67,092**	**792**	**67,274**
CRUSTACEANS						
Lobsters	112	58,830	84	55,321	100	69,674
Prawns	243	50,608	153	34,877	252	51,451
Crabs	148	18,067	117	19,863	168	27,850
Not Acc. For	75	19,125	53	16,509	-	-
TOTAL	**578**	**146,630**	**407**	**126,570**	**519**	**148,974**
MISCELLANEOUS						
Oysters	33	2903	23	501	33	507
Beche-de-mers	33	5,595	11	3,860	22	6,147
Octopus	291	22,415	257	20,056	408	36,698
Squids	162	11,854	140	13,504	142	17,980
Not Acc. For	78	6,415	65	5,688	-	-
TOTAL	**597**	**49,182**	**495**	**43,609**	**604**	**61,331**
TOTAL MARINE	**8,736**	**736,766**	**7,926**	**726,725**	**8,406**	**822,341**

Table 6: **Marine monthly Fish landing by Species and Weight 2010**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	M. tons	M. tons	M. tons	M. tons	M. tons	M. tons	M. tons	M. tons	M. tons	M. tons	M. tons	M. tons	M. tons
DEMERSALS													
Rabbit fish	46	41	45	56	82	60	58	58	50	62	54	64	675
Scavenger	55	39	54	56	58	43	49	67	50	55	55	61	642
Snapper	24	23	23	21	20	27	20	17	19	27	25	54	298
Parrot fish	40	35	40	63	58	30	38	29	27	42	33	40	475
Surgeon fish	11	12	20	6	5	3	5	6	6	9	18	18	121
Unicorn fish	12	17	18	5	13	6	5	6	7	9	19	47	164
Grunter	10	11	11	15	16	13	13	13	12	11	11	12	149
Pouter	13	14	13	14	15	15	16	16	17	17	16	15	181
Black skin	16	17	18	13	15	11	16	16	12	18	13	16	181
Goat fish	9	8	9	10	9	9	9	9	8	9	10	10	110
Steaker	2	3	3	1	3	3	3	2	2	2	3	2	30
Rock cod	13	16	11	11	8	7	9	11	10	11	14	28	150
Cat fish	8	8	8	7	6	5	6	6	7	7	11	13	92
Mixed dermasal	76	78	64	82	77	53	79	82	83	79	61	63	878
TOTAL	**336**	**322**	**336**	**361**	**386**	**284**	**325**	**339**	**309**	**359**	**342**	**445**	**4,146**
PELAGICS													
Crevallae jacks	19	13	17	14	19	16	18	18	18	23	27	25	227
Mullets	22	16	19	19	22	19	28	28	27	39	26	25	292
Little mackerels	24	23	29	26	21	13	32	37	42	51	66	56	419
Barracudas	24	24	26	26	24	20	18	20	22	28	23	27	281
Milk fish	4	7	10	5	7	5	6	5	5	6	4	14	78
King fish	9	10	9	8	7	3	8	10	15	14	11	14	119
Queen fish	8	9	9	8	8	6	9	10	9	21	22	22	141

Sail fish	29	37	23	6	6	4	8	8	9	10	9	16	165
Tuna	25	28	19	10	10	8	9	11	14	15	16	18	180
Dolphin fish	5	10	1	1	1	0	0	1	3	2	3	11	41
Mixed Pelagics	51	55	46	35	22	20	17	21	25	29	34	45	400
TOTAL	**222**	**234**	**207**	**157**	**145**	**115**	**154**	**170**	**189**	**238**	**239**	**274**	**2,344**
Sharks &Rays	30	24	19	15	18	19	16	19	27	21	27	38	274
Sardines	19	18	21	24	18	16	12	13	17	20	17	29	224
Mixed fish/Others	35	30	24	32	25	14	17	18	18	18	27	36	294
TOTAL	**84**	**72**	**64**	**71**	**62**	**48**	**45**	**51**	**63**	**59**	**71**	**102**	**792**
CRUSTACEANS													
Lobsters	8	8	9	7	8	3	6	6	9	6	15	14	100
Prawns	15	16	16	17	32	53	16	16	20	26	5	19	252
Crabs	10	11	14	16	15	11	15	15	20	9	19	13	168
TOTAL	**33**	**36**	**40**	**40**	**54**	**67**	**36**	**37**	**50**	**41**	**39**	**45**	**519**
MISCELLANEOUS													
Oysters	2	8	4	7	1	2	2	2	3	1	1	0	33
Beche-de-mers	4	2	2	2	2	1	1	1	1	2	2	3	22
Octopus	21	32	32	37	32	25	28	37	45	43	36	42	408
Squids	15	24	11	12	14	9	5	10	7	6	12	16	142
TOTAL	**41**	**66**	**49**	**58**	**49**	**37**	**35**	**49**	**56**	**53**	**50**	**62**	**604**
TOTAL MARINE	**717**	**729**	**697**	**688**	**695**	**551**	**596**	**646**	**667**	**749**	**742**	**928**	**8,406**

Table 7: **Marine Fish landing by Species, Weight, Value and Counties 2010**

	Lamu		Tana Delta		Kilifi		Mombasa		Kwale		Total	
DEMERSAL	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Rabbit fish	310	16,467	5	252	113	13,719	84	13,457	165	16,385	675	60,281
Scarvenger	271	14,235	8	545	138	15,477	64	8,957	160	14,135	642	53,349
Snapper	89	6,134	21	1,438	53	5,253	38	6,333	96	8,320	298	27,477
Parrot fish	240	10,609	0	12	58	5,568	48	4,403	129	9,851	475	30,444
Surgeon fish	15	750	3	121	62	3,757	3	422	39	2,747	121	7,797
Unicorn fish	15	762	-	-	94	6,563	14	1,706	42	2,453	164	11,484
Grunter	47	2,395	1	68	19	1,911	54	6,397	28	2,444	149	13,215
Pouter	74	3,927	-	-	16	1,808	49	3,771	43	3,310	181	12,817
Black skin	87	5,094	-	-	18	1,717	3	564	73	5,960	181	13,336
Goat fish	45	2,325	-	-	6	673	26	3,868	31	2,990	110	9,855
Steaker	3	204	-	-	9	1,010	-	-	18	1,379	30	2,593
Rock cod	45	2,659	9	558	35	3,309	10	1,464	51	4,461	150	12,450
Cat fish	31	1,401	18	1,005	15	1,628	7	1,017	21	1,708	92	6,759
Mixed dermasal	375	19,990	50	3,016	280	24,884	25	3,929	149	11,457	878	63,276
TOTAL	**1,648**	**86,952**	**114**	**7,015**	**916**	**87,278**	**423**	**56,288**	**1,045**	**87,600**	**4,146**	**325,133**
PELAGICS												
Crevallae jacks	60	3,532	20	1,163	**37**	**4,660**	37	5,808	74	6,503	227	21,667
Mullets	127	7,040	16	983	60	6,357	27	2,891	61	5,192	292	22,464
Little mackerels	-	-	3	194	191	18,208	54	5,451	172	13,351	419	37,204
Barracudas	59	3,194	3	263	65	6,671	59	8,841	94	7,956	281	26,924

Milk fish	31	1,449	-	-	28	2,617	0	35	18	1,588	78	5,689
King fish	9	612	13	1,326	56	6,738	19	2,930	20	2,377	119	13,982
Queen fish	26	1,256	39	3,752	28	2,926	27	2,589	21	1,344	141	11,867
Sail fish	8	485	2	234	119	13,697	27	3,973	10	971	165	19,360
Tunny	18	1,093	2	40	67	7,796	12	1,780	82	7,831	180	18,539
Dolphin fish	-	-	22	1,377	13	1,361	-	-	6	583	41	3,321
Mixed Pelagics	17	1,178	-	-	203	23,048	5	746	176	13,641	400	38,612
TOTAL	**355**	**19,838**	**121**	**9,331**	867	94,079	**267**	**35,044**	**734**	**61,336**	**2,344**	**219,628**
Sharks &Rays	18	1,584	40	3,848	76	7,723	84	10,231	55	3,562	274	26,948
Sardines	-	-	-	-	42	3,487	72	6,428	109	4,153	224	14,068
mixed fish	35	3,840	-	-	99	8,797	79	8,948	81	4,673	294	26,258
TOTAL	**53**	**5,424**	**40**	**3,848**	**217**	**20,007**	**236**	**25,607**	**245**	**12,388**	**792**	**67,274**
CRUSTACEANS												
Lobsters	36	32,549	8	6,174	10	7,554	13	4,478	33	18,919	100	69,674
Prawns	45	6,997	40	10,582	25	4,462	119	24,699	22	4,711	252	51,451
Crabs	81	17,910	10	708	11	1,148	21	2,523	44	5,560	168	27,850
TOTAL	**163**	**57,456**	**58**	**17,465**	**46**	**13,164**	**154**	**31,700**	**99**	**29,189**	**519**	**148,974**
MOLLUSCS												
Oysters	20	91	-	-	1	53	11	328	1	35	33	507
Beche-de-mers	3	3,572	-	-	1	42	-	-	18	2,533	22	6,147
Octopus	12	641	24	1,425	92	8,797	33	3,808	248	22,027	408	36,698
Squids	16	3,051	-	-	50	6,853	12	1,412	64	6,664	142	17,980
TOTAL	**52**	**7,355**	**24**	**1,425**	**143**	**15,745**	**55**	**5,548**	**331**	**31,259**	**604**	**61,331**
TOTAL MARINE	**2,270**	**177,025**	**358**	**39,083**	**2,190**	**230,273**	**1,134**	**154,188**	**2,454**	**221,772**	**8,406**	**822,341**

Table 8: **Lake Victoria Fish landings by Species, Weight and Value 2008 - 2010**

	2008			2009			2010		
Species	**M. tons**	**000 Kshs**	**% Comp**	**M. tons**	**000 Kshs**	**% Comp**	**M. tons**	**000 Kshs**	**% Comp**
R. argentea	46,966	1,650,286	42.17	49,326	2,219,624	45.28	47,716	2,225,780	42.65
L. nilotucus	44,232	5,985,357	39.72	42,622	6,659,361	39.13	38,375	6,617,885	34.30
T. niloticus	9,619	1,066,952	8.64	13,850	1,731,377	12.71	15,457	2,062,480	13.82
Haplochromis	5,403	313,301	4.85	821	51,598	0.75	14	840	0.01
Proptopterus	2,768	245,382	2.49	636	38,131	0.58	3,638	218,455	3.25
Clarias	601	47,620	0.54	1,112	66,720	1.02	4,181	291,350	3.74
Others	1,780	120,867	1.57	567	43,020	0.28	2,487	126,335	2.22
TOTAL	**111,369**	**9,429,765**	**100**	**108,934**	**10,809,831**	**100**	**111,868**	**11,543,125**	**100**

Table 9: **Lake Victoria Monthly Fish landings by Species, Weight (M. tons) and Value ('000 Kshs) 2010**

Species		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
L. niloticus	Weight	3,190	1,901	2,798	4,900	3,197	2,777	3,196	1,933	3,618	4,467	3,685	2,714	**38,375**
	Value	550,152	322,459	480,986	852,100	551,424	477,169	551,265	328,183	625,679	775,619	637,604	465,245	**6,617,885**
R. argentea	Weight	3,879	3,821	4,227	5,166	4,663	4,891	2,012	3,048	3,971	5,920	2,031	4,086	**47,716**
	Value	180,950	178,243	197,195	240,966	217,502	228,151	93,860	142,188	185,237	276,164	94,762	190,561	**2,225,780**
O. niloticus	Weight	1,241	1,384	978	1,643	1,317	724	1,310	1,903	607	1,683	1,110	1,557	**15,457**
	Value	165,656	184,716	130,515	219,262	175,782	96,714	174,888	253,957	81,079	224,623	148,235	207,054	**2,062,480**
Clarias	Weight	436	361	327	451	237	135	376	474	290	271	353	470	**4,181**
	Value	30,327	25,087	22,729	31,375	16,441	9,367	26,135	32,947	20,109	18,799	24,563	33,471	**291,350**
Protopterus	Weight	312	192	260	392	140	472	340	134	306	112	529	449	**3,638**
	Value	18,720	11,502	15,627	23,533	8,408	28,345	20,439	8,063	18,377	6,689	31,783	26,970	**218,455**
Haplochromis	Weight	1	1	2	1	1	1	0	2	1	1	1	2	**14**
	Value	74	48	116	81	34	66	28	92	84	38	80	100	**840**
Others	Weight	159	128	190	313	155	234	163	150	405	133	212	247	**2,487**
	Value	8,077	6,518	9,637	15,876	7,854	11,865	8,300	7,632	20,555	6,740	10,751	12,530	**126,335**
TOTAL	**Weight**	**9,218**	**7,787**	**8,782**	**12,865**	**9,709**	**9,234**	**7,399**	**7,644**	**9,197**	**12,585**	**7,923**	**9,524**	**111,868**
TOTAL	**Value**	**953,957**	**728,573**	**856,804**	**1,383,192**	**977,445**	**851,677**	**874,915**	**773,063**	**951,119**	**1,308,672**	**947,777**	**935,931**	**11,543,125**

Table 10: **Annual fish landings from Lake Victoria by Counties 2010**

	Busia		Siaya		Kisumu		Homa Bay		Migori		Total	
Species	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
L. nilotucus	1,214	230,660	11,947	2,150,460	366	69,540	21,794	3,586,965	3,054	580,260	38,375	6,617,885
R. argentea	3,270	163,500	11,148	535,104	984	48,396	30,756	1,400,880	1,558	77,900	47,716	2,225,780
T. niloticus	1,756	298,520	4,636	602,680	256	43,520	8,678	1,095,490	131	22,270	15,457	2,062,480
Clarias	-	-	47	2,820	211	12,660	3,916	275,450	7	420	4,181	291,350
Protopterus	-	-	2	120	113	6,780	3,514	211,015	9	540	3,638	218,455
Haplochromis	-	-	-	-	-	-	5	300	9	540	14	840
Others	14	630	926	55,560	137	6,165	142	6,920	1,268	57,060	2,487	126,335
Total	**6,254**	**693,310**	**28,706**	**3,346,744**	**2,067**	**187,061**	**68,805**	**6,577,020**	**6,036**	**738,990**	**111,868**	**11,543,125**

Table 11: **Lake Turkana Fish landings by Species, Weight and Value 2010**

	Western side		Eastern side		Total	
Specie	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Tilapias	2,920	143,828	89	4,985	3,009	148,813
L. niloticus	658	36,744	12	1,979	670	38,723
Labeo	1,017	30,065	127	6,496	1,144	36,561
Barbus	353	10,480	-	-	353	10,480
Distichodus	812	23,920	-	-	812	23,920
Hydrocy forskalii	39	1,150	-	-	39	1,150
Citharinus	63	1,845	-	-	63	1,845
Synodontis	136	4,085	-	-	136	4,085
Alestes	50	1,550	-	-	50	1,550
Bagrus	101	2,995	-	-	101	2,995
Clarias	53	1,565	-	-	53	1,565
TOTAL	**6,202**	**258,227**	**228**	**13,460**	**6,430**	**271,687**

Table 12: **Lake Turkana Monthly Fish landings by Weight and Value 2010**

	Western side		Eastern side		Total	
MONTH	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
January	544	23,280	22	1,115	566	24,395
February	482	15,220	33	1,647	515	16,867
March	501	19,437	21	1,065	522	20,502
April	530	22,850	26	1,315	556	24,165
May	542	23,110	25	1,128	567	24,238
June	555	23,900	14	1,037	569	24,937
July	383	15,900	16	1,160	399	17,060
August	552	23,060	15	1,129	567	24,189
September	487	20,750	17	1,123	504	21,873
October	558	24,080	13	878	571	24,958
November	631	27,610	14	1,036	645	28,646
December	437	19,030	12	827	449	19,857
TOTAL	**6,202**	**258,227**	**228**	**13,460**	**6,430**	**271,687**

Table 13: **Lake Baringo Monthly landings by Species, Weight and Value 2010**

MONTH	Tilapia		Protopterus		Clarias		Barbus		Total	
	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs
Jan	205	20,450	5,051	505,050	1,237	49,460	59	2,340	**6,550**	**577,300**
Feb	8	820	2,471	247,100	1,004	40,160	6	220	**3,489**	**288,300**
Mar	16	1,610	2,872	287,200	1,130	45,200	7	268	**4,025**	**334,278**
Apr	9	850	2,562	256,200	1,274	50,960	29	1,140	**3,873**	**309,150**
May	7	700	3,222	322,200	2,190	87,600	42	1,680	**5,461**	**412,180**
Jun	18	1,800	2,487	248,700	749	29,960	19	740	**3,273**	**281,200**
Jul	17	1,730	1,707	170,600	914	36,560	-	-	**2,637**	**208,890**
Aug	25	2,480	2,703	270,300	809	32,360	32	1,268	**3,569**	**306,408**
Sep	19	1,900	2,583	258,250	588	23,520	9	360	**3,199**	**284,030**
Oct	931	93,100	4,100	410,050	752	30,080	108	4,320	**5,891**	**537,450**
Nov	93	9,300	3,597	359,700	1,117	44,520	44	1,760	**4,851**	**415,420**
Dec	257	25,700	4,981	498,100	1,152	46,220	111	4,440	**6,505**	**574,460**
TOTAL	**1,604**	**160,440**	**38,335**	**3,833,450**	**12,915**	**516,600**	**463**	**18,536**	**53,320**	**4,529,066**

	Tilapia		Protopterus		Clarias		Barbus		Total	
	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs
Total	**2**	**160**	**38**	**3,833**	**13**	**517**	**0**	**19**	**53**	**4,529**

Table 14: **Lake Naivasha Monthly landings by Species, Weight and Value 2010**

	Black Bass		O. leucosticus		Common carps		Mirror carps		Total	
Month	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**
Jan	245	21,235	6	360	60,656	2,620,059	961	38,090	61,868	2,679,744
Feb	145	9,780	7	400	18,161	1,007,442	708	28,280	19,021	1,045,902
Mar	23	2,670	14	870	10,152	726,133	503	25,040	10,692	754,713
Apr	17	1,420	17	1,040	13,377	913,190	584	31,245	13,995	946,895
May	93	10,130	3	250	13,318	892,513	617	51,231	14,031	954,124
Jun	**CLOSED SEASON**									
Jul										
Aug										
Sep	79	9,940	15	2,610	27,598	2,088,693	1,126	70,428	28,818	2,171,671
Oct	41	5,350	9	1,010	15,538	1,085,132	489	15,745	16,077	1,107,237
Nov	25	3,430	3	380	18,707	1,313,860	672	42,098	19,407	1,359,768
Dec	4	500	24	2,340	23,995	1,622,255	1,159	66,762	25,182	1,691,857
TOTAL	**672**	**64,455**	**98**	**9,260**	**201,502**	**12,269,277**	**6,819**	**368,919**	**209,091**	**12,711,911**
	M. tons	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
TOTAL	**1**	**65**	**0**	**9**	**201**	**12,269**	**7**	**369**	**209**	**12,712**

Table 15: **Lake Jipe Monthly Fish landings by Species, Weight and Value 2010**

	Tilapia		Clarias		Total	
MONTH	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Jan	8	496	1	63	9	559
Feb	8	489	1	55	9	544
Mar	8	461	1	50	9	511
Apr	8	479	1	51	9	530
May	8	461	1	50	9	511
Jun	7	440	1	48	8	488
Jul	7	435	1	33	8	468
Aug	8	412	1	40	9	452
Sep	7	426	1	32	8	458
Oct	7	434	1	26	8	460
Nov	7	434	1	26	8	460
Dec	8	502	1	74	9	576
TOTAL	**91**	**5,469**	**12**	**548**	**103**	**6,017**

Table 16: **Tana River dams Monthly fish landings by Species, Weight and Value 2010**

Month	Tilapia		Common carp		Clarias		Eels		Others		Total	
	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs
Jan	7	429	7	398	5	390	*	6	*	4	**19**	**1,225**
Feb	7	415	7	390	5	347	*	5	*	2	**18**	**1,159**
Mar	7	362	7	357	3	223	*	4	*	2	**17**	**947**
Apr	7	468	11	656	12	919	*	4	*	1	**30**	**2,048**
May	13	773	16	850	13	947	*	3	*	2	**41**	**2,575**
Jun	20	1,062	18	1,045	14	1,145	*	2	*	1	**53**	**3,255**
Jul	25	1,252	20	1,133	14	1,130	*	3	*	1	**60**	**3,520**
Aug	29	841	21	1,017	14	1,382	*	5	*	1	**64**	**3,246**
Sep	29	1,634	21	1,663	14	1,143	*	5	-	-	**65**	**4,446**
Oct	23	1,188	25	1,936	17	1,286	3	176	*	1	**68**	**4,588**
Nov	33	1,799	29	2,155	18	1,471	*	8	*	1	**81**	**5,433**
Dec	22	1,374	28	2,125	17	1,442	*	6	*	1	**68**	**4,949**
Total	**223**	**11,596**	**209**	**13,725**	**147**	**11,825**	**3**	**228**	**0**	**17**	**583**	**37,391**

Table 17: **Lake Kenyatta Monthly fish landings by Species, Weight and Value 2010**

	Tilapia		Clarias		Protopterus		Total	
Month	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**
January	15	181	4	184	5	210	24	575
February	12	149	17	530	8	414	37	1,092
March	7	81	15	611	8	393	30	1,085
April	7	85	15	611	11	530	33	1,227
May	17	402	9	382	18	847	44	1,631
June	15	143	4	182	*	14	19	339
July	15	192	4	183	*	1	19	376
August	17	492	6	220	*	18	24	729
September	9	252	6	239	14	401	30	893
October	17	486	6	237	26	767	50	1,490
November	23	597	6	239	14	368	43	1,203
December	4	105	9	121	4	149	17	375
Total	**158**	**3,166**	**104**	**3,738**	**107**	**4,111**	**369**	**11,015**

Table 18: **Lake Kanyaboli Monthly fish landings by Species, Weight and Value 2010**

Month	Tiilapia		Protopterus		Clarias		Haplochromis		Total	
	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs
Jan	10.8	540	3.6	216	3.1	186	0.7	28	18.2	970
Feb	12.5	625	3.3	198	2.8	168	0.09	3.6	18.7	995
Mar	11.5	575	2.9	174	2.5	150	0.6	24	17.5	923
Apr	12.2	610	2.7	162	2.6	156	0.3	12	17.8	940
May	11.7	585	2.4	144	2.6	156	0.9	36	17.6	921
Jun	10.4	520	2.8	168	1.8	108	0.7	28	15.7	824
Jul	11.2	560	2.9	174	2.7	162	0.8	32	17.6	928
Aug	13.4	670	2.5	150	2.7	162	0.4	16	19.0	998
Sep	12.1	605	3.3	198	2.7	162	0.5	20	18.6	985
Oct	10.6	530	1.9	114	2.6	156	0.6	24	15.7	824
Nov	15.1	755	2.7	162	2.2	132	0.9	36	20.9	1,085
Dec	9.8	490	3.5	210	3.6	216	0.5	20	17.4	936
Total	**141**	**7,065**	**35**	**2,070**	**32**	**1,914**	**7**	**280**	**215**	**11,329**

Table 19: **Tana River delta freshwater fish landings by Species, Weight and Value 2010**

Month	Tilapia		Clarias		Protopterus		Total	
	M.tons	000Kshs	M.tons	000Kshs	M.tons	000Kshs	M.tons	000Kshs
January	7	669	15	1,110	4	313	25	2,092
February	7	583	13	1,030	5	423	24	2,037
March	7	600	12	944	6	454	25	1,999
April	8	711	17	1,287	6	472	31	2,469
May	9	763	16	1,302	6	482	31	2,546
June	7	657	15	1,150	6	460	28	2,267
July	7	619	16	1,188	5	411	28	2,217
August	10	787	17	1,220	5	398	32	2,405
September	10	828	19	1,566	11	796	40	3,190
October	12	1,013	20	1,434	5	347	38	2,795
November	7	510	16	1,146	11	849	34	2,505
December	11	895	10	684	6	437	27	2,016
Total	**158**	**3,166**	**104**	**3,738**	**107**	**4,111**	**362**	**28,537**

Table 20: **Exports of Fish and Fishery Products 2010**

Product	**Quantity (M. tons)**	**Value ('000 Kshs)**	**% in Quantity**	**% in Value**
Nile perch Fillets	10,293	3,529,003	85.79	84.55
Nile perch Maws	546	436,230	4.55	10.45
Sword fish	80	7,892	0.67	0.19
Shark fins	15	5,290	0.13	0.13
Frozen Lobsters	4	3,056	0.03	0.07
Live Lobsters	13	7,849	0.11	0.19
Octopus	690	158,967	5.75	3.81
Frozen Crabs	43	7,580	0.36	0.18
Frozen Mackerels	15	291	0.13	0.01
Frozen Sardines	36	588	0.30	0.01
Frozen Sword fish	73	7,038	0.61	0.17
Sea Cucumbers	16	5,307	0.13	0.13
Sea weeds	2	30	0.02	0.00
Marine Shells	172	4,803	1.43	0.12
TOTAL	**11,998**	**4,173,924**	100.00	100.00
Tuna Loins	9,207	512,462		
Grand Total	**21,205**	**4,686,386**		

Table 21: **Imports of Fish and Fishery Products 2010**

Product		Quantity (M. tons/Pieces)	Value ('000Kshs)
Salmon		54	10,532
Dried Haplochromis		15	450
Dried Sharks		77	1,600
Frozen Barracuda		27	578
Frozen Dolphin fish		21	762
Frozen Herrings		22	819
Frozen Kahawai		259	6,917
Frozen Koheru		27	722
Frozen Lizard fish		54	1,400
Frozen Mackerels		1,749	50,001
Frozen Mixed fish		81	2,164
Frozen Pangasius fillets		73	3,932
Frozen Sardines		485	10,350
Frozen Sharks		81	2,164
Frozen Tilapia		91	13,971
Frozen Tuna		31	2,069
Coycan		3	146
Live Crabs		0	10
Sun Total	**Kgs**	**3,150**	**108,587**
Live tropical fish	Pieces	35,104	503
Trout Ova	Pieces	200,000	312
Grand Total	**Kgs**	**3,095**	**108,585**
	Pieces	**235,104**	**815**
	Kshs		**109,400**