REPUBLIC OF KENYA

MINISTRY OF FISHERIES DEVELOPMENT

FISHERIES DEPARTMENT

FISHERIES ANNUAL STATISTICAL BULLETIN 2011

With compliments of the Fisheries Secretary and the entire Fisheries Department staff

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1.0 NATIONAL FISH PRODUCTION

The fisheries department is mandated to sustainably manage, conserve and exploit Kenya's fisheries resources to contribute to poverty reduction and wealth creation in the country. The department is keen to having objective, reliable and credible data and information on the status and trends of fisheries as this is the foundation of policy development and attendant management actions. This has been recognized in various international legal instruments including the 1982 UN convention on the law of the sea and the code of conduct for responsible fisheries amongst others. Towards this end the Fisheries department has a full fledged section of statistics that is dedicated to providing accurate and reliable data and information. Fisheries data are collected with the objective to ensure appropriate resource management. The data are used by scientists and fisheries managers for stock assessment, economic studies and an aid to fisheries decision management and policy making.

1.1 Data collection system

In Kenya fisheries data collection structure relies mainly from designated officers in the field. The data collection system is centralized where a landing site data collector usually a Fisheries Assistant or a member of a beach management unit collects daily data from the landing site, compiles monthly catch totals for each respective landing site and files returns to the District Fisheries Officer who compiles a district statistical report including all the landing sites to regional and fisheries department head office. This is then included in this Annual Statistical Bulletin which is released for each calendar year.

1.2 Fisheries data indicators

There different data indicators ranging from artisanal fisheries, frame surveys, catch assessment to aquaculture.

1.2.1 Artisanal fisheries

In many artisanal fisheries, as is the case in our local context, data collection is based on collection of fishery-dependent data mainly on catch and effort parameters. The fisheries department has structured methods of collecting data at various frequencies. On a daily basis the field data collectors in the inland and marine and coastal fisheries collect data on the following parameters:

- Daily landed catches per species for all the landing sites.
- Gear types involved in fishing
- Vessel types

- Fishing time

In addition other daily recorded data include fish exports and imports per species for every exporting and importing establishment.

1.2.2 Frame Surveys

Other structured data collection programs include frame surveys conducted bi-ennially for Lake Victoria and Marine artisanal fisheries. The data indicators collected during the bi-ennial frame surveys include the following:

- Number of fish landing sites
- Number of Fishers
- Number of fishing crafts
- Fishing crafts propulsion methods
- Different types of fishing gears and their numbers
- Different types of fishing crafts and their numbers
- Landing site facilities

1.2.3 Catch Assessment Surveys

The department is also involved in catch assessment surveys conducted quarterly for Lake Victoria over the last six years. The objective of catch assessment is to provide a statistical approach to estimating catch by fishing effort and the main data indicators collected include:

- Catch Per Unit Effort (CPUE) by boat types
- Catch Per Unit Effort (CPUE) by gear types
- Catch composition by species
- Catch composition by districts/counties
- Total catch composition by craft type
- Total catch composition by gear type
- Total catch composition by species
- Average prices by species
- Fishers' earnings by species

1.2.4 Aquaculture

Data indicators collected for aquaculture on monthly basis include the following:

- Number of farmers
- Number of active ponds
- Area (M^2) of active ponds
- Number of inactive ponds
- Area (M^2) of inactive ponds
- Number of new ponds

- Area (M^2) new ponds
- Number of ponds stocked
- Area (M^2) of ponds stocked
- Number of fingerings stocked by species
- Value (Kshs) of fingerings stocked by species
- Number of ponds harvested
- Area (M^2) of ponds harvested
- Quantity of fish harvested in Kg by species.
- Value of fish harvested in Kshs by species

1.3 Data gaps within the fisheries sector

One of the major problems confronting the fisheries data collection is the lack of adequate staffing capacity to cover the entire shorelines of the inland and coastal inshore fisheries. In effect the area of coverage is reduced resulting in underestimation of the catch and effort levels. In some cases especially for the coastal inshore fisheries there is need to collect data up to the species level as opposed to family level as is done currently by improving the species identification techniques of the data collectors.

1.4 Challenges in data collection

The main challenges confronting data collection in fisheries sector include:

1. Paradigm shift in fisheries management from a centralized command based system to one that puts emphasis on co-management with involvement of local fishing communities and other stakeholders in fisheries management as indeed provided for in the Fisheries (Beach management Units) regulations 2007. The shift towards co-management requires the involvement of fisher community in data collection analysis and dissemination. As co- managers the communities' role in data collection should be guided by providing regular training of local level data collectors and standardized data collection protocols. Due to lack of funds it has not been possible to proactively engage the fisher community in data collection activities.
2. The departmental human resource constraints in deploying data collectors at every landing beach.
3. Changes of artisanal fishing units. This is given more impetus due to the deployment of new and /or improved fishing gears in Kenya's fishery waters. This means that measures to estimate fishing effort have to be continuously revised.
4. The challenge of ensuring data accuracy, quality and credibility that can be compared across regions and time scale due to lack of regular training of data collectors to update their skills.

1.5 Data exchange collaboration areas

Fisheries department has active collaborative initiatives with various organizations. Due to the fact some of the most important fisheries in the country are transboundary, as a result 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). Data exchange with this organization 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.

Such data exchange initiatives also exchange with the Indian Ocean Tuna commission (IOTC) mainly dealing with highly migratory tuna species and tuna like species. The department also makes submissions to FAO statistical year books as well as annual economic survey reports.

1.6 Recommendations to improve data delivery

1. Sampling programmes should be put in place to facilitate data collection especially on uncovered areas and collection of biological data.
2. Training of BMUs data collectors on species identification, data collection, processing and analysis.
3. Provision of computers (Desk-top PCs and laptop PCs for the respective district offices is needed).
4. Increase of the personnel involved in data collection and compilation.
5. Training on database creation and management using MSYQL for fisheries officers.
6. Collection of data in detail at species level for the most commercially exploited along the coast is needed.
7. The catch made by tuna longliners under Kenyan flags, which have been operating since 2004, should be checked and included in the statistics and logbook system should be established.
8. There is need to help in the setting up of a port inspection/ Sampling unit for the capture of transshipment and MUB data.

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 Km^2), Lake Victoria-Kenyan side (6% of the whole lake =4,128 km^2), Naivasha (210 Km^2), Baringo (129 Km^2), and Lake Jipe (39 Km^2). Major rivers include Tana (700 Km), Athi/Galana/Sabaki (530 Km), Ewaso-Ngiro-North (520 Km), Kerio (350 Km), Yala, Nyando, Nzoia, Sio among others.

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 country's coast is also located within the richest tuna belt in the South West Indian Ocean

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)

The fisheries sector plays a significant role in employment and income generation. During the year under review the sector supported a total of 62,232 people directly as fishermen and 54,731 fish farmers with 45,621 and 124 stoked fish ponds and reservoirs respectively. The sector supports about 1.1 million people directly and indirectly, working as fishers, traders, processors, suppliers and merchants of fishing accessories and employees and their dependants. 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.

During the year (2011) under review, fish production from Inland, Aquaculture and Marine artisanal fisheries amounted to 167,763 metric tons with an ex-vessel value of Kshs. 19,470,579,000. This was an increase of 19% in quantity and 27% in ex-vessel value compared with 2010 figures. The increase in quantity can be attributed to increase in farmed fish and *Rastrienobola argentea* (Omena) catches from Lake Victoria while the increase in ex-vessel value can be attributed to the ever increasing value of fish due to the high demand for the same figure 1. As stated above, this production was done by 62,232 fishers using 19,143 fishing crafts with thousands of different types of fishing gears and 54,731 fish farmers manning 45,621 fish ponds and 124 reservoirs across the country.

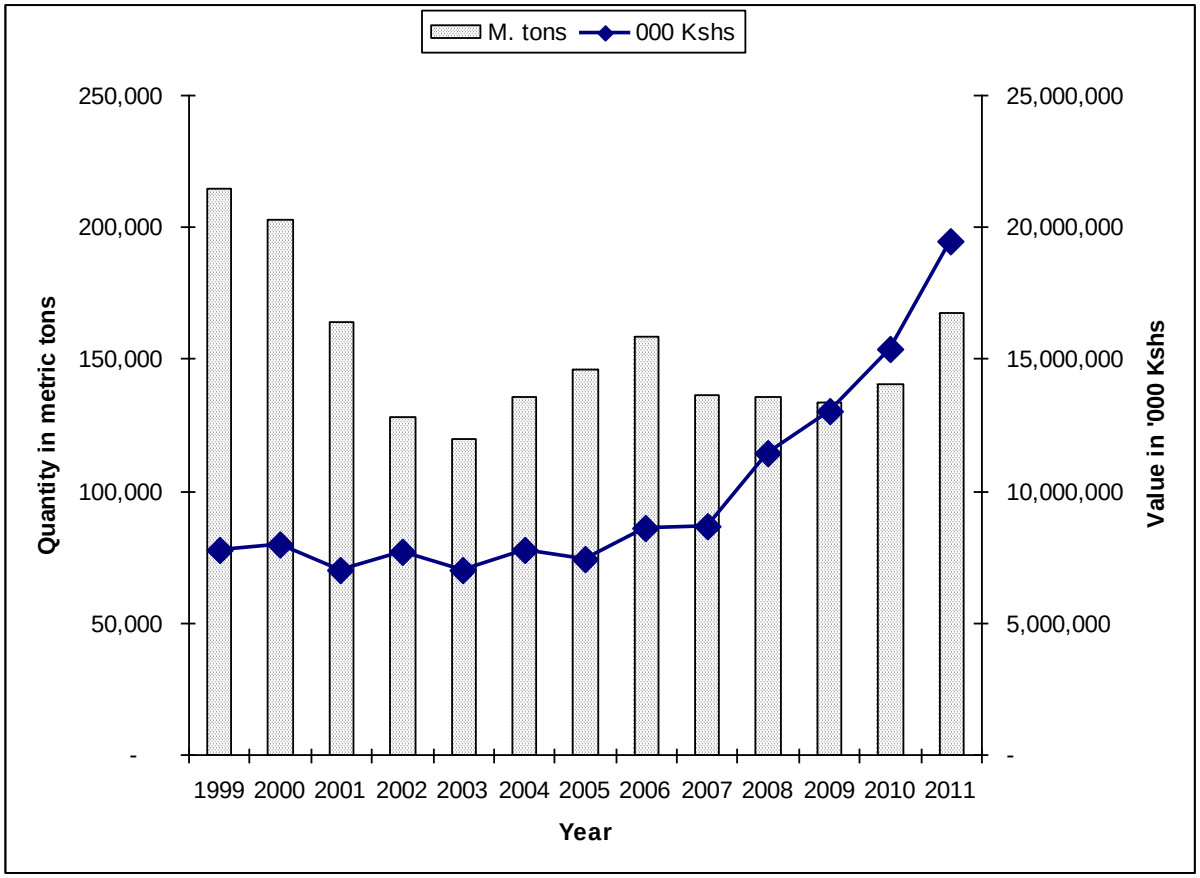

Figure 1: Fish production by quantity and Value 1999-2011

Inland capture fisheries contributed 83% of Kenya's total fish production, with the principal fishery being that of Lake Victoria. The lake accounted for 133,801 metric tons or 80% of the country's total annual fish production in 2011. Lake Turkana, Kenya's largest freshwater body (7,400 km^2) produced 3,746 metric tons of fish with an ex-vessel value of Kshs. 275,919,000. 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 8,947 metric tons equivalent of 5% of the national production while aquaculture production amounted to 19,584 metric tons contributing 12% of the total production, figure 2. Aquaculture earned the farmers Kshs. 4,223,471,000 during the year under review.

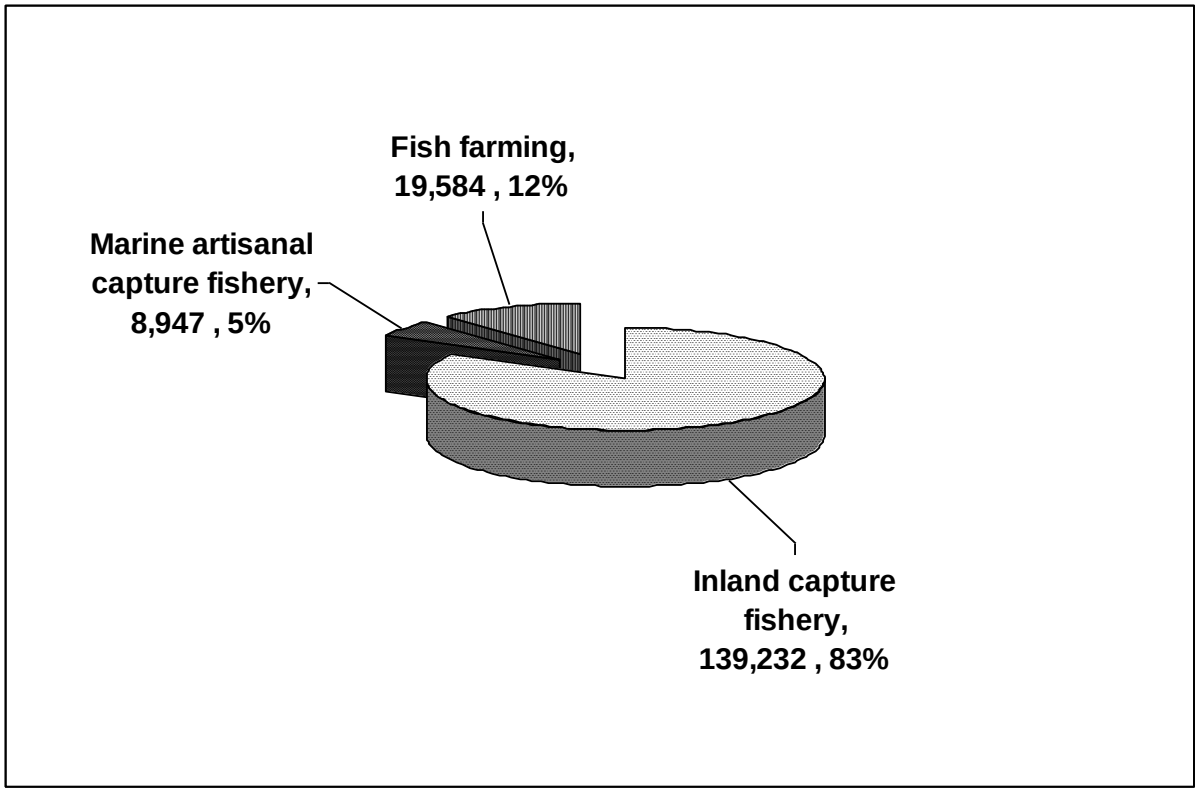

Figure 2: National fish production by Fishery Category 2011

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, Octopus, Marine shells, Dried salted fish, Sharks and Nile perch fish maws,. Fish and fishery products imported into the country included the following products among others: frozen Mackerels, Sardines, frozen Kahawai, Tilapia niloticus, Tuna, Sharks and Salmon.

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 88.3% down from 91.4% the previous year. Lake Victoria accounted for 90.30% of all the fish from capture fisheries in Kenya during the year under review. Lake Turkana contributed 2.53%, Tana river dams 0.49%, Kenyatta 0.16%, Tana river delta 0.28%, Lake Kanyamboli 0.17%, Lake Naivasha 0.16%, Lake Jipe 0.04% and Lake Baringo 0.07% while marine artisanal fisheries contributed 6.04% 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's contribution to total national annual fish production is enormous (80% in 2011) 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 (41,912), 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 hundreds of known species, but only *Rastrienobola argentea* (Omena), *Lates niloticus* (Nile perch), and *Oreochromis niloticus* (Nile tilapia) are of economic significance which contributed 95% of total catches from the lake (Kenyan side) during the year under review. This been the case for a number of years, figure 3. However, the last few years 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. It introduced and implemented the Fish Farming Enterprise Productivity Program (FFEPP) to bridge the existing supply-demand gap.

During the year 2011, fish production from Lake Victoria increased to 133,801 MT valued at Kshs 13,847,170,000 compared to 111,868 MT valued at Kshs 11,543,125,000 landed in 2010 and 108,934 MT valued at 10,800,831,000 for the year 2009. This translates into an increase of 19.6% in quantity and 20% in value compared to the previous year. There was a small increase in production of major species compared to the previous year i.e. *Lates niloticus* increased by 1.4%, and *Rastrienobola argentea* 3.3%. On the other hand, *Oreochromis niloticus* recorded a noticeable increase of 18.4%. In terms of species contribution to the total weight of fish landed, *Rastrienobola argentea* took the lead with 54.05%, *Lates niloticus*, 34.84%, *O. niloticus*, 6.16%, *Clarias spp*, 1.90%, *Protopterus aethiopicus*, 0.87%, *Haplochromis*, 0.39% and others 1.80%, figure 4. Homa bay County contributed 64.71% of the total landings, Siaya 19.85%, Migori 7.65%, Kisumu 4.51% and Busia 3.17%, figure 5.

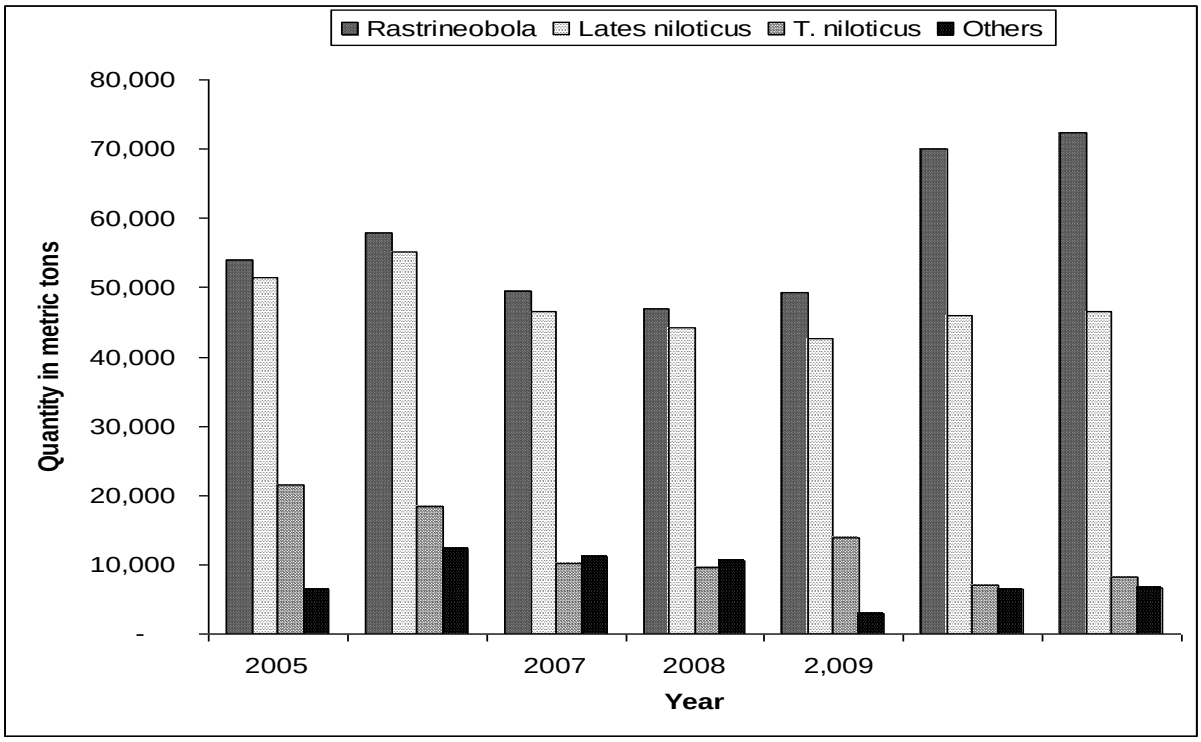

Figure 3: ***Lake Victoria species catch composition 2005-2011***

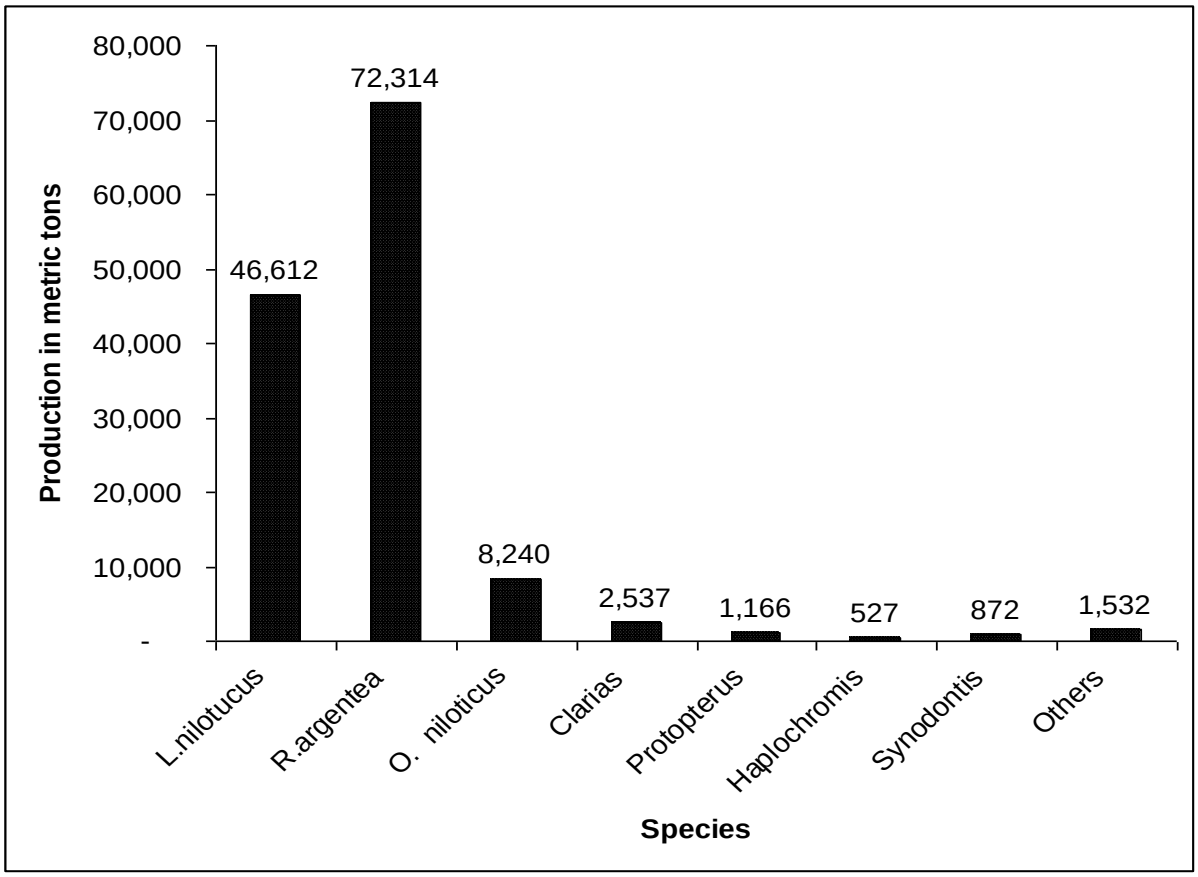

Figure 4: Lake Victoria species catch composition 2011

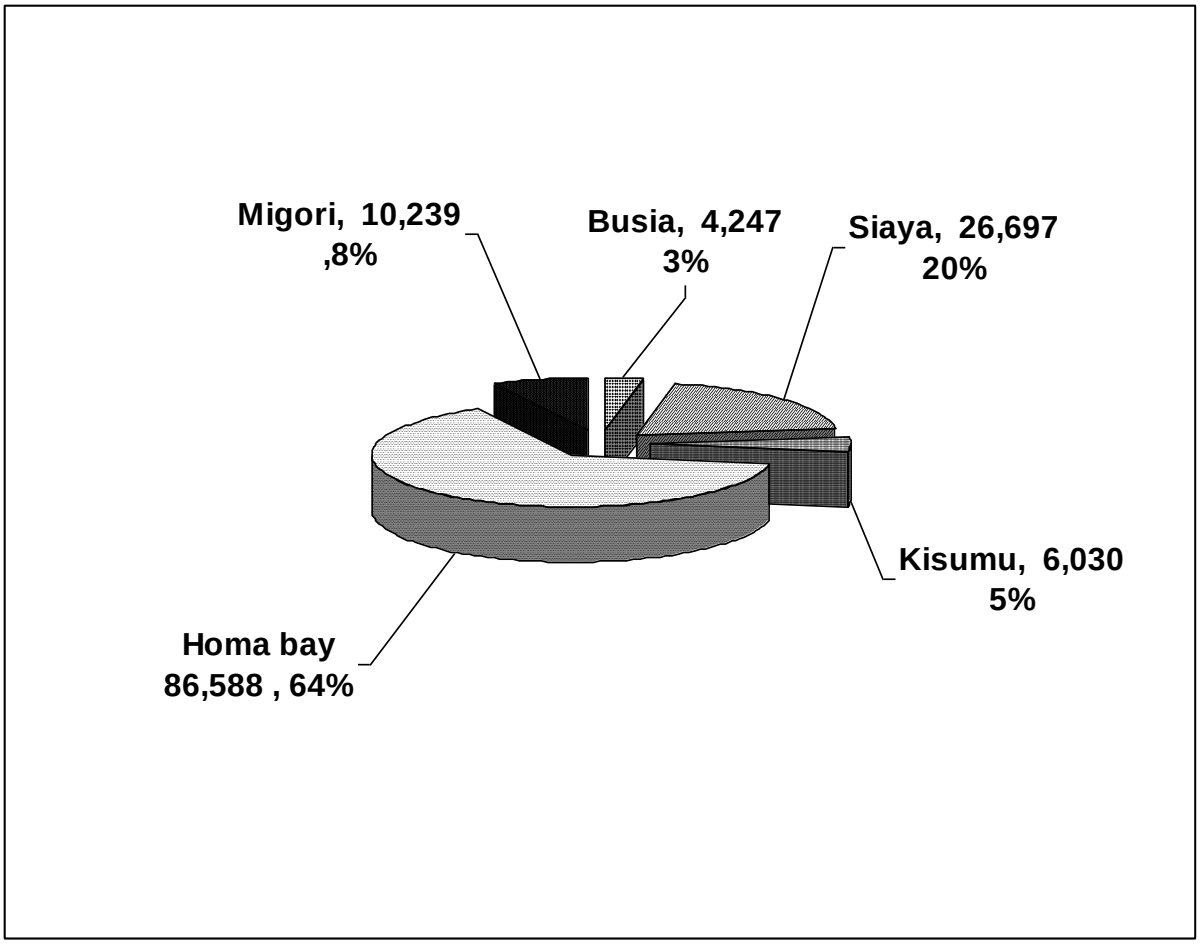

Figure 5: Lake Victoria fish landings by County 2011

The bulk of the fish landings from lake Victoria was landed in the district (old districts) of Suba 80,821 meteic tons (60.4%) followed by Bondo 26,697MT (20.0%), Migori 10,239MT (7.7%), Busia 4,247MT (3.2%), Rachuonyo 3,986MT (3.0%), Kisumu 3,650MT (2.7%), Nyando 2,380 (1.8%) and lastly Homa bay 1,781 (1.3%), figure 6.

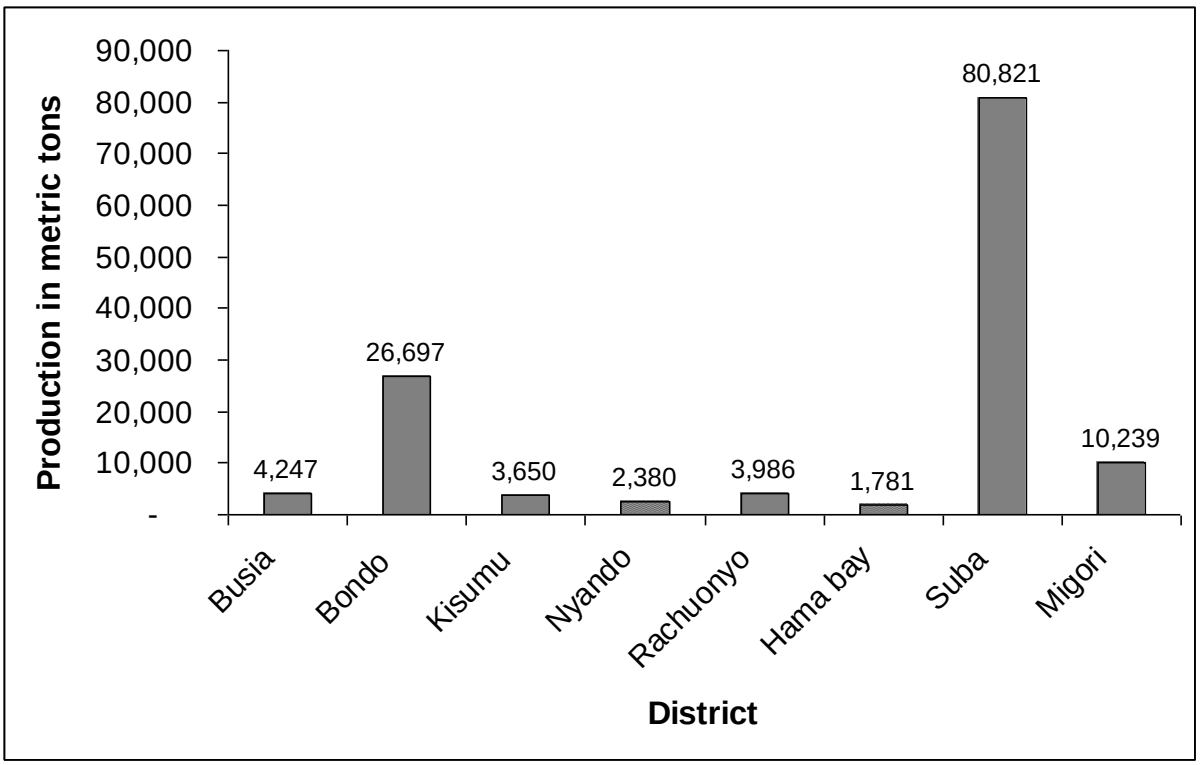

Figure 6: Lake Victoria Fish Landings by Districts 2011

2.1.1 Challenges to Lake Victoria fisheries

The declining trend in species fish catches apart from *Rastrienobola argentea* and *Clarias spp* over the last decade or so could be an indicator of reduced fish stocks particularly *Lates niloticus* 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.

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.

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 businesses 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 8,947 metric tons of assorted fish species with an ex-vessel value of Ksh. 1,003,830,000 were landed. This production reflected an increase of 6.4% from last year's production of 8,406 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 for the last ten years has remained fairly constant between 6,000 and 9,000 metric tons only showing marginal fluctuations as shown in figure 7 below.

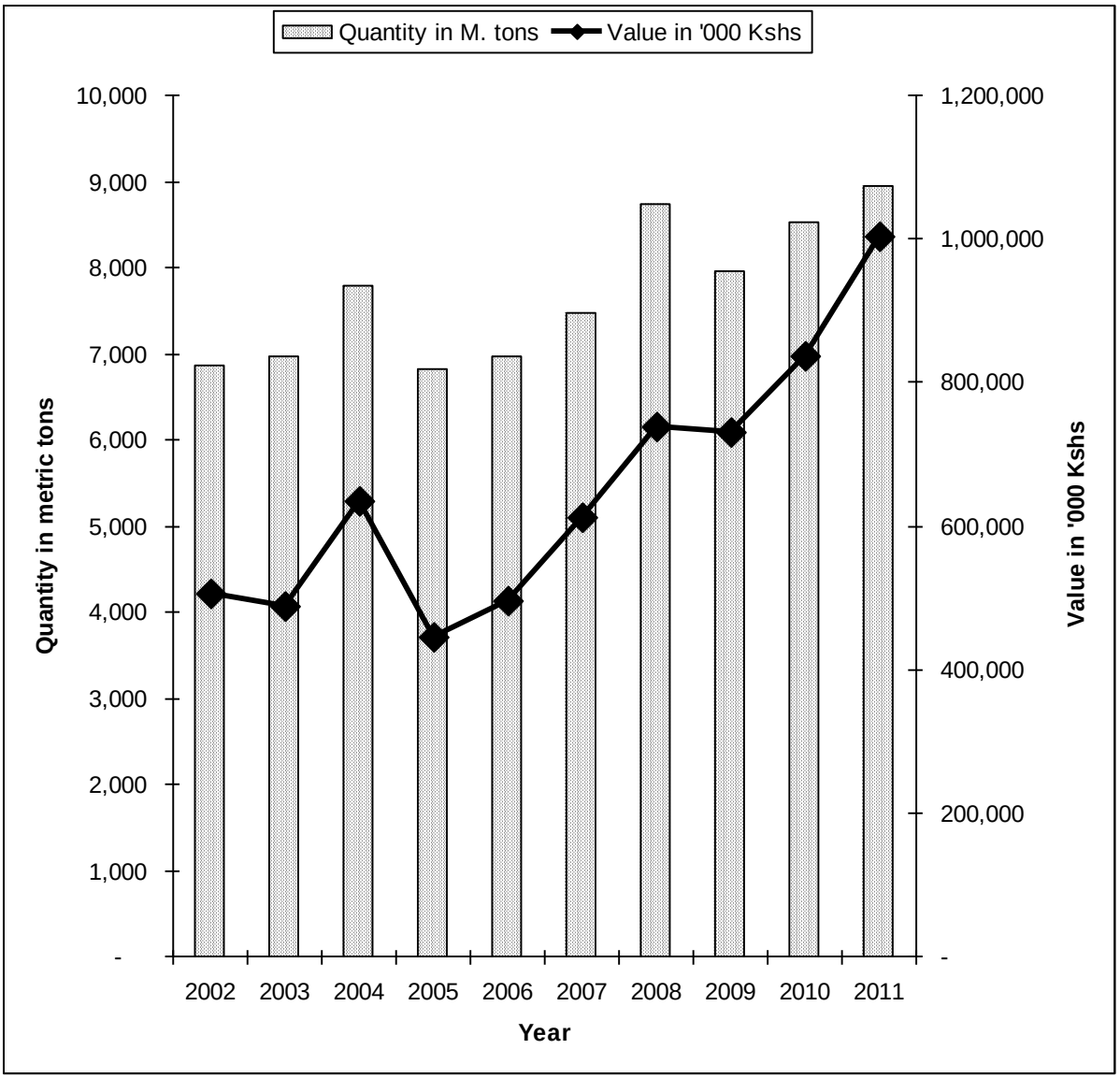

Figure 7: Trends of marine fish production by quantity and value 2002-2011

In 2011, dermersal fish species category dominated the marine artisanal fish landings by contributing 4,416 metric tons (50%) of the landings while pelagic fish category contributed 2,444 metric tons (27%), the sharks, rays and sardines category made up 884 metric tons (10%) of the landings, mollusks 629 (7%) and crustaceans 574 metric tons (6%), figures 8 and 9.

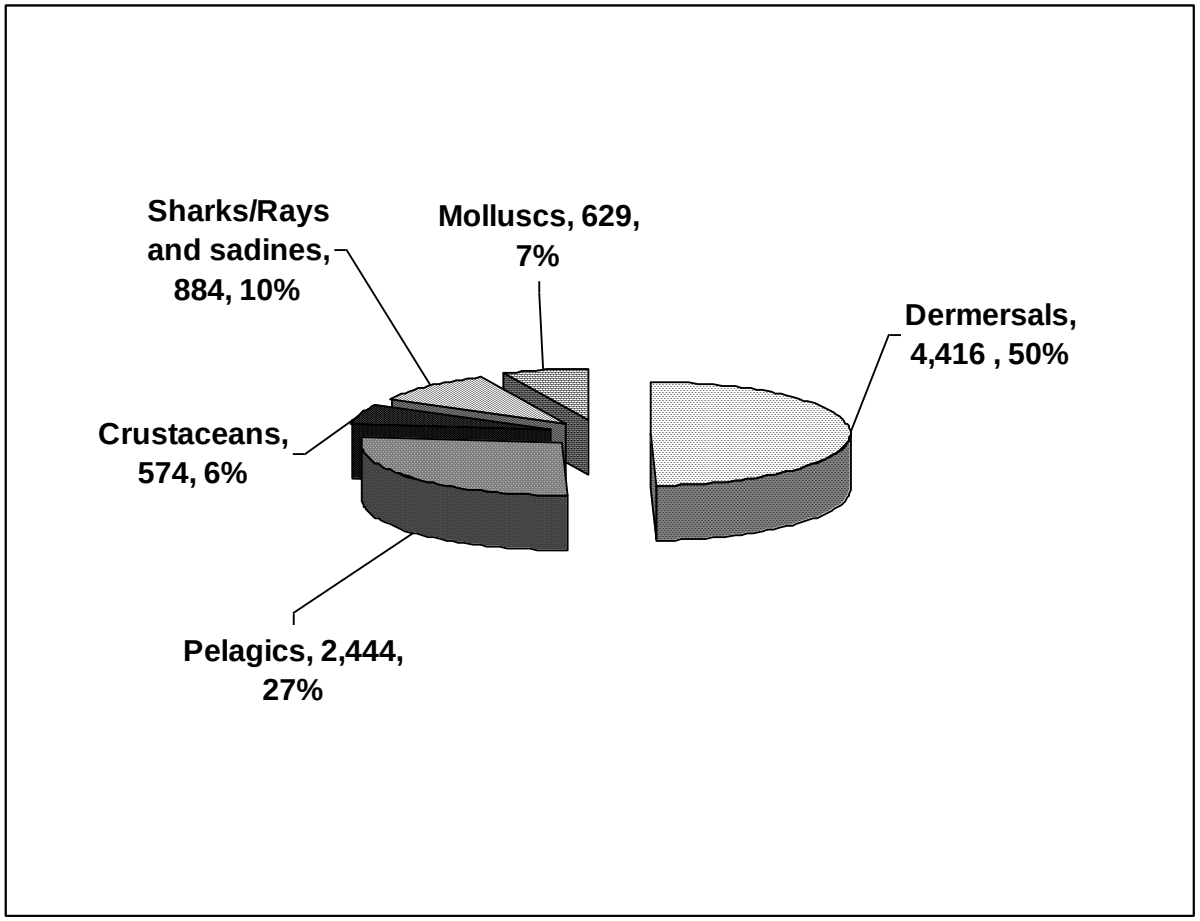

Figure 8: Percentage marine fish species group contribution 2011

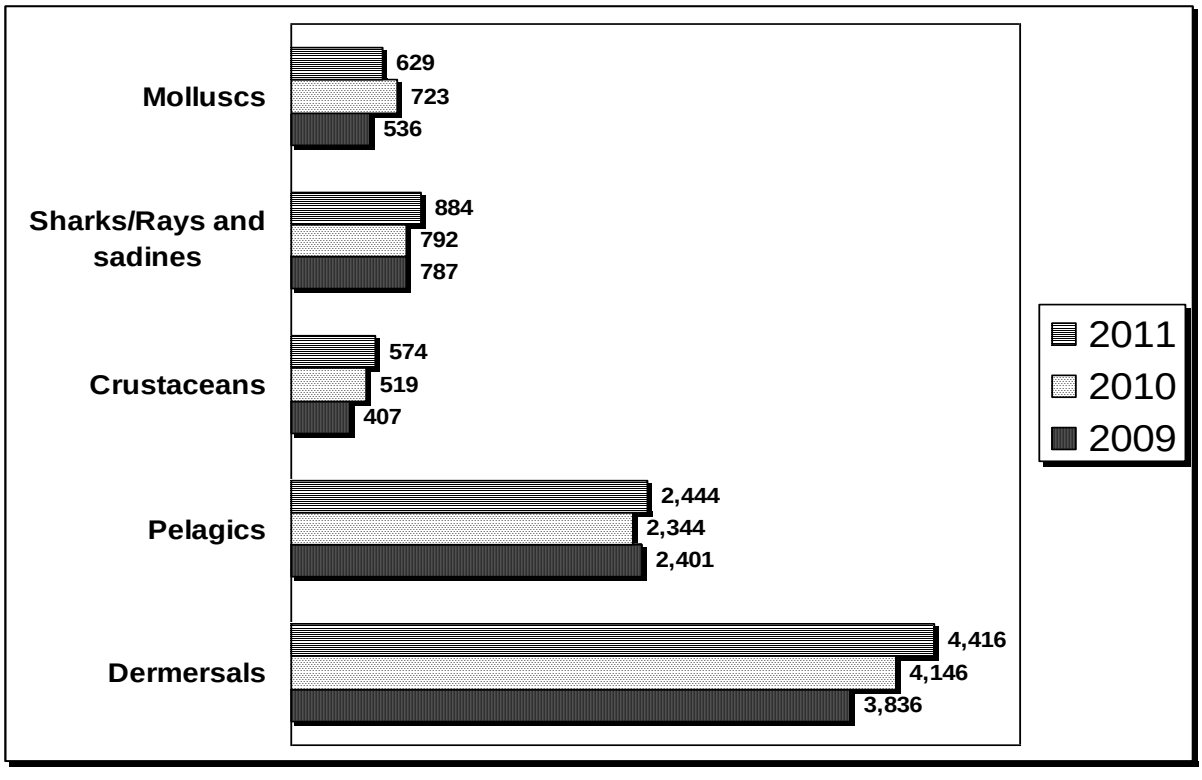

Figure 9: Trends of marine fish species landings 2009-2011

During the year under review, Lamu county contributed the highest marine artisanal landings of 2.396 MT (or 26.8%) followed by Kilifi 3,331 MT (26.0%), Kwale 2.314 MT, Mombasa 1,116 (12.5%) and lastly was Tana river county with a contribution of 789 MT or 8.8 % as shown in figure 10.

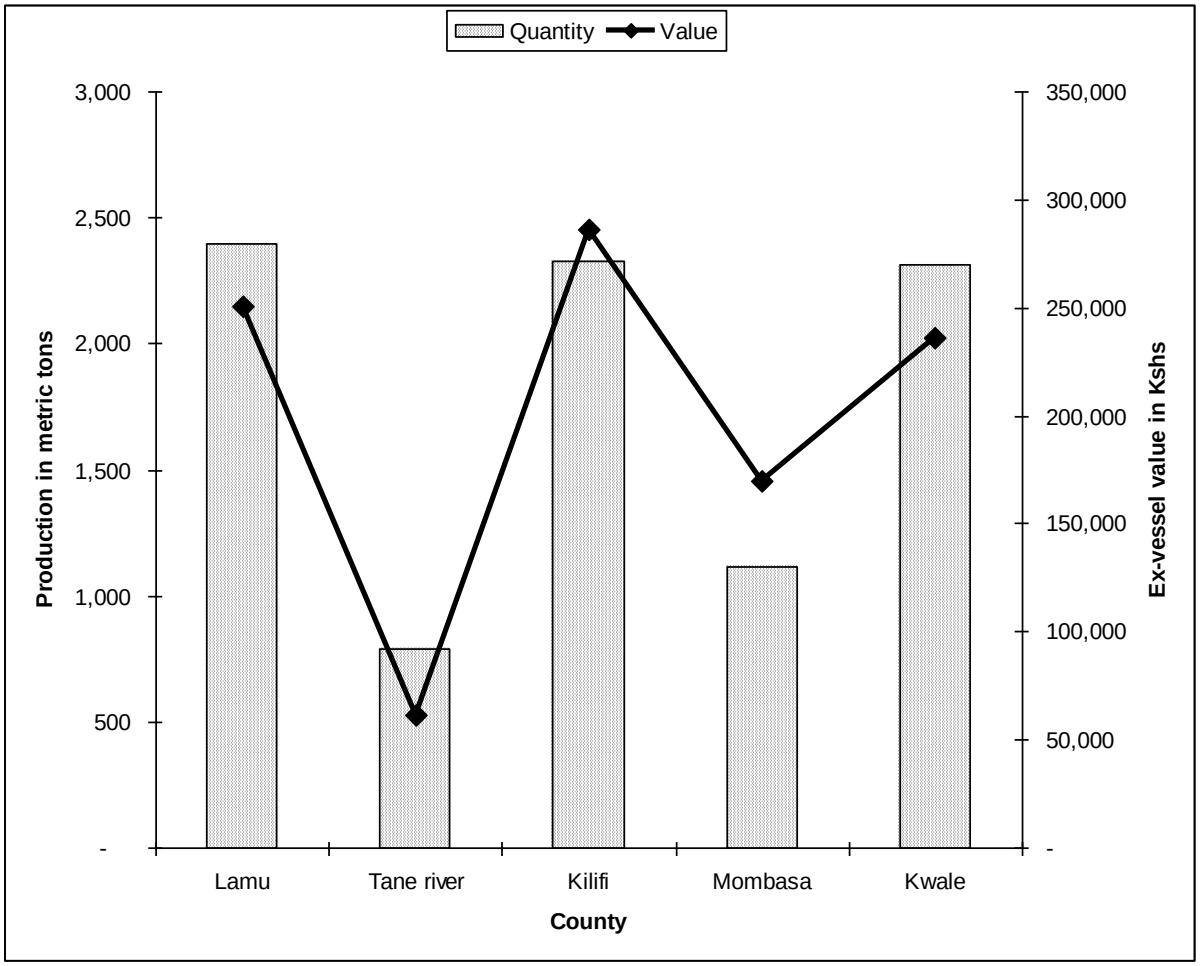

Figure 10: Marine fish production by Quantity, Value and Counties 2011

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 3,746 metric tons of fish were landed with a ex-vessel value of Kshs. 276 millions from both sides of the lake. This years' production had a decline of 42% in quantity and an increase of 1.5% in ex-vessel value compared to 2010 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 41.8% followed by *Labeo horie* (14.9%), *Lates niloticus* (13.5%), *Distichodus niloticus (*7.7%), *Alestes* (7.6%) and *Synodontis spp* (3.3%). The six species combined contributed 88.7% and other species combined contributed the remaining 11.3%, figure 12.

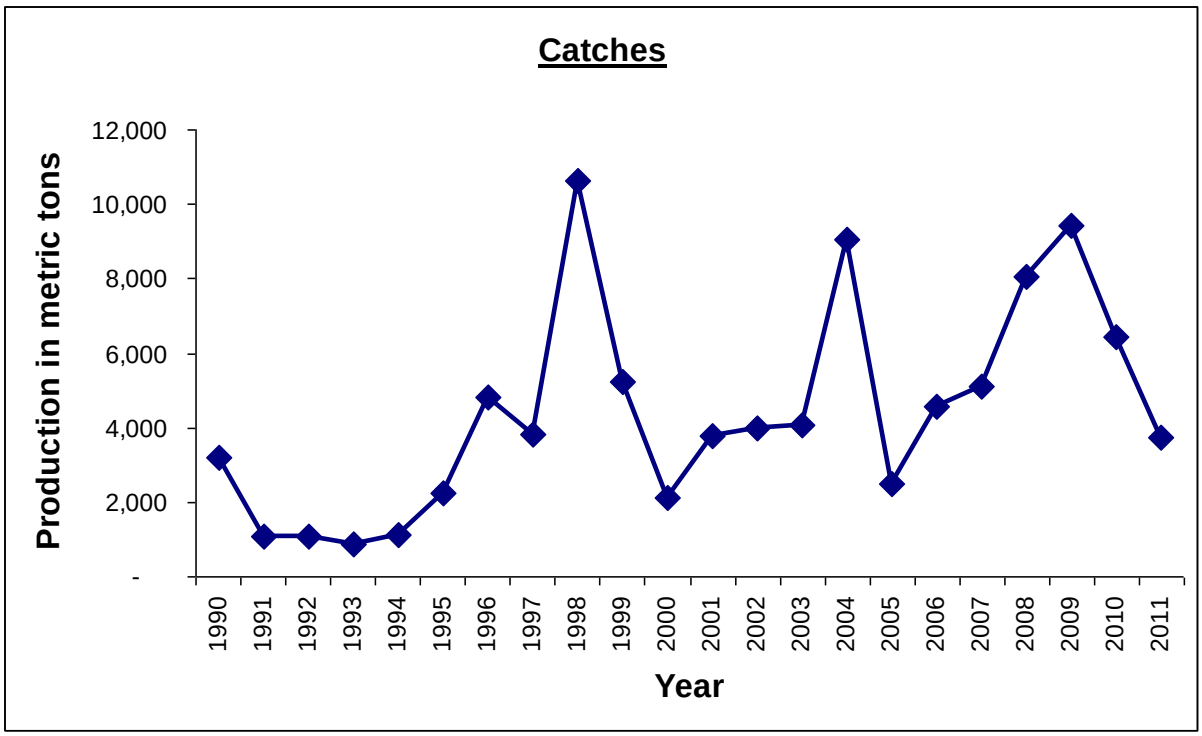

Figure 11: Trends in annual fish landings from Lake Turkana fishery 1990-2011

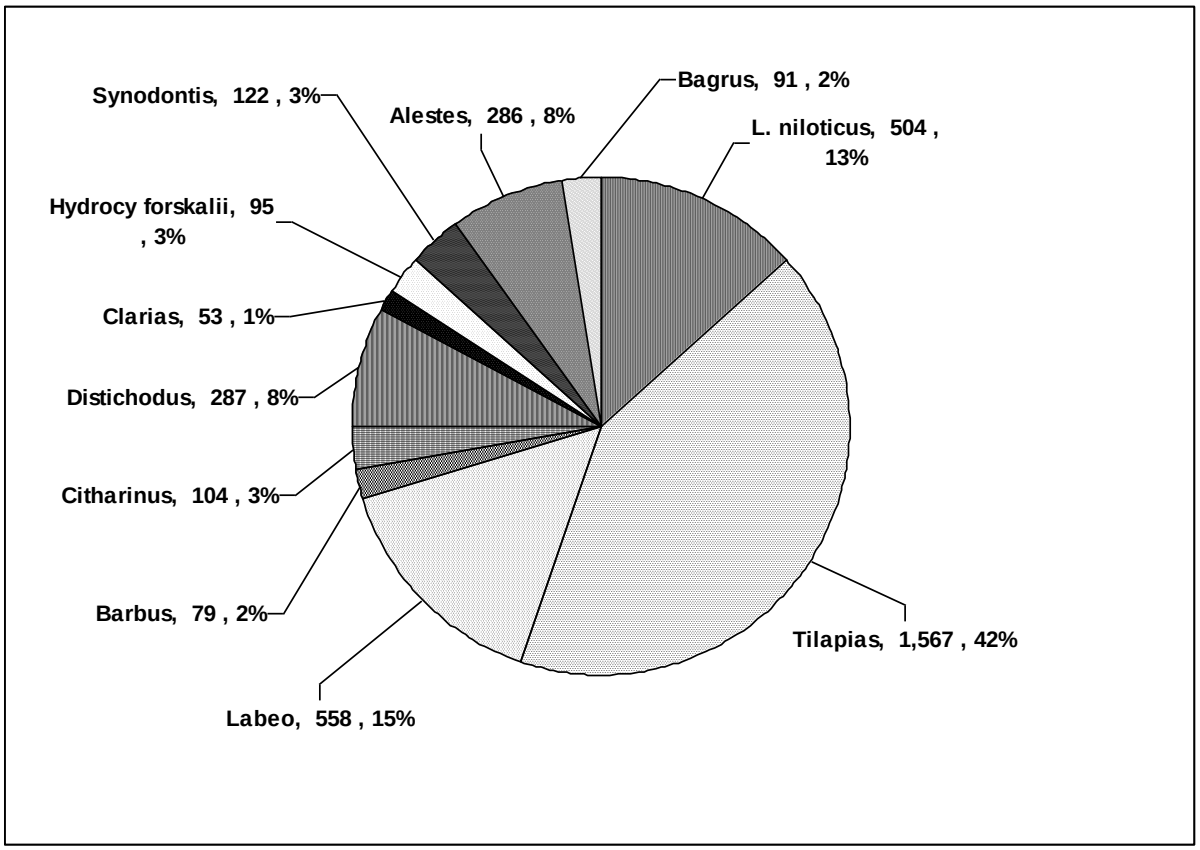

Figure 12: Species composition in catches of Lake Turkana Fishery 2011

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 14 persons as at December 2011, 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 which need to addressed include the following:

- Lack of appropriate fish handling and preservation facilities that usually lead post harvest losses and poor quality of fish and fish products;
- Poor state of landing site access roads, which make marketing impossible at some landing sites such as Todonyang and Namukuse;
- Armed conflicts between the Turkana in Kenya and the Dasenach 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;
- Rampant insecurity in the lake which make resource Monitoring, Control and Surveillance a risky affair;
- Insufficient funds for training Beach Management Units in data collection

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 and 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 nine 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 288 metric tons of fish with an ex-vessel value of Kshs. 23,229, 279 were landed from Lake Naivasha. This was an increase of 37.8% in quantity and 82.7% in value compared to 2010 landings of 209 metric tons valued at Kshs 12,711,911 to the fishers. Common carp (*Cyprinus carpio*) continued to be the most dominant species accounting for 95.42% (274,882 Kg) of the total catch. The other species have been on the decline with Mirror carp accounting for 4.52% (13,017 Kg),Black bass (*Micropyerus salmoides*) 0.06% (672 Kg) lake 'Naivasha tilapia' (*Oreochromis leucostictus*) accounting for only 0.01% (98 Kg), figure 13

During the average monthly fish catches for the month fished i.e. January to May and September to December was 32 metric tons, figure 14.

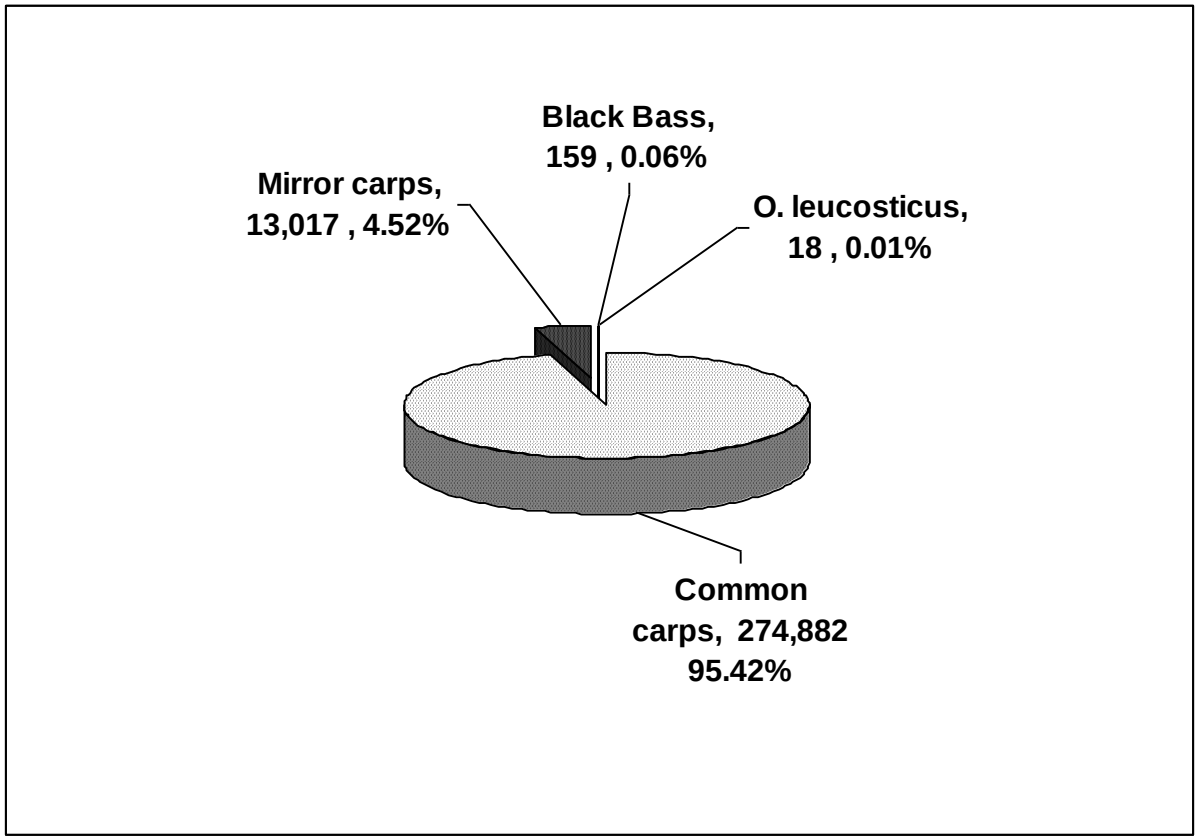

Figure 13: ***Lake Naivasha species percentage landings in Kgs 2011***

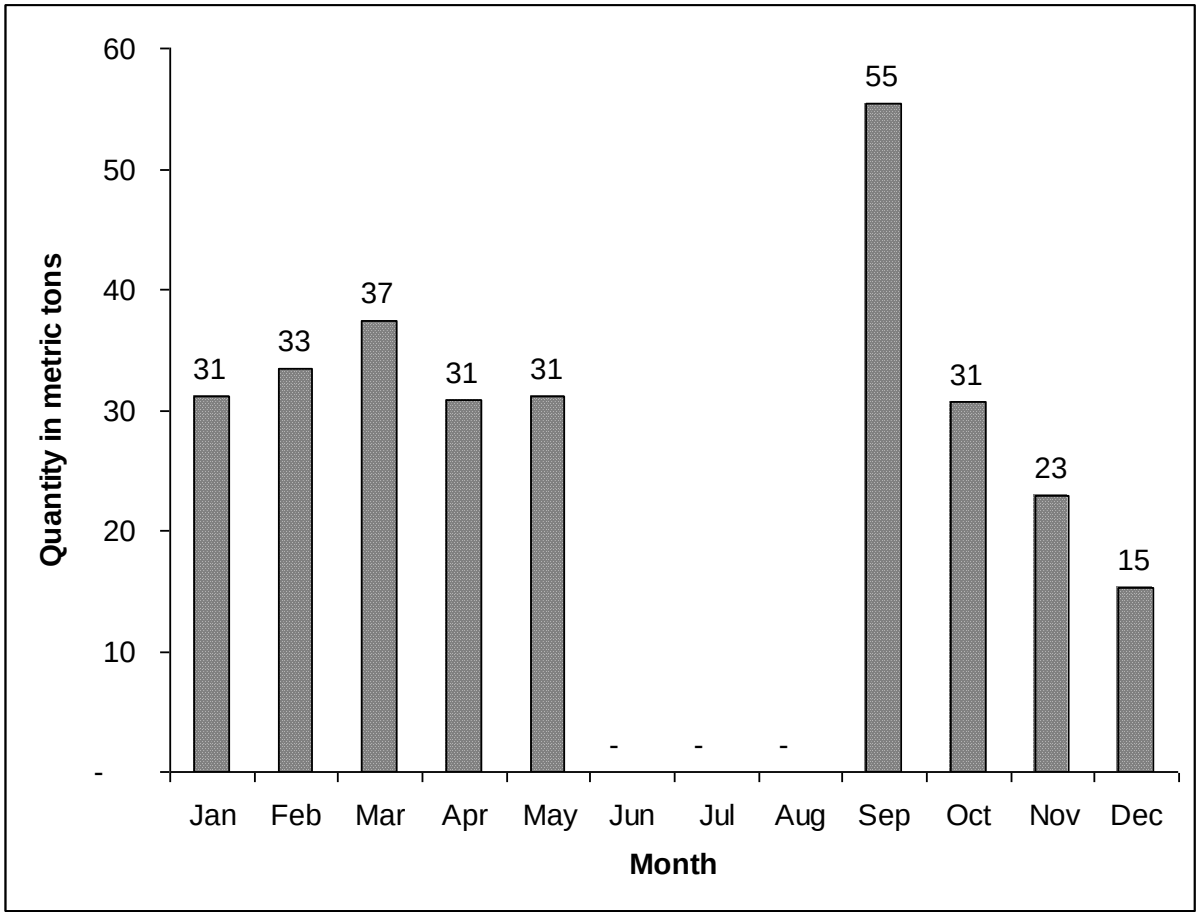

Figure 14: Lake Naivasha monthly catches in 2011

During the year 2011, 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 101,191 Kg of fish with an ex-vessel value of Kshs. 9,468,820 were landed. This was a huge increase of 92.5% in quantity and 109.1% in value compared last year's production of 53,320 Kg valued at Kshs. 4,529,066.

The species catch composition was dominated by *Protopterus aethiopicus* having contributed 72% followed by Tilapia (17%), Clarias (10%), and Barbus with 1%, figure 15.

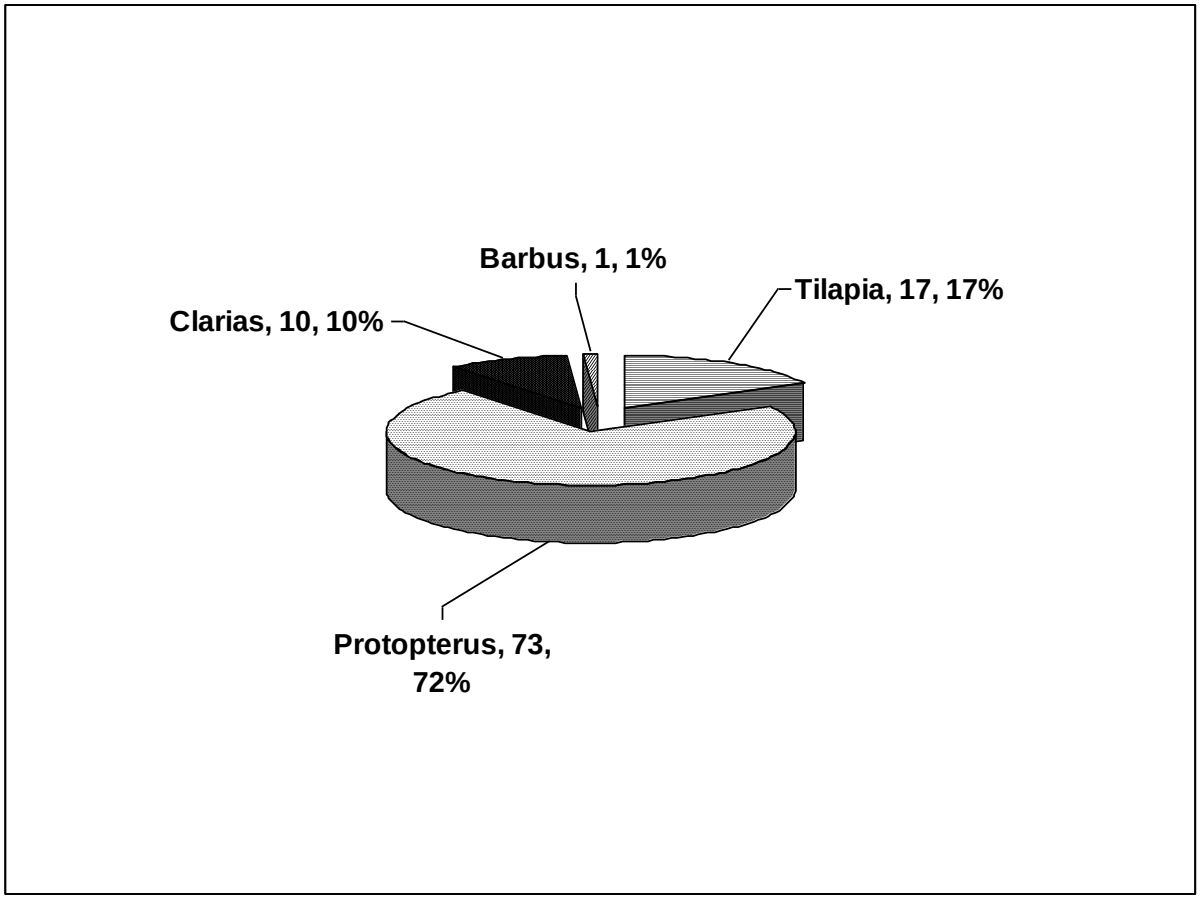

Figure 15: Percentages catch (MT) by species composition in Lake Baringo in 2011

2.6 LAKE JIPE AND NEIGHBOURING DAMS FISHERY

During the year 2010, a total of 104 metric tons of both Clarias and Tilapia valued at Kshs 9,554,000 were landed. This reflected a small increase 0f 0.8% (or 1 metric ton) in quantity and 58.8% in value compared to previous year 2009 production of 103 metric tons valued at Kshs 6,017,000. 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 89% and Clarias 11%, figure 16.

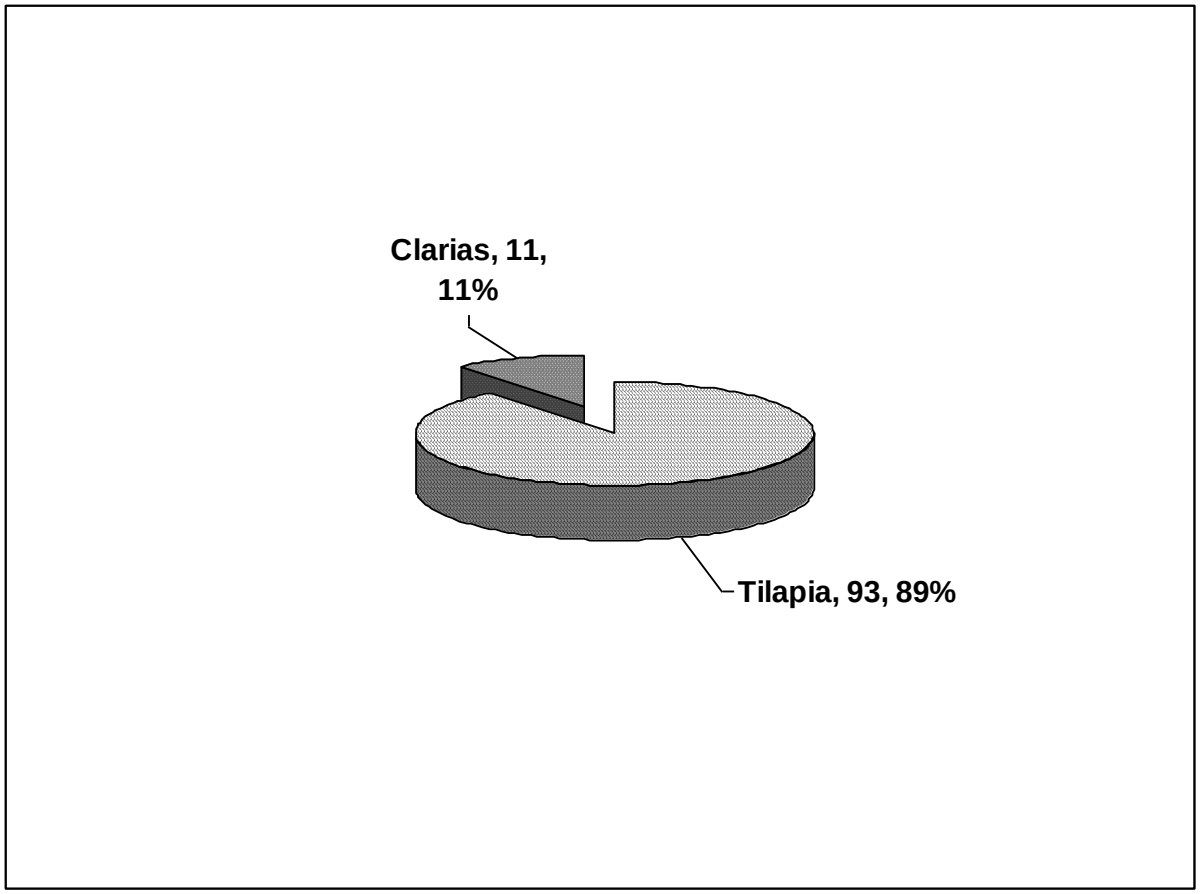

Figure 16: ***Percentages catch species composition in Lake Jipe in 2011***

The fishing activities of the lake were undertaken by an average of 60 fishers using 43 fishing crafts. The fishers fished with an average of 37 gillnets, 1,700 hand line hooks and 54 local traps (Migono).

The challenges which faced capture fisheries in lake Jipe included;

- Lack of departmental patrol boat which hindered monitoring, control and surveillance activities and thus compromised the law enforcement progress;
- Colonization of Lake Jipe by Papyrus and Typhus weeds which has been hindering fishing activities and hence the low fish production from the lake.

2.7 TANA RIVER DAMS FISHERY

A total of 732 metric tons of fish with an ex-vessel value of Kshs 53,781,000 were landed from the main fishery water bodies of the Tana River dams of Masinga, Kamburu, and Kiambere. This production reflected an increase of 25.6% in quantity and 43.8% in ex-vessel value compared to 2010 figures of 583 metric tons valued at Kshs 37,391,000.

The most important species in the catches were, *Cyprinus carpio* (Common carp) and *Clarias gariepinus* Landings of *Tilapia spp* were the highest at 336 metric tons followed by *Cyprinus carpio 232 metric tons, Clarias gariepinus* and the Eels with one metric ton. The rest of the species namely Barbus spp, Labes spp and Mormyrus had their catches below 100 Kgs. Tana River dam's fish production is determined by the level of water in the dams and this causes fluctuations of the total annual landing depending the water level in the dams, figure 17

Fishing in all the fishery dams is mainly passive using gillnets, traditional traps, and hand lines. Fishing effort during the year under review was 306 fishers using 183fishing crafts and operating about 2,500 gillnets and 10,000 hooks and 4,000 traditional traps. The main market of the landed catches was in Nairobi.

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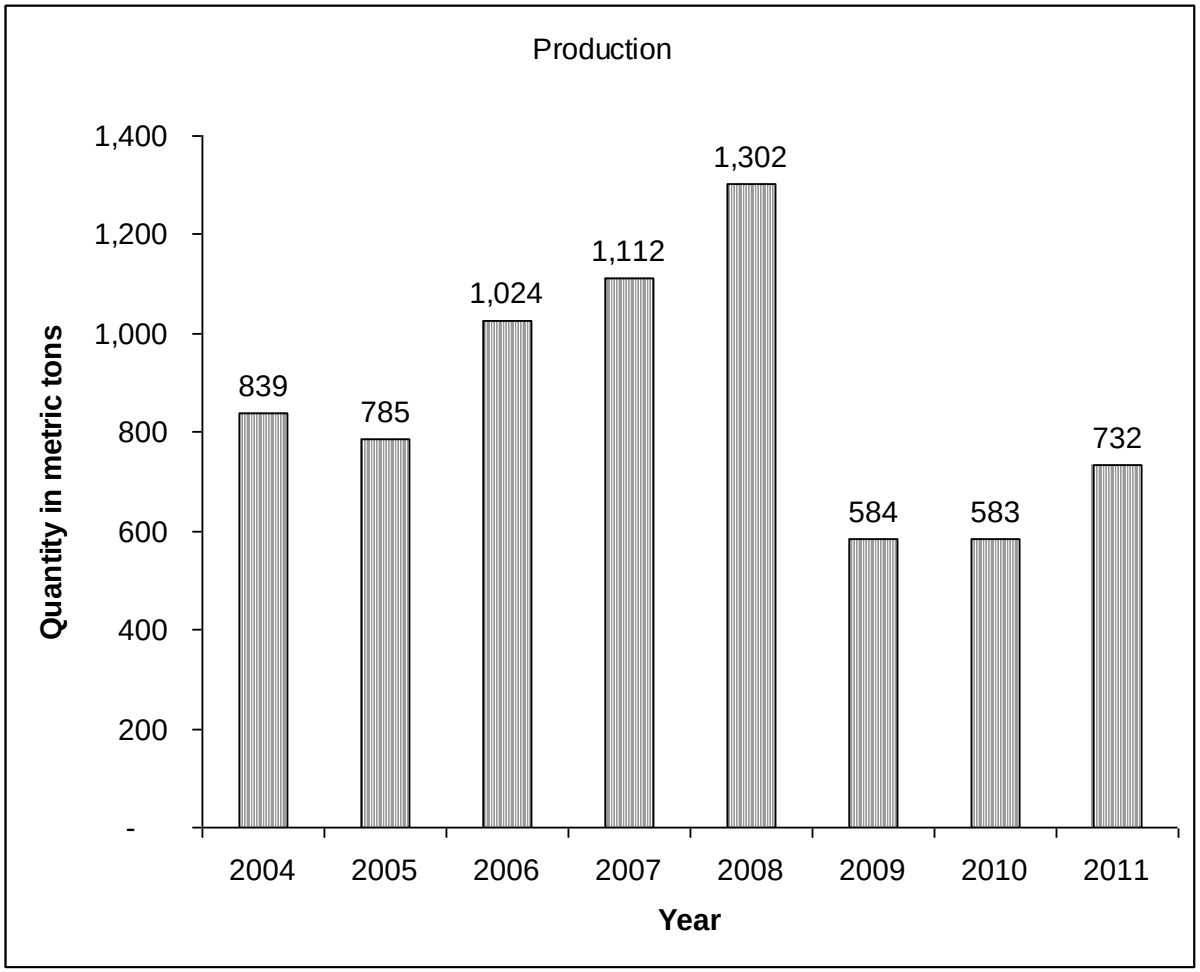

Figure 17: Tana River dams' fish catch trends 2004 – 2011

The contribution of the landings by dams was as follows: Masinga dam 441 metric tons (61%), Kamburu 131 metric tons (18%) and Kiambere 154 metric tons (21%) while by landing sites Ekalakala had the lion's share of 225 metric

tons (31%) of the total dams' landings. This was followed by Mananja 139 metric tons (19%), Kisumu ndogo 93 metric tons (13%), Tumutumu 84 metric tons (11%), Jua kali 70 metric tons (10%), Katooni/Korokocho 65 metric tons (19%) and finally Riakanau with 57metric tons or 8% of the total landings from the dams.

2.8 LAKE KENYATTA FISHERY

During the year under review a total of 233 metric tons of fish with an ex-vessel value of Kshs. 7,999,711 was landed from Lake Kenyatta in Lamu county of the coast province. There a 36.9% decline in quantity of the fish landed coupled with 27.4% decline in value compared with 2010 figures of 369 metric tons valued at Kshs 11,014,953. The catch composition from this lake comprised of three species namely Tilapia, Protopterus and Clarias. Tilapia contributed 46% of the total catch, Protopterus26% and Clarias 28% figure 18. The fishing effort was 120 fishers using 40 fishing crafts. Fishing was mainly passive with gillnetting, long line hooks and hand line hooks being the most common methods of fishing.

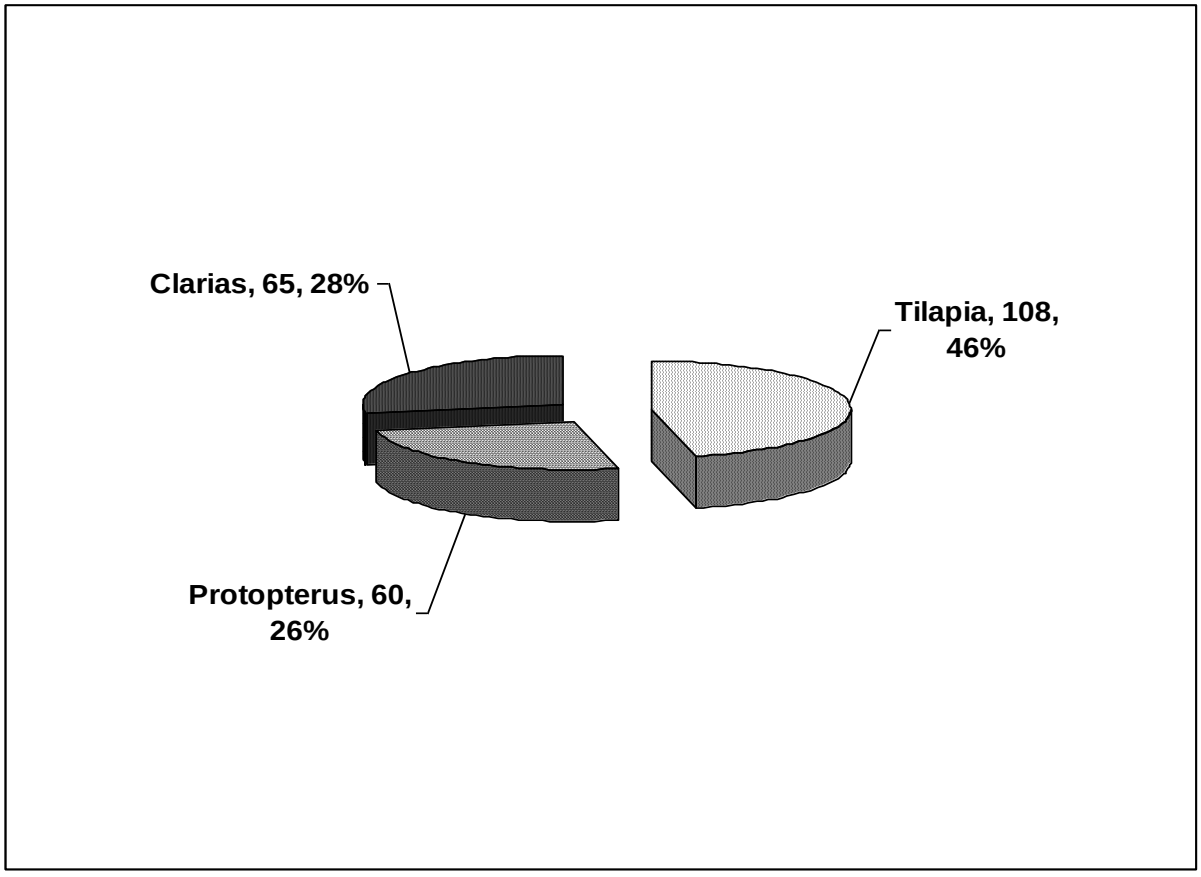

Figure 18: ***Percentages catch species composition in Lake Kenyatta in 2011***

2.9 LAKE KANYABOLI FISHERY

Lake Kanyaboli is one of the satellite lakes of Lake Victoria. It is located in Siaya county. The fisheries of the lake are comprised of the following fish species: *Oreochromis niloticus, Protopterus aethiopicus, Tilapia zilli, Oreochromis esculentus and Clarias spp*. The productivity of the lake continued to decline during the year under review. Possible explanations are overfishing, bad fishing practices, and the recession of the lake due to siltation and restricted water flow at the feeder canal. A total of 173 metric tons with an ex-vessel value of Kshs 12,676,975 were landed from the lake during the year under review. This was a 19% decline in quantity of the fish landed but was coupled with 12% increase in value compared with 2010 figures of 215 metric tons valued at Kshs 11,329,000.

The main species in catches were Tilapia which contributed54.3% of the total catch followed by Clarias (19.7%), Protopterus (19.1%), and Haplochromis (6.9%). The fishing activities were undertaken by 188 fishers operating 99 fishing crafts.

3.0 AQUACULTURE (FISH FARMING)

Prior to the year 2007, several initiatives on fish farming in Kenya had been executed by the Department of Fisheries, The main activities were geared towards using fish farming as a tool for poverty alleviation and food security, and were addressed through various project activities that included but not limited to; pond construction and management, stocking rates trials, feed trials, integration of fish farming with other agricultural activities, brood stock management, seed quality and evaluation of growth performance of Nile tilapia and Catfish strains.

These initiatives had limited impacts due to slow uptake of fish farming by entrepreneurs emanating from lack of information on fish farming technology and culture practices, limited funding by Government, and limited political support from the policy makers. This is exemplified by the fact that ten years back (2002), there were only 4,742 fish farmers with 7,471 ponds occupying 217Ha (2,169,424square metres) and producing 962MT of farmed fish. The contribution of farmed fish at that time was only 1% of the National Fish Production in Kenya.

The Initiation of the Fish Farming Economic Stimulus Programme in Kenya in the last three years has revolutionalized fish farming practices in the country and

has made Kenya a fish producing and fish eating Nation. The project was implemented in high aquaculture potential areas of Western Kenya, Nyanza, parts of Rift Valley, Eastern, Central Kenya and Coast regions. These regions are endowed with a lot of water resources that include springs, wetlands, rivers, water reservoirs and the temporary water bodies.

The Ministry of Fisheries Development is aggressively promoting aquaculture development in the country to counter the declining production from capture fisheries. Aquaculture, being a food production sub sector, is being mobilized to positively contribute towards food security, generate income and create employment our young generation.

Fish farming production during the year was 19,585 metric tons with a farm gate value of Kshs. 4,223,471,393 compared to 12,153 metric tons valued at Kshs. 2,620,794,000 in 2010. Of the total farmed fish production, Nile tilapia contributed 75% (14,689 metric tons), African catfish 18% (3,525 metric tons), Common carp 6% (1,175 metric tons) and Rainbow trout 1% (186 metric tons). This production was from 45,621 ponds with an area of 13,614,424 metres square, 161 tangs measuring 23,085 metres square and 124 reservoirs with an area of 744,000 square metres throughout the country. Over the last ten year fish production has increased from as low as 962 metric tons produced in year 2002 to the present production of 19,585 metric tons, figure 19.

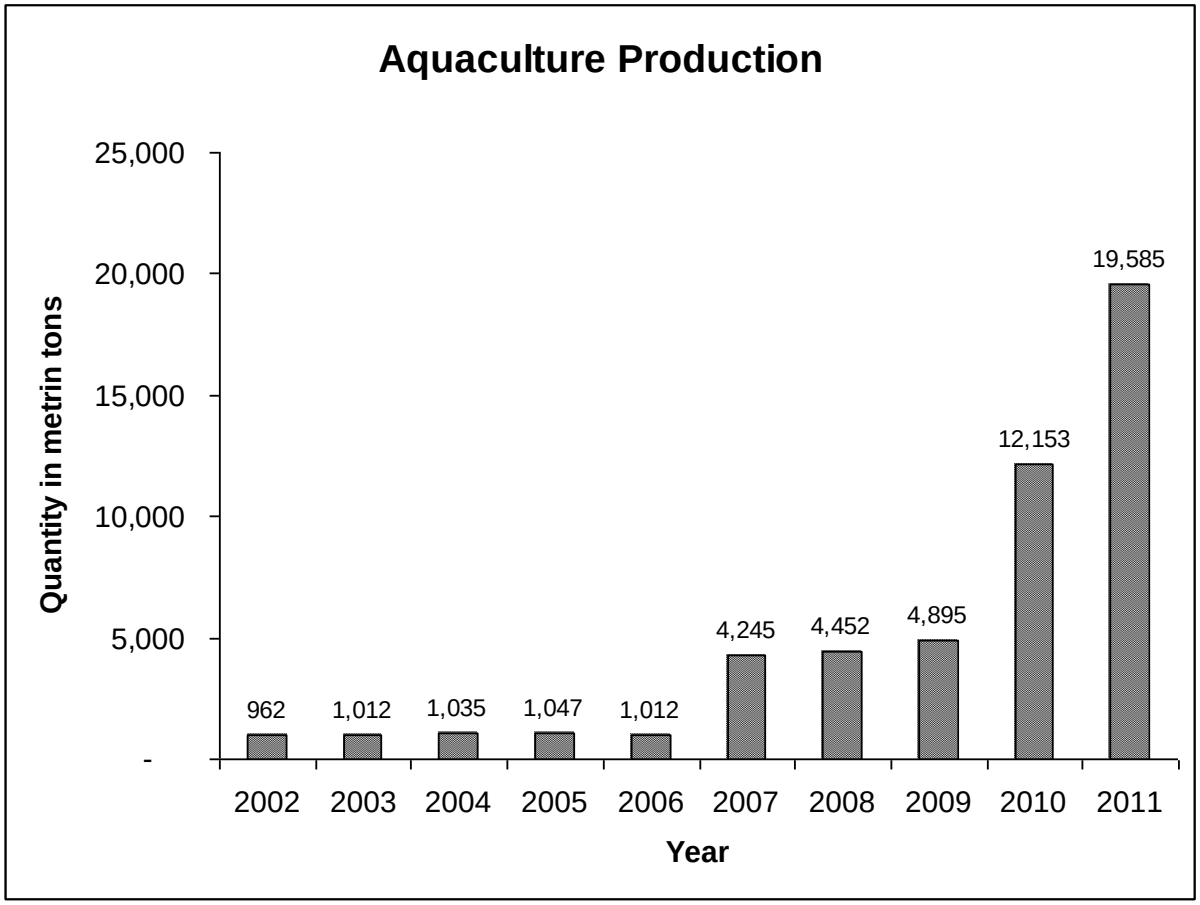

Figure 19: Aquaculture production for last ten years (2002-2011)

There were constraints which affected aquaculture during the year which included:

- Lack of readily available and affordable quality fish seed (fingerlings);
- Lack of adequate good quality and affordable fish feeds;
- Inefficient aquaculture production technologies;
- Water scarcity due to other competing uses – industry, domestic and agriculture;
- Lack of and /or inadequate accurate market information for use by fish farmers;
- Lack of good credit facilities and schemes for fish farmers;
- Security and safety of fish in ponds posed by thieves and predators
- Multifarious diseases and parasites;
- Limited land sizes that disqualified some willing individuals from constructing the FFEPP ponds.
- Sub optimal staffing levels especially extension personnel;
- Inadequate facilitation in terms of transport and timely funds towards carrying out of fisheries extension service provision.

Management and ownership of fish ponds is mainly by individual fish farmers while self-help groups are the ones who manage dams/reservoirs in the country. Fisheries extension staff assists the farmer in the best pond and dam/reservoir 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 9,612 metric tons of fish and fishery products were exported earning the country Kshs. 3,391,389,000 in foreign exchange. The export products were mainly Nile perch fillets, Octopus, marine shells, salted fish, sharks, fish maws, Crabs, Lobsters, Haplochromis, sea Cucumber sand Sword fish. Nile perch fillets exports accounted for 86.3% of the total quantity and 88.9% of the total earnings. Octopus contributed 9.4% in quantity and 7.9% in value while marine shells contributed 1.2% in quantity and 0.1% in value. This year's Nile perch fillets export decreased by 19.4% from the previous years' export of 10,293 metric tons. By country destination, Israel had the lion's share of Nile perch exports at 3,327 metric tons or 40.1% of the total Nile perch exports. Israel was followed by Netherlands with 1,841 metric tons (22.2%), Portugal 787 metric tons (9.5%), Germany with 687 metric tons (8.3%), UAE 369 metric tons (4.4%) Australia 232 metric tons (2.8%) and China with 168 metric tons (2.0%) among others, figure 20.

By product type the exports of frozen Nile perch fillets contributed the highest percentage of 51.2% (4,252 metric tons) followed by fresh fillets 37.5 % (3,109 metric tons), frozen headless and gutted Nile perch 7.4% (616 metric tons) then fresh headless and gutted Nile perch 3.9% (321 metric tons) figure 21.

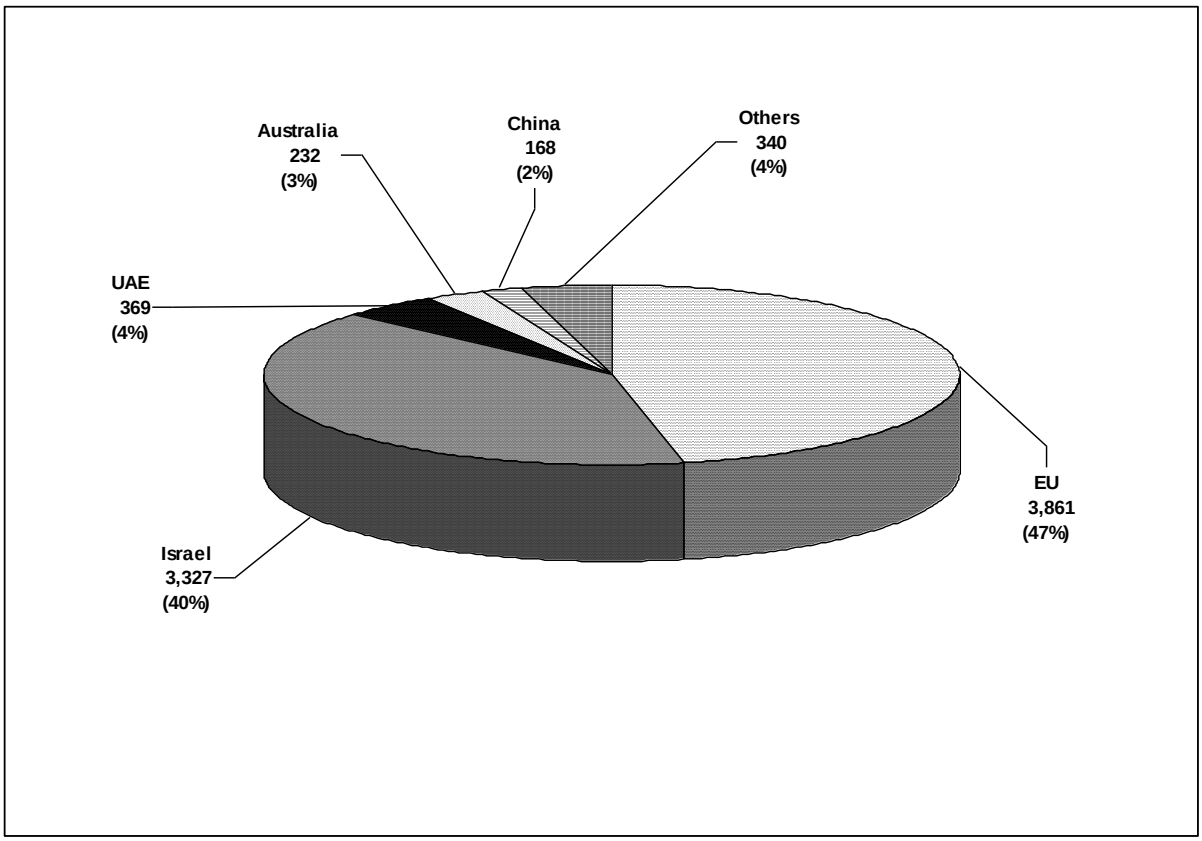

Figure 20: Exports of Nile Perch By destinations- 2011

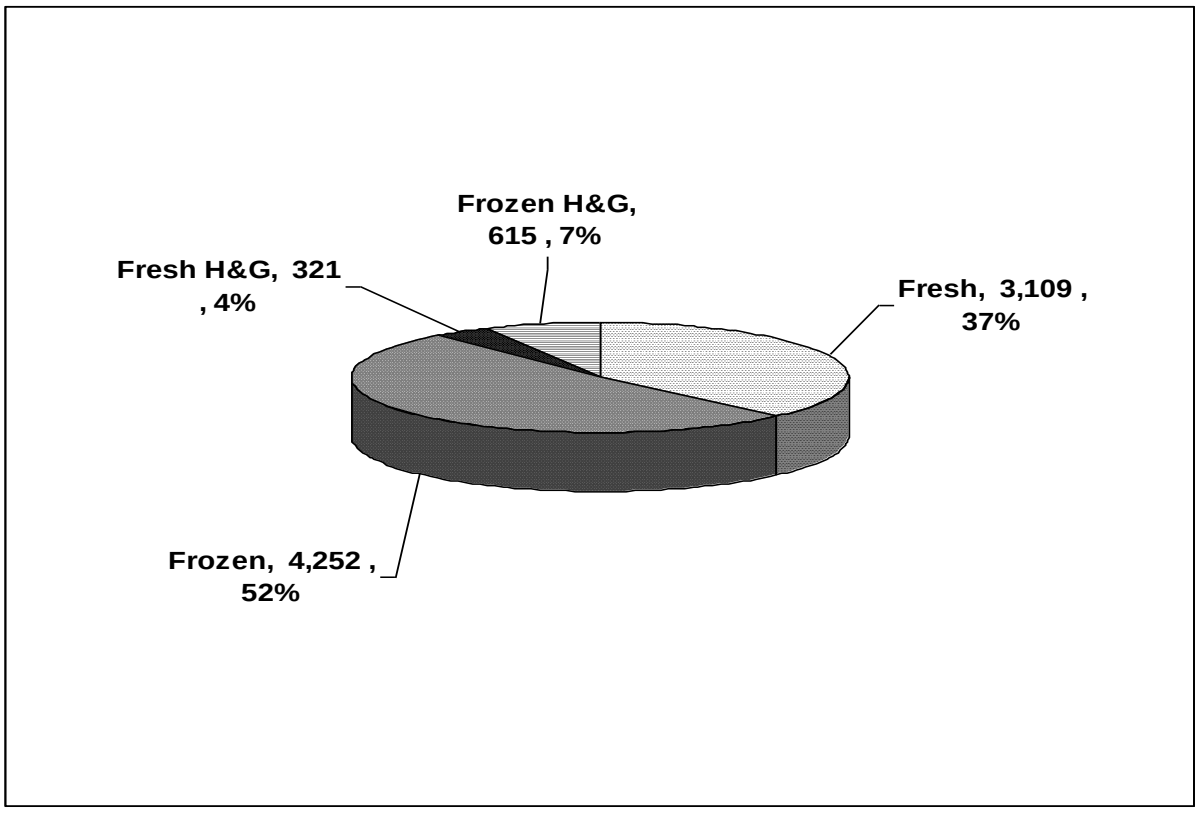

Figure 21: Exports of Nile perch by product type 2011

Apart from the above mentioned exports, 9,821 metric tons of Tuna loins were processed and trans-shipped through the port of Mombasa. This quantity was an increase of 7% from the previous year's trans-shipment of 9,209 metric tons.

5.0 IMPORTS

In 2011, Kenya imported 2,664 metric tons of fish and fishery products worth Kshs 145,865,000. The imports were mainly composed of frozen mackerels with 1,605 metric tons (60.2%), sardines 529 metric tons (19.9%), Tilapia niloticus 131 metric tons (4.9%) and frozen kahawai 114 metric tons (4.3%), figure 22. The imports originated largely from Asian countries, notably India, Pakistan, Japan and Korea but all the Tilapia niloticus was imported from China.

Some 100,000 Trout ova worthy Kshs 170,100 were imported from Britain during the year under review.

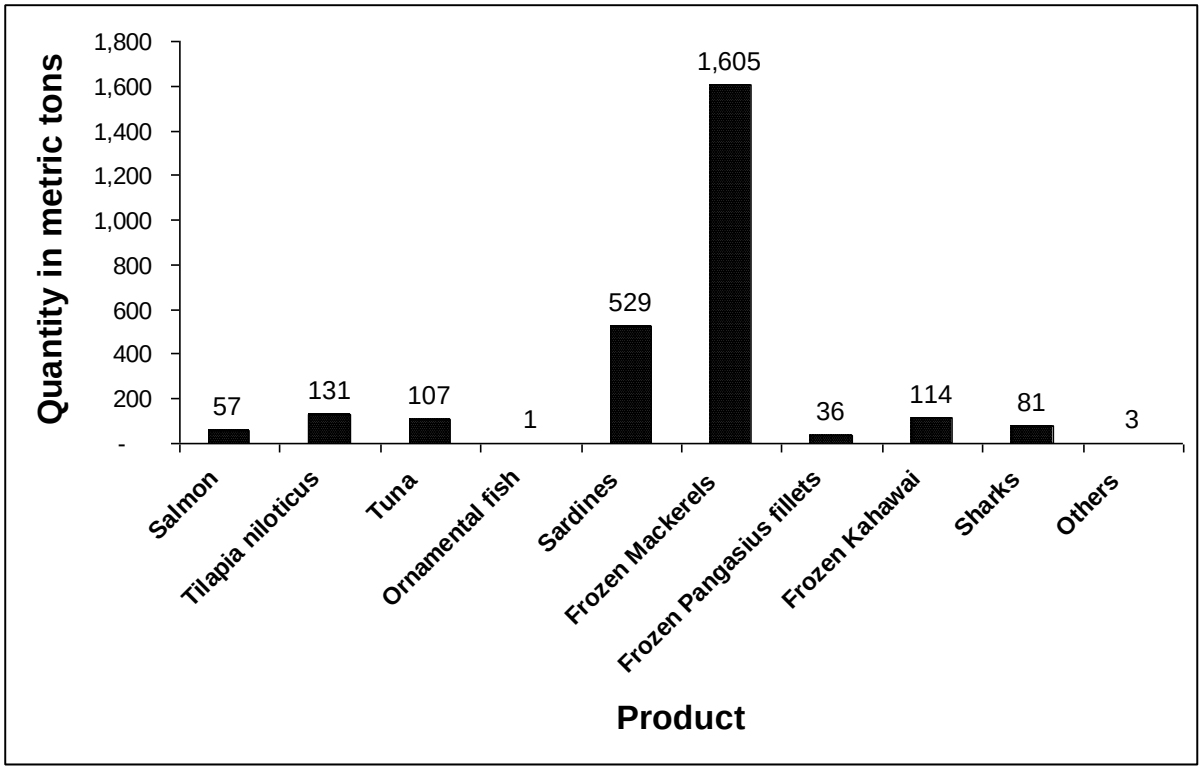

Figure 22: Import of fish and fish products 2011

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: **Fish landings by Weight, Value, number of Fishers and Fishing crafts by Areas 2011**

Freshwater	**M. tons**	**000 Kshs.**	**No.Fishers/Farmers**	**Fishing crafts/ponds**
Lake Victoria	133,801	13,847,170	41,912	14,251
Lake Turkana	3,746	275,919	7,000	1650
Lake Baringo	102	9,469	120	47
Lake Naivasha	288	23,229	150	50
LakeJipe/Dams	104	9,554	60	43
Lake Kanyaboli	173	12,676	188	99
Lake Kenyatta	233	8,000	120	40
Tana River dams	732	53,781	306	183
Fish Farming	19,584	4,223,471	48,721	45,745
Tana River delta	53	3,480	299	93
Total	**158,816**	**18,466,750**	**98,876**	**62,201**
Marine water				
Dermersal	4,416	408,567		
Pelagic	2,444	252,767		
Crustaceans	574	176,539		
Other Marine	884	75,530		
Miscellaneous	629	90,427		
Total Marine	**8,947**	**1,003,830**	**12,077**	**2,687**
Grand Total	**167,763**	**19,470,579**	**110,953**	**64,888**

Table 2: **Quantity and value of Fish landings to Fishers 2009 - 2011**

	2009		2010		2011	
FRESHWATER	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
L. Victoria	108,934	10,800,831	111,868	11,543,125	133,801	13,847,170
L. Turkana	9,445	305,178	6,430	271,687	3,746	275,919
L. Naivasha	688	31,470	209	12,712	288	23,229
L. Baringo	191	11,562	53	4,529	102	9,469
L. Jipe/Dams	109	6,331	103	6,017	104	9,554
Lake Kanyaboli	31	1,554	215	11,329	173	12,676
Lake Kenyatta	369	12,401	369	11,015	233	8,000
Tana River Dams	584	33,536	583	37,391	732	53,781
Fish Farming	4,895	1,041,420	12,153	2,620,794	19,584	4,223,471
Tana river delta	428	30,009	362	28,537	53	3,480
TOTAL	**125,674**	**12,274,292**	**132,345**	**14,547,136**	**158,816**	**18,466,750**
MARINE FISH						
Lamu county	1,943	109,585	2,056	112,215	2150	138987
Tana River county	85	5,382	276	20,194	704	51735
Kilifi county	593	50,691	485	45,253	2152	250305
Mombasa county	858	103,542	926	116,939	860	121327
Kwale county	2,484	183,136	2,024	161,325	1879	174510
TOTAL	**7,024**	**556,546**	**7,283**	**612,036**	**7,744**	**736,864**
CRUSTACEA						
Lamu county	111	54,349	163	57,456	162	79576
Tana River county	42	12,615	58	17,465	51	7563
Kilifi county	1	426	3	833	70	22806
Mombasa county	122	24,249	154	31,700	187	40619
Kwale county	99	22,712	97	29,189	105	25974
TOTAL	**407**	**126,570**	**519**	**148,974**	**574**	**176,539**
MOLLUSCS						
Lamu county	37	4,010	52	7,355	85	32,222
Tana River county	14	777	24	1,425	35	2098
Kilifi county	18	1,260	23	1,830	109	12823
Mombasa county	61	5,484	55	5,548	70	7904
Kwale county	324	27,686	331	31,259	330	35379
TOTAL	**495**	**43,609**	**604**	**61,331**	**629**	**90,427**
MARINE TOTAL	**7,926**	**726,725**	**8,406**	**822,341**	**8,947**	**1,003,830**
GRAND TOTAL	**133,600**	**13,001,017**	**140,751**	**15,369,477**	**167,763**	**19,470,579**

Table 3: **Fresh Water and Marine Fish Catches by Species, Weight and Value 2009- 2011**

	2009		2010		2011	
FRSH WATER	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Alestes	53	1,056	50	1,550	286	17,092
Bagrus	306	16,759	101	2,995	92	5,341
Barbus	524	10,497	353	10,506	82	5,208
Black bass	2	185	1	65	3	27
Clarias	2,736	311,010	6,916	763,025	6,426	879,376
Rastreonobola	49,326	2,219,624	47,716	2,225,780	72,314	3,224,846
Labeo	1,900	40,442	1,144	36,567	558	38,708
Haplochromis	822	51,621	21	1,120	539	22,010
Lates niloticus	43,650	6,705,665	39,045	6,656,608	47,116	9,143,763
Momyrus	*	8	*	4	-	2
Protopterus	930	54,406	3,891	234,310	1,346	114,021
Synodontis	16	309	136	4,085	994	54,964
Tilapia niloticus	17,274	2,501,777	24,572	4,113,299	23,144	4,427,842
Tilapia others	5,041	204,810	3,726	184,913	2,006	151,092
Trout	51	28,050	122	66,842	195	107,717
Carps	1,238	74,877	1,146	91,989	1,695	147,266
Eels	1	51	4	228	1	60
Citharinus	103	2,058	63	1,845	104	8,820
Hydrocynus	229	4,578	39	1,150	95	6,138
Distichodu niloticus	1,022	20,443	812	23,920	287	21,593
Unspecified	450	26,067	2,487	126,335	1,533	90,864
TOTAL	**125,674**	**12,274,292**	**132,345**	**14,547,136**	**158,816**	**18,466,750**
MARINE FISH						
Demersal	3,836	287,916	4,146	325,133	4,416	408,567
Pelagic	2,401	201,538	2,344	219,628	2,444	252,767
Sharks/Rays	232	22,384	274	26,948	306	31,602
Sardines	130	8,390	224	14,068	211	15,238
Unspecified	425	36,318	294	26,259	367	28,690
TOTAL	**7,024**	**556,546**	**7,282**	**612,036**	**7,744**	**736,864**
CRUSTACEA						
Lobster	84	55,321	100	69,674	93	80,899
Prawns	153	34,877	251	51,450	275	54,719
Crabs	117	19,863	168	27,850	206	40,922
Others	53	16,509	-	-		
TOTAL	**407**	**126,570**	**519**	**148,974**	**574**	**176,539**
MOLLUSCS						
Oysters	23	501	33	507	30	1,903
Squids	140	13,504	142	17,980	46	30,832
Octopus	256	20,056	407	36,697	419	40,093
Beche-de-mers	11	3,860	22	6,147	134	17,600
Others	65	5,688	-	-		
TOTAL	**495**	**43,609**	**604**	**61,331**	**629**	**90,427**
TOTAL MARINE	**7,926**	**726,725**	**8,406**	**822,341**	**8,947**	**1,003,830**
GRAND TOTAL	**133,600**	**13,001,017**	**140,751**	**15,369,477**	**167,763**	**19,470,579**

Table 4: **Marine Fish landings by Species, Weight and Value 2009 - 2011**

	2009		2010		2011	
SPECIES	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
DEMERSAL						
Rabbit fish	504	45,528	675	60,281	791	82,522
Scavenger	447	32,788	642	53,349	683	63,759
Snapper	254	20,576	298	27,477	346	38,443
Parrot fish	405	28,999	475	30,444	538	42,151
Surgeon fish	85	5,472	121	7,797	94	8,332
Unicorn fish	80	5,051	164	11,484	154	14,692
Grunter	110	9,488	149	13,215	160	14,919
Pouter	154	9,858	181	12,817	164	14,403
Black skin	170	10,625	181	13,336	174	14,146
Goat fishr	96	8,277	110	9,855	115	11,460
Steaker	37	2,761	30	2,593	48	3,224
Rock cod	110	8,787	150	12,450	198	18,861
Cat fish	86	5,914	92	6,759	173	15,444
Mixed dermersal	796	56,238	878	63,276	778	66,211
Not Acc. for	500	37,554	-	-	-	-
TOTAL	**3,836**	**287,916**	**4,146**	**325,133**	**4,416**	**408,567**
PELAGICS						
Cavalla jacks	170	14,214	227	21,667	283	27,005
Mullets	232	14,317	292	22,464	228	22,807
Little mackerels	268	21,967	419	37,204	339	32,183
Barracudas	292	25,994	281	26,924	327	33,869
Milk fish	55	3,161	78	5,689	63	5,578
King fish	75	7,967	119	13,982	173	20,835
Queen fish	70	4,639	141	11,867	199	20,711
Sail fish	160	17,506	165	19,360	145	17,735
Bonitos/Tunas	295	26,437	180	18,539	302	33,902
Dolphins	35	2,952	41	3,321	18	1,810
Mixed Pelagics	437	36,095	400	38,612	365	36,332
Not Acc. For	313	26,288	-	-	-	-
TOTAL	**2,401**	**201,538**	**2,344**	**219,628**	**2,444**	**252,767**
Sharks &Rays	232	22,384	274	26,948	306	31,602
Sardines	130	8,390	224	14,068	211	15,238
mixed fish/Others	322	27,567	294	26,258	367	28,690
Not Acc. For	103	8,751	-	-	-	-
TOTAL	**787**	**67,092**	**792**	**67,274**	**884**	**75,530**
CRUSTACEANS						
Lobsters	84	55,321	100	69,674	93	80,899
Prawns	153	34,877	252	51,451	275	54,719
Crabs	117	19,863	168	27,850	206	40,922
Not Acc. For	53	16,509	-	-	-	-
TOTAL	**407**	**126,570**	**519**	**148,974**	**574**	**176,539**
MISCELLANEOUS						
Oysters	23	501	33	507	30	1,903
Beche-de-mers	11	3,860	22	6,147	46	30,832
Octopus	257	20,056	408	36,698	419	40,093
Squids	140	13,504	142	17,980	134	17,600
Not Acc. For	65	5,688	-	-	-	-
TOTAL	**495**	**43,609**	**604**	**61,331**	**629**	**90,427**
TOTAL MARINE	**7,926**	**726,725**	**8,406**	**822,341**	**8,947**	**1,003,830**

Table 5: **Marine monthly Fish landing by Species and Weight 2011**

SPECIES	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEPT		OCT		NOV		DEC	
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**	**M. Tons**	**000 Kshs**	**M. Tons**	**000 Kshs**	**M. Tons**	**000 Kshs**	**M. Tons**	**000 Kshs**	**M. Tons**	**000 Kshs**	**M. Tons**	**000 Ksh**
Rabbit fish	55	5,632	58	5,834	74	7,693	73	6,971	99	8,752	64	5,843	51	5,041	73	8,438	66	7,235	58	6,458	57	6,902	64	
Scarvenger	64	5,896	63	5,670	71	6,019	54	5,035	61	4,701	51	3,252	43	3,936	55	5,333	62	6,074	51	5,458	51	5,590	56	
Snapper	31	2,678	32	2,522	28	2,157	17	1,547	10	1,057	16	1,547	18	1,765	16	1,477	15	1,410	15	1,430	63	9,888	85	1
Parrot fish	45	3,678	42	3,416	47	3,882	63	4,217	64	3,935	44	3,042	39	3,094	45	3,651	31	2,665	39	3,267	38	3,531	41	
Surgeon fish	13	887	11	1,073	12	1,221	7	701	3	277	4	322	7	650	5	490	7	419	8	795	8	768	8	
Unicorn fish	15	1,215	21	2,074	24	2,423	15	1,255	7	708	8	789	8	739	8	835	13	1,381	11	1,009	14	1,240	11	
Grunter	14	1,321	12	1,160	10	1,021	12	1,096	12	1,107	13	1,159	10	954	23	1,528	12	1,218	14	1,372	14	1,491	14	
Pouter	15	1,102	12	954	15	1,286	13	1,083	13	1,120	16	1,234	8	1,210	16	1,366	13	1,060	14	1,202	16	1,493	13	
Black skin	16	1,323	11	875	12	933	15	1,244	17	1,281	15	1,125	16	1,314	17	1,304	16	1,239	14	1,177	10	988	16	
Goat fish	10	902	8	816	11	1,087	8	863	7	731	9	840	11	1,044	10	973	10	998	10	1,087	10	1,108	10	
Steaker	3	363	3	249	3	218	2	191	3	277	16	142	2	154	3	304	3	213	2	176	6	621	3	
Rock cod	25	2,244	20	1,726	13	1,143	13	1,258	10	1,177	15	1,213	14	1,361	19	1,515	19	1,742	18	2,083	12	1,372	19	
Cat fish	15	1,353	14	1,036	11	715	12	1,209	20	1,782	13	1,072	9	886	13	946	13	1,309	14	1,635	21	1,925	18	
Mixed dermasal	63	6,100	63	4,539	67	5,075	89	5,440	96	7,192	45	5,574	73	4,794	68	5,665	68	5,920	48	4,601	51	5,522	48	
TOTAL	**382**	**34,693**	**370**	**31,944**	**398**	**34,873**	**393**	**32,111**	**422**	**34,096**	**329**	**27,152**	**309**	**26,942**	**370**	**33,825**	**347**	**32,883**	**317**	**31,752**	**372**	**42,441**	**406**	**4**
PELAGICS																								
Cavalla jacks	26	2,345	30	2,662	61	6,012	19	1,708	14	1,143	18	1,573	15	1,412	15	1,463	12	1,434	24	2,422	24	2,217	27	
Mullets	20	1,832	16	1,389	17	1,444	16	3,598	24	1,966	22	1,901	19	1,639	20	1,900	19	1,772	18	1,572	17	1,752	19	
Little mackerels	50	4,734	58	5,004	33	3,217	26	2,250	20	2,001	18	1,787	14	1,238	16	1,567	20	2,490	18	1,813	36	3,280	30	
Barracudas	41	3,957	41	4,032	25	2,635	25	2,424	23	1,974	19	1,818	17	1,630	26	2,518	25	3,090	25	2,652	31	3,413	30	
Milk fish	6	547	3	237	3	298	4	293	11	953	5	413	5	483	6	540	4	379	5	469	6	544	5	
King fish	10	1,174	11	1,278	19	2,047	16	1,861	17	2,194	15	1,746	6	873	18	2,225	14	1,794	13	1,570	16	1,875	17	

Queen fish	13	1,151	11	988	17	1,680	22	2,221	25	2,441	9	714	7	739	10	1,775	17	1,790	16	1,672	22	2,394	30	
Sail fish	19	2,136	22	2,459	13	1,473	9	1,025	5	620	4	549	4	545	6	845	8	1,240	9	1,077	18	2,216	28	
Tuna	42	5,054	47	4,713	22	1,926	32	3,631	21	2,341	13	1,497	20	2,135	18	2,048	14	1,890	15	1,597	25	3,034	32	
Dolphin fish	2	168	1	113	2	175	1	130	3	212	1	79	2	125	1	92	1	101	2	253	2	222	1	
Mixed Pelagics	36	3,527	41	3,885	43	4,281	39	3,302	32	2,984	19	1,853	19	1,842	25	2,372	27	2,652	26	2,877	32	3,516	27	
TOTAL	**268**	**26,797**	**285**	**26,968**	**260**	**25,617**	**213**	**22,812**	**194**	**18,830**	**144**	**13,931**	**128**	**12,660**	**159**	**17,346**	**162**	**18,633**	**172**	**17,976**	**229**	**24,463**	**247**	**2**
Sharks & Rays	24	2,558	31	3,106	22	2,253	20	1,369	11	1,385	28	3,082	25	2,522	25	2,624	32	3,152	23	2,553	29	3,098	35	
Sardines	34	2,225	32	1,995	20	1,430	15	980	12	830	10	706	9	732	12	782	14	1,110	15	1,278	10	793	29	
mixed fish/Others	18	1,613	79	2,211	91	5,565	27	2,611	22	2,165	14	2,173	15	1,502	22	2,102	14	1,453	17	1,922	22	2,714	27	
TOTAL	**76**	**6,396**	**142**	**7,312**	**133**	**9,248**	**62**	**4,960**	**45**	**4,380**	**51**	**5,961**	**49**	**4,756**	**59**	**5,509**	**60**	**5,715**	**55**	**5,754**	**61**	**6,605**	**91**	
CRUSTACEANS																								
Lobsters	10	8,203	9	6,835	7	5,398	7	4,980	5	4,033	6	5,365	5	3,215	7	5,905	7	6,380	8	7,492	10	11,931	11	1
Prawns	18	3,741	19	3,548	20	4,247	25	6,191	31	4,495	25	4,458	20	4,149	17	3,386	17	4,589	24	5,423	29	5,989	30	
Crabs	16	2,642	15	2,590	14	2,666	18	3,209	19	4,149	20	3,898	18	3,919	18	3,878	21	5,188	12	2,079	17	2,914	16	
TOTAL	**44**	**14,586**	**44**	**12,973**	**41**	**12,310**	**50**	**14,380**	**55**	**12,677**	**51**	**13,721**	**44**	**11,283**	**42**	**13,170**	**46**	**16,157**	**44**	**14,993**	**56**	**20,833**	**57**	**1**
MISCELLANEOUS																								
Oysters	1	34	1	28	1	24	1	42	1	63	1	101	1	38	7	54	10	1,074	2	131	2	145	2	
Beche-de-mers	8	5,185	2	1,494	3	2,264	4	5,365	3	2,402	3	2,075	2	1,454	4	1,042	4	1,277	4	877	4	2,768	5	
Octopus	40	3,583	41	3,669	45	3,779	45	4,895	21	2,496	19	1,950	25	1,973	21	2,882	29	2,590	45	4,472	39	4,183	49	
Squids	14	1,666	13	1,464	8	687	11	1,440	11	1,916	8	838	10	1,270	15	2,266	11	1,542	12	1,548	10	1,341	11	
TOTAL	**63**	**10,467**	**57**	**6,654**	**57**	**6,755**	**62**	**11,741**	**36**	**6,878**	**31**	**4,963**	**37**	**4,734**	**46**	**6,244**	**54**	**6,484**	**64**	**7,027**	**55**	**8,436**	**67**	**1**
TOTAL MARINE	**834**	**92,939**	**898**	**85,850**	**890**	**88,803**	**781**	**86,004**	**752**	**76,861**	**605**	**65,728**	**567**	**60,376**	**676**	**76,093**	**669**	**79,871**	**652**	**77,502**	**774**	**102,779**	**868**	**11**

Table 6: **Marine Fish landing by Species, Weight, Value and Counties 2011**

Species	Lamu		Tana River		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	338	22,047	27	1,576	162	22,384	108	18,858	157	17,657	791	82,522
Scarvenger	295	16,729	44	2,664	110	14,458	84	14,866	149	15,041	683	63,759
Snapper	86	5,923	31	1,887	140	21,111	18	2,712	71	6,810	346	38,443
Parrot fish	263	14,897	39	2,009	50	6,100	44	6,815	142	12,329	538	42,151
Surgeon fish	12	711	4	141	33	3,510	5	953	40	3,016	94	8,332
Unicorn fish	8	404	-	-	56	5,355	26	3,746	64	5,187	154	14,692
Grunter	64	4,184	2	142	21	2,019	43	5,917	30	2,657	160	14,919
Pouter	63	4,647	-	-	10	1,087	39	4,080	53	4,588	164	14,403
Black skin	74	4,909	-	-	18	1,747	3	627	79	6,863	174	14,146
Goat fish	46	3,001	3	183	4	459	30	4,583	32	3,235	115	11,460
Steaker	19	365	-	-	8	993	-	-	21	1,866	48	3,224
Rock cod	61	4,192	25	1,590	37	5,221	10	1,680	65	6,178	198	18,861
Cat fish	32	1,866	72	4,334	28	4,799	12	1,716	29	2,729	173	15,444
Mixed dermersals	383	26,509	35	1,814	196	21,992	24	3,187	139	12,710	778	66,211
TOTAL	**1,744**	**110,385**	**283**	**16,340**	**872**	**111,236**	**446**	**69,740**	**1,072**	**100,866**	**4,416**	**408,567**
PELAGICS					-	-						
Cavalla jacks	71	4,822	34	2,030	88	10,556	25	3,412	65	6,186	283	27,005
Mullets	95	6,330	4	250	46	6,023	23	2,462	60	7,743	228	22,807
Little mackerels	-	-	11	664	184	18,036	31	3,463	114	10,020	339	32,183
Barracudas	69	4,422	21	1,240	121	14,465	49	7,563	67	6,178	327	33,869
Milk fish	28	1,625	-	-	12	1,530	6	675	17	1,749	63	5,578
King fish	12	825	73	7,280	51	7,378	10	1,762	28	3,589	173	20,835
Queen fish	30	1,794	108	11,917	30	3,941	10	770	20	2,289	199	20,711
Sail fish	6	398	3	334	90	10,623	30	4,569	15	1,811	145	17,735
Tuna	10	690	33	2,295	131	17,213	19	2,838	109	10,866	302	33,902
Dolphin fish	-	-	-	-	10	930	-	-	8	881	18	1,810
Mixed Pelagics	36	2,471	29	1,723	165	19,667	9	948	127	11,523	365	36,332
TOTAL	**356**	**23,377**	**316**	**27,732**	**928**	**110,362**	**212**	**28,462**	**631**	**62,835**	**2,444**	**252,767**
Sharks & Rays	29	3,070	105	7,662	54	7,119	75	10,456	43	3,294	306	31,602
Sardines	-	-	-	-	59	4,996	73	6,611	79	3,631	211	15,238
mixed fish/Others	21	2,156	-	-	239	16,593	54	6,058	53	3,883	367	28,690

TOTAL	**50**	**5,226**	**105**	**7,662**	**351**	**28,708**	**202**	**23,125**	**176**	**10,809**	**884**	**75,530**
CRUSTACEANS					-	-						
Lobsters	45	49,183	4	4,169	12	10,558	7	3,233	24	13,755	93	80,899
Prawns	14	2,616	46	3,323	33	8,940	156	34,866	26	4,974	275	54,719
Crabs	103	27,777	1	72	24	3,308	23	2,520	56	7,245	206	40,922
TOTAL	**162**	**79,576**	**51**	**7,563**	**70**	**22,806**	**187**	**40,619**	**105**	**25,974**	**574**	**176,539**
MISCELLANEOUS					-	-						
Oysters	1	41	-	-	18	1,542	12	320	-	-	30	1,903
Beche-de-mers	17	26,387	-	-	8	1,661	0	12	21	2,772	46	30,832
Octopus	50	2,821	35	2,098	64	6,323	37	4,961	232	23,889	419	40,093
Squids	17	2,973	-	-	19	3,297	20	2,611	77	8,718	134	17,600
TOTAL	**85**	**32,222**	**35**	**2,098**	**109**	**12,823**	**70**	**7,904**	**330**	**35,379**	**629**	**90,427**
TOTAL MARINE	**2,396**	**250,786**	**789**	**61,396**	**2,331**	**285,935**	**1,116**	**169,850**	**2,314**	**235,863**	**8,947**	**1,003,830**

Table 7: **Lake Victoria Fish landings by Species, Weight and Value 2009 - 2011**

	2009			2010			2011		
Species	**M. tons**	**000 Kshs**	**% Comp**	**M. tons**	**000 Kshs**	**% Comp**	**M. tons**	**000 Kshs**	**% Comp**
Clarias	1,112	66,720	1.02	2,535	148,711	1.96	2,537	148,710	1.90
Rastrineobola	49,326	2,219,624	45.28	70,000	3,138,434	54.07	72,314	3,224,846	54.05
Haplochromis	821	51,598	0.75	527	21,272	0.41	527	21,272	0.39
Lates niloticus	42,622	6,659,361	39.13	45,990	9,002,495	35.52	46,612	9,100,611	34.84
Proptopterus	636	38,131	0.58	1,167	101,117	0.90	1,166	101,118	0.87
T. niloticus	13,850	1,731,377	12.71	6,958	942,191	5.37	8,240	1,112,239	6.16
Others	301	18,059	0.28	2,290	136,007	1.77	2,405	138,374	1.80
TOTAL	**108,668**	**10,784,870**	**100**	**129,467**	**13,490,227**	**100**	**133,801**	**13,847,170**	**100**

Table 8**: Lake Victoria Monthly Fish landings by Species, Weight (M. tons) and Value ('000 Kshs) 2011**

Species		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	D
L. niloticus	Weight	962	1,052	6,392	7,273	7,087	6,854	4,052	2,671	3,866	3,718	1,435	1,2
	Value	186,322	204,122	1,249,141	1,421,331	1,385,469	1,339,471	791,309	521,149	755,049	727,826	278,839	240,5
R. argentea	Weight	1,597	1,777	9,895	10,990	10,962	10,626	6,396	4,250	6,072	5,736	2,109	1,9
	Value	68,679	80,897	444,832	492,734	482,699	472,475	285,281	189,308	270,977	257,887	94,528	84,5
O. niloticus	Weight	220	274	1,080	1,233	1,261	1,194	713	506	659	672	245	1
	Value	28,577	35,210	144,431	164,788	171,396	162,224	97,128	68,941	89,676	91,416	33,251	25,2
Clarias	Weight	51	56	350	398	388	375	221	145	210	203	76	
	Value	2,974	3,272	20,522	23,348	22,753	22,009	12,938	8,476	12,343	11,897	4,461	3,7
Protopterus	Weight	23	26	161	183	179	173	102	67	97	93	35	
	Value	2,022	2,225	13,954	15,875	15,471	14,965	8,797	5,764	8,393	8,089	3,034	2,5
Haplochromis	Weight	11	12	73	83	81	78	46	30	44	42	16	
	Value	425	468	2,936	3,340	3,255	3,148	1,851	1,213	1,766	1,702	638	5
Synodontis	Weight	17	19	120	137	133	129	76	50	72	70	26	
	Value	951	1,046	6,561	7,464	7,274	7,036	4,136	2,710	3,946	3,803	1,426	1,1
Others	Weight	32	34	208	236	237	224	132	87	128	120	55	
	Value	1,899	2,006	12,217	13,898	14,255	13,160	7,752	5,098	7,495	7,097	3,605	2,3
TOTAL	Weight	**2,913**	**3,250**	**18,279**	**20,533**	**20,328**	**19,654**	**11,738**	**7,806**	**11,148**	**10,655**	**3,996**	**3,5**
TOTAL	Value	**291,848**	**329,246**	**1,894,594**	**2,142,778**	**2,102,571**	**2,034,487**	**1,209,193**	**802,658**	**1,149,644**	**1,109,718**	**419,783**	**360,6**

Table 9: **Annual fish landings from Lake Victoria by Counties 2011**

	Busia		Bondo		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	622	98,115	11,111	1,999,928	1,081	173,415	30,515	6,114,465	3,283	714,688	**46,612**	**9,100,611**
R.argentea	2,313	86,412	10,368	497,647	1,797	127,200	51,411	2,251,598	6,425	261,989	**72,314**	**3,224,846**
O. niloticus	1,283	170,049	4,311	560,492	1,152	156,699	1,152	161,969	342	63,030	**8,240**	**1,112,239**
Clarias	-	-	44	2,623	927	57,723	1,566	88,364	-	-	**2,537**	**148,710**
Protopterus	-	-	2	112	418	34,455	614	37,167	132	29,384	**1,166**	**101,118**
Haplochromis	-	-	-	-	12	613	515	20,659	-	-	**527**	**21,272**
Synodontis	-	-	-	-	223	10,963	649	36,577	-	-	**872**	**47,540**
Others	28	2,366	861	51,671	420	20,396	166	8,758	57	7,643	**1,532**	**90,834**
Total	**4,247**	**356,942**	**26,697**	**3,112,473**	**6,030**	**581,464**	**86,588**	**8,719,557**	**10,239**	**1,076,734**	**133,801**	**13,847,170**

Table 10: **Lake Turkana Fish landings by Species, Weight and Value 2011**

Species	Western side		Eastern side		Total	
	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs
L. niloticus	493	41,017	11	2,135	504	43,152
Tilapias	1,536	116,438	31	3,003	1,567	119,441
Labeo	496	33,697	62	5,008	558	38,705
Barbus	79	5,177			79	5,177
Citharinus	104	8,820			104	8,820
Distichodus	287	21,592			287	21,592
Clarias	53	3,036			53	3,036
Hydrocy forskalii	95	6,138			95	6,138
Synodontis	122	7,424			122	7,424
Alestes	286	17,092			286	17,092
Bagrus	91	5,341			91	5,341
TOTAL	**3,642**	**265,772**	**104**	**10,146**	**3,746**	**275,919**

Table 11: **Lake Turkana Monthly Fish landings by Weight and Value 2011**

	Western side		**Eastern side**		**Total**	
MONTH	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
January	394	23,420	12	1187	406	24,607
February	366	21,103	14	1366	380	22,469
March	438	26,606	9	919	447	27,525
April	221.4	16,541	5	566	226.4	17,107
May	300	24,092	6	637	306	24,729
June	249	18,619	7	703	256	19,322
July	189	13,170	7	531	196	13,701
August	243	24,146	16	1561	259	25,707
September	345	27,161	15	1410	360	28,571
October	272	21,310	3	285	275	21,595
November	261	20,685	3	287	264	20,972
December	364	28,920	7	694	371	29,614
TOTAL	**3,642**	**265,772**	**104**	**10,146**	**3,746**	**275,919**

Table 12: **Lake Baringo Monthly landings by Species, Weight and Value 2011**

MONTH	Tilapia		Protopterus		Clarias		Barbus		Total	
	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs	Kgs	Kshs
Jan	272	27,200	5,347	534,700	808	32,320	32	1,280	6,459	595,500
Feb	222	22,200	4,641	464,050	616	24,620	13	520	5,491	511,390
Mar	711	71,100	5,852	585,200	541	21,640	12	480	7,116	678,420
Apr	213	21,300	5,605	560,500	883	35,300	30	1,180	6,730	618,280
May	1,006	100,600	5,726	572,600	456	18,220	72	2,880	7,260	694,300
Jun	909	90,900	5,315	531,500	451	18,040	77	3,060	6,752	643,500
Jul	1,083	108,300	5,166	516,550	404	16,160	58	2,320	6,711	643,330
Aug	1,326	132,600	6,638	663,800	930	37,200	67	2,660	8,961	836,260
Sep	2,055	205,500	6,204	620,400	795	31,780	75	2,980	9,128	860,660
Oct	2,442	244,200	5,897	589,700	975	39,000	44	1,760	9,358	874,660
Nov	3,257	325,700	7,177	717,650	1,273	50,920	113	4,520	11,820	1,098,790
Dec	3,351	335,100	9,941	994,100	2,025	80,890	91	3,640	15,408	1,413,730
TOTAL	**16,847**	**1,684,700**	**73,508**	**7,350,750**	**10,155**	**406,090**	**682**	**27,280**	**101,191**	**9,468,820**

	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	**17**	**1,685**	**74**	**7,351**	**10**	**406**	**1**	**27**	**102**	**9,469**

Table 13: **Lake Naivasha Monthly landings by Species, Weight and Value 2011**

	Black Bass		O. leucosticus		Common carps		Mirror carps		Total	
Month	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**
Jan	-	-	14	330	29,514	2,264,646	1,584	99,923	31,112	2,364,899
Feb	-	-	2	135	32,060	2,258,608	1,317	90,355	33,379	2,349,148
Mar	-	-	-	-	35,401	2,288,728	1,985	91,715	37,387	2,380,483
Apr	1	50	1	40	29,368	2,180,547	1,469	94,110	30,838	2,274,747
May	7	940	1	360	29,637	2,132,101	1,529	88,205	31,175	2,221,746
Jun	**CLOSED SEASON**									
Jul										
Aug										
Sep	74	9,840	-	-	53,028	5,110,282	2,315	56,992	55,418	5,177,139
Oct	36	6,930	-	-	29,367	2,557,340	1,224	83,570	30,628	2,647,890
Nov	37	6,750	-	-	21,903	1,900,140	968	64,711	22,908	1,971,601
Dec	5	2,350	1	50	14,604	1,770,307	626	68,918	15,236	1,841,625
TOTAL	**159**	**26,860**	**18**	**915**	**274,882**	**22,462,699**	**13,017**	**738,499**	**288,079**	**23,229,278**
	M. tons	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
TOTAL	**-**	**27**	**-**	**1**	**275**	**22,463**	**13**	**738**	**288**	**23,229**

Table 14: **Lake Jipe Monthly Fish landings by Species, Weight and Value 2011**

	Tiilapia		Clarias		Total	
Month	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Jan	8	484	1	62	9	546
Feb	8	608	1	65	9	673
Mar	7	732	1	69	8	801
Apr	8	763	1	63	9	826
May	7	723	1	57	8	780
Jun	7	683	1	53	8	736
Jul	7	666	1	46	8	712
Aug	7	690	1	41	8	731
Sep	8	755	0	34	8	789
Oct	8	777	0			810
Nov	9	874	1	94	10	968
Dec	9	899	1	102	10	1,001
TOTAL	**93**	**8,654**	**11**	**719**	**104**	**9,373**

Table 15: **Tana River dams Monthly fish landings by Species, Weight and Value 2011**

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	20	1,136	24	1,890	12	1,030	0	5	0	1	57	4,061
Feb	21	1,214	20	1,523	12	1,015	0	4	0	1	53	3,756
Mar	30	1,756	22	1,698	12	1,027	0	4	0	0	63	4,485
Apr	32	1,851	26	2,072	16	1,469	0	5	0	1	73	5,398
May	32	1,955	27	2,287	17	1,488	0	6	0	2	77	5,738
Jun	33	1,936	26	2,138	14	1,196	0	4	0	1	73	5,274
Jul	39	2,396	24	1,929	14	1,137	0	5	0	1	76	5,468
Aug	26	1,659	17	1,335	9	806	0	5	0	1	53	3,806
Sep	26	1,828	11	820	13	1,117	0	7	0	1	50	3,772
Oct	25	1,615	10	684	13	1,162	0	4	0	0	48	3,466
Nov	26	1,700	12	892	15	1,361	0	6	0	1	53	3,960
Dec	28	2,101	13	1,040	15	1,451	0	5	0	1	57	4,598
Total	336	21,147	232	18,307	163	14,257	1	**60**	0	10	732	53,781

Table 16: **Lake Kenyatta Monthly fish landings by Species, Weight and Value 2011**

	Tilapia		Clarias		Protopterus		Total	
Month	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**
January	10	186	3	131	3	107	16	424
February	8	152	11	377	5	210	23	740
March	5	84	10	435	5	200	19	718
April	5	88	10	435	6	270	20	792
May	12	413	6	272	10	431	27	1,115
June	10	147	3	130	-	7	13	284
July	10	197	3	130	-	1	13	328
August	12	504	4	156	-	9	16	670
September	6	259	4	170	8	204	18	633
October	12	499	4	169	15	390	30	1,058
November	16	612	4	170	8	187	27	969
December	3	108	6	86	2	76	10	270
Total	**108**	**3,249**	**65**	**2,660**	**60**	**2,091**	**233**	**8,000**

Table 17: **Lake Kanyaboli Monthly fish landings by Species, Weight and Value 2011**

	Tiilapia		Protopterus		Clarias		Haplochromis		Total	
MONTH	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Jan	9	598	1	81	1	112	2	116	**13**	**907**
Feb	9	610	1	107	2	196	0	20	**13**	**933**
Mar	6	396	3	253	1	110	1	40	**11**	**799**
Apr	10	673	2	132	1	72	1	58	**13**	**935**
May	8	570	3	225	5	377	1	56	**17**	**1,228**
Jun	7	519	2	168	4	316	1	51	**14**	**1,055**
Jul	7	520	2	175	3	278	1	59	**14**	**1,031**
Aug	8	581	2	132	3	263	1	38	**14**	**1,015**
Sep	8	549	3	224	2	192	1	83	**14**	**1,048**
Oct	12	833	3	265	4	346	2	128	**22**	**1,572**
Nov	6	402	6	477	2	172	1	57	**15**	**1,107**
Dec	5	372	5	362	4	282	1	32	**14**	**1,048**
Total	**95**	**6,622**	**33**	**2,601**	**34**	**2,715**	**12**	**738**	**173**	**12,676**

Table 18: **Tana River delta freshwater fish landings by Species, Weight and Value 2011**

	Tilapia		Clarias		Protopterus		Total	
Month	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**	**M.tons**	**000Kshs**
January	1	64	2	142	1	46	4	252
February	1	55	2	132	1	62	4	250
March	1	57	2	121	1	67	4	245
April	1	68	3	165	1	69	4	302
May	1	73	2	167	1	71	5	309
June	1	62	2	147	1	68	4	277
July	1	59	2	152	1	60	4	271
August	1	75	3	156	1	59	5	290
September	1	79	3	201	2	117	6	396
October	2	96	3	184	1	51	5	331
November	1	48	2	147	2	125	5	320
December	1	85	1	88	1	64	4	237
Total	**13**	**821**	**28**	**1,801**	**11**	**859**	**53**	**3,480**

Table 19: **Exports of Fish and Fishery Products 2011**

Commodity	**M. Tons**	**000Kshs**
Nile perch Fillets	8,297	3,193,148
Fish maws	45	42,664
Lobsters	23	24,686
Live Lobsters	22	14,697
Octopus	903	283,159
Cuttle fish	2	343
Sword fish	9	974
Squids	1	138
Dried salted fish	80	4,811
Bech-der-mer	11	4,079
Sharks	55	6,367
Shark fins	5	866
Marine shells	113	4,177
Crabs	23	4,136
Dried whole Haplochromis	23	7,144
TOTAL	**9,612**	**3,591,389**
Tuna loins	9,821	607,263
Grand total	**19,433**	**4,198,652**

Table 20**: Imports of Fish and Fishery Products 2011**

Product	Quantity (Kgs/Pieces)	Value ('000Kshs)
Salmon	57	11,073
Tilapia niloticus	131	45,344
Tuna	107	2,978
Ornamental fish	1	1,048
Sardines	529	15,706
Frozen Mackerels	1,605	58,673
Frozen Pangasius fillets	36	3,504
Frozen Kahawai	114	3,484
Sharks	81	3,220
Others	3	835
TOTAL	**2,664**	**145,865**
Trout Ova	**100,000 Pieces**	**170,100**