REPUBLIC OF KENYA

MINISTRY OF AGRICULTURE, LIVESTOCK AND FISHERIES

STATE DEPARTMENT OF FISHERIES

FISHERIES ANNUAL STATISTICAL BULLETIN 2012

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1.0 NATIONAL FISH PRODUCTION

The State Department of Fisheries in Kenya 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 State Department of Fisheries 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 (BMU) collects daily primary 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 monthly statistical report including all the landing sites to Regional and the Technical head office of the State Department Fisheries. The data from all the regions are then included in this Annual Statistical Bulletin which is released for each calendar year.

1.2 Fisheries data indicators

There are different data indicators ranging from artisanal fisheries, frame surveys, catch assessment surveys to aquaculture (fish farming).

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 State Department of Fisheries has structured methods of collecting data at various frequencies. On a daily basis the field data collectors in the inland and marine capture fisheries collect data on the following parameters:

- Daily landed catches per species for all the landing sites;
- Gear types and their numbers involved in fishing;
- Fishing craft types and their numbers involved in fishing ;
- 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
- Service providers, especially fisheries staff and Beach Management Units (BMUs) at the fish landing sites
- Facilities available at the fish landing sites to service the sector, including accessibility.
- Number of fishers
- Number and types of fishing crafts and their mode of propulsion
- Transport crafts and their purposes
- Derelict crafts
- Number, types and sizes of fishing gears used and their mode of operation

1.2.3 Catch Assessment Surveys

The department is also involved in Catch Assessment Surveys (CAS) conducted quarterly for Lake Victoria over the last seven 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 fishing craft types;
- Catch Per Unit Effort (CPUE) by gear types;
- Catch composition by species;
- Catch composition by districts/counties;
- Total catch composition by fishing 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 per area of jurisdiction 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 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 site;
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. An example of this is the "Amouko" in Lake Victoria. This is a gear composed of many pieces vertically and horizontally integrated to make it more effective in catching many fish;
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 that some of the most important fisheries in the country are Tranboundary, 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 by Kenya National Bureau of Statistics.

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. Capacity building in 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 and purse seiners 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 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. During the year under review, only purse seiners owned by these DWFN operated since the owners of the Long liners did not apply for licenses. The artisanal fishery accounts for almost all the inland and marine water catches reported in this bulletin and consequently it is currently the most important fishery in the country, even though our EEZ which is predominately for commercial fishing is under exploited with an estimated potential of between 150,000 to 300,000 metric tonnes (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 62,043 people directly as fishermen and 67,423 fish farmers with 68,734 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 (2012) under review, fish production from Inland, Aquaculture and Marine artisanal fisheries amounted to 154,015 metric tonnes with an ex-vessel and farm gate value of Kshs. 18,073,859,000. This was a decrease of 8.2% in quantity and 7.2% in ex-vessel and farm gate value compared with 2011 figures of 167,763 metric tonnes with an ex-vessel value of Kshs. 19,470,579,000. The decrease in quantity can mainly be attributed to decrease in production of fish from Lake Victoria which during the same period decreased by 11.1%. Further, this decrease in production from Lake Victoria was attributed to the decrease in *Rastrienobola argentea* (Omena) production which decreased by 26.8% during the same period. But generally fish production has been on the increased since 2007 fetching higher and higher ex-vessel value year after year figure 1.

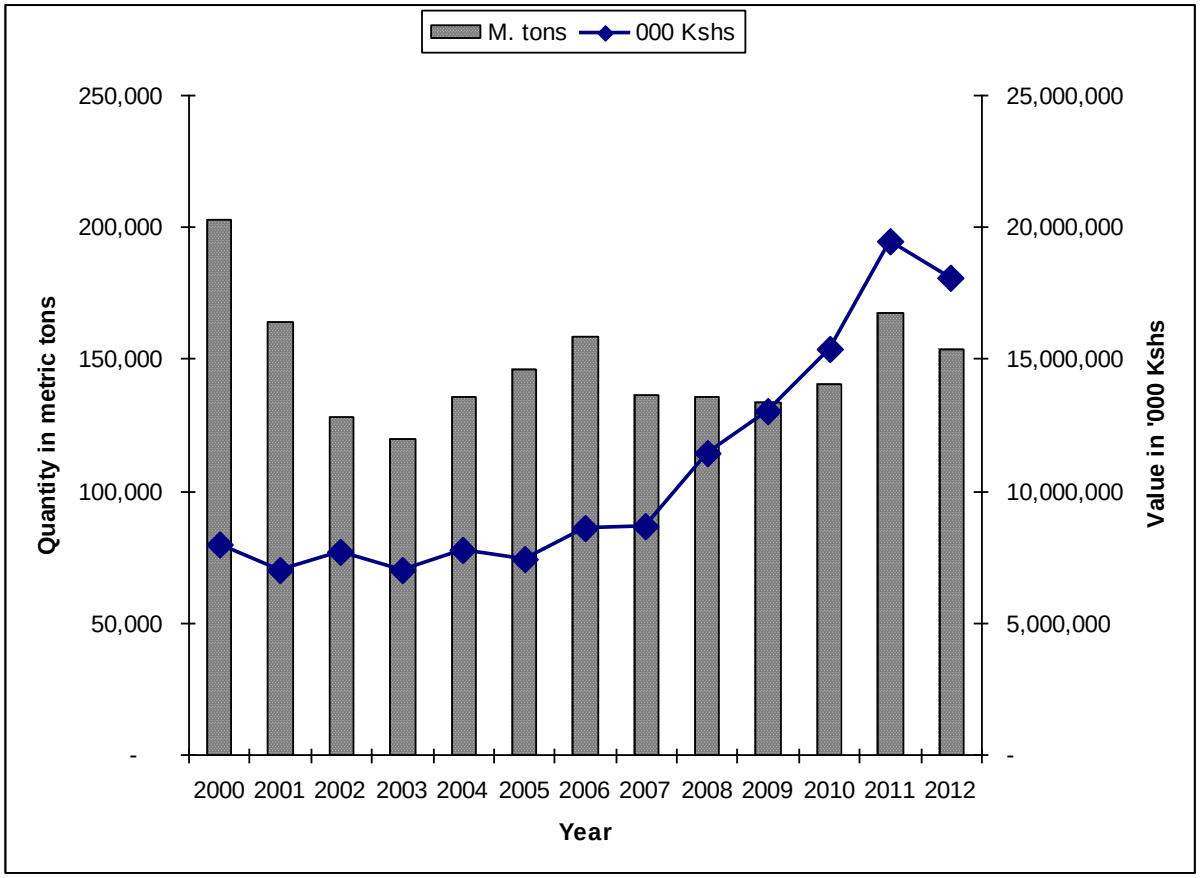

Figure 1: Fish production by quantity and value 2000-2012

Inland capture fisheries contributed 80% of Kenya's total fish production, with the principal fishery being that of Lake Victoria. The lake accounted for 118,992 metric tonnes or 77% of the country's total annual fish production in 2012. Lake Turkana, Kenya's largest freshwater body (7,400 km^2) produced 3,001 metric tonnes of fish during the year under review. 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 8,865 metric tonnes equivalent of 6% of the national production while aquaculture production amounted to 21,487 metric tonnes contributing 14% of the total production, figure 2. Aquaculture earned fish farmers Kshs. 4,633,634,405 during the year under review.

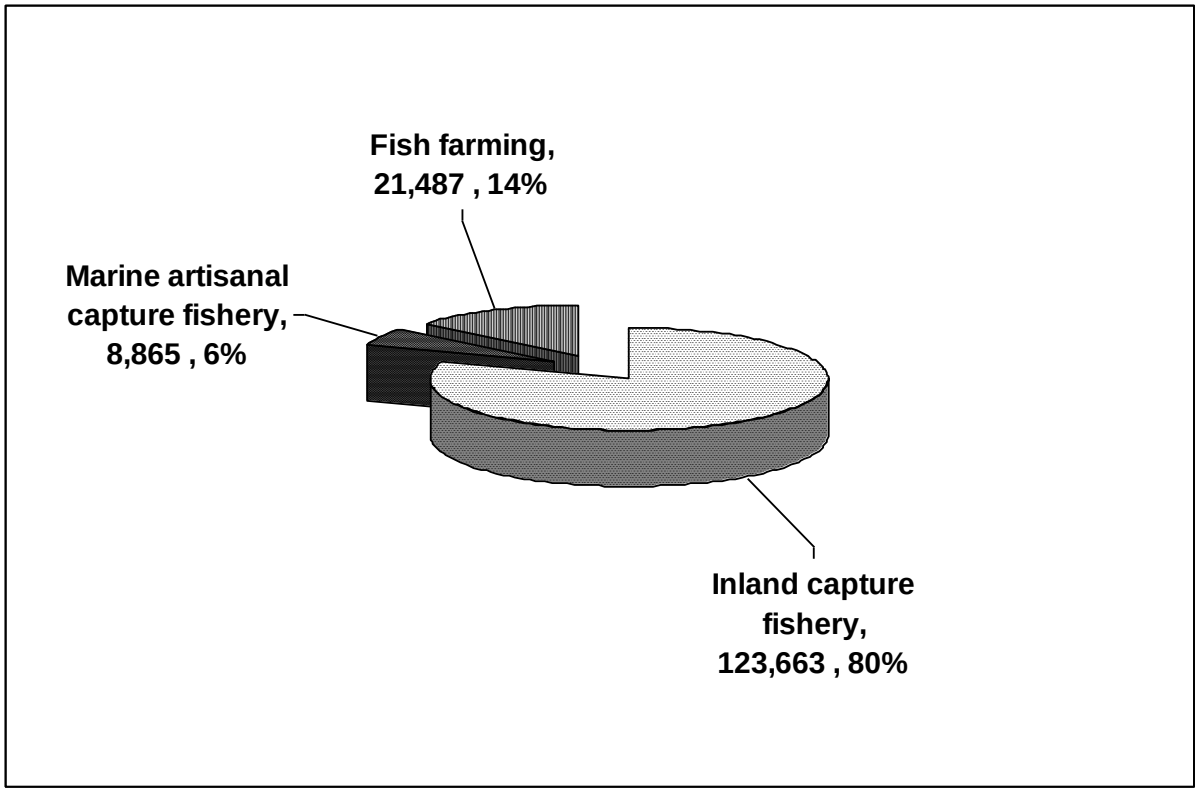

Figure 2: National fish production by Fishery Category 2012

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, Headless and gutted whole Nile perch, Nile perch fish maws, Marine shells, Lobsters, Shark fins and Bech-der-mer (Sea Cucumber). Fish and fishery products imported into the country included the following products among others: frozen Mackerels, Sardines, *Tilapia niloticus*, Prawns, Salmon, Lizard fish, Barracuda and fish meals among others.

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 86% down from 88% the previous year. Lake Victoria accounted for 89.79% of all the fish from capture fisheries in Kenya during the year under review. Lake Turkana contributed 2.26%, Tana river dams 0.73%, Lake Baringo 0.19%, Lake Naivasha 0.11%, Lake Kanyamboli 0.09%, Lake Jipe 0.08% and Lake Kenyatta 0.02% while marine artisanal fisheries contributed 6.69% 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, ring nets, 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 (77% in 2012) 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 (40,078), 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 93.7% of total catches from the lake (Kenyan side) during the year under review. This has been the case for a number of years, figure 3. However, for the last few years there have seen a rapid decline of fish stocks in Lake Victoria thereby creating a wide gap between supply and demand for fish in the country. In response to this undesirable situation, the government has taken concrete steps to promote aquaculture development in the country. It introduced and implemented the Fish Farming Enterprise Productivity Program (FFEPP) to bridge the existing supply-demand gap.

During the year 2012, fish production from Lake Victoria decreased to 118,992 metric tones with an ex-vessel value of Kshs 11,775,377,000 compared to 133,801 metric tones with an ex-vessel value of Kshs 13,847,170,000 landed in 2011 and 111,868 metric tones with an ex-vessel value of Kshs 11,543,125,000 for the year 2010. This year's figures translates into an decrease of 11.07% in quantity and 14.96% in ex-vessel value of compared to the previous year. For the three species of commercial value, *Lates niloticus'* production increased by 12.6% while *Rastrienobola argentea* and *Oreochromis niloticus* decreased by 26.8% and 26.2% respectively compared to the previous year. In terms of species contribution to the total weight of fish landed from the lake, *Rastrienobola argentea* took the lead with 44.5%, *Lates niloticus*, 44.1%, *Oreochromis niloticus*, 5.1%, *Clarias spp*, 2.0%, *Protopterus aethiopicus*, 0.8%, *Haplochromis*, 0.6% and the others species combined contributed 2.8%, figure 4. Homa bay County contributed 64.47% of the total landings, Siaya 21.50%, Migori 6.11%, Kisumu 4.11% and Busia 3.82%, figure 5.

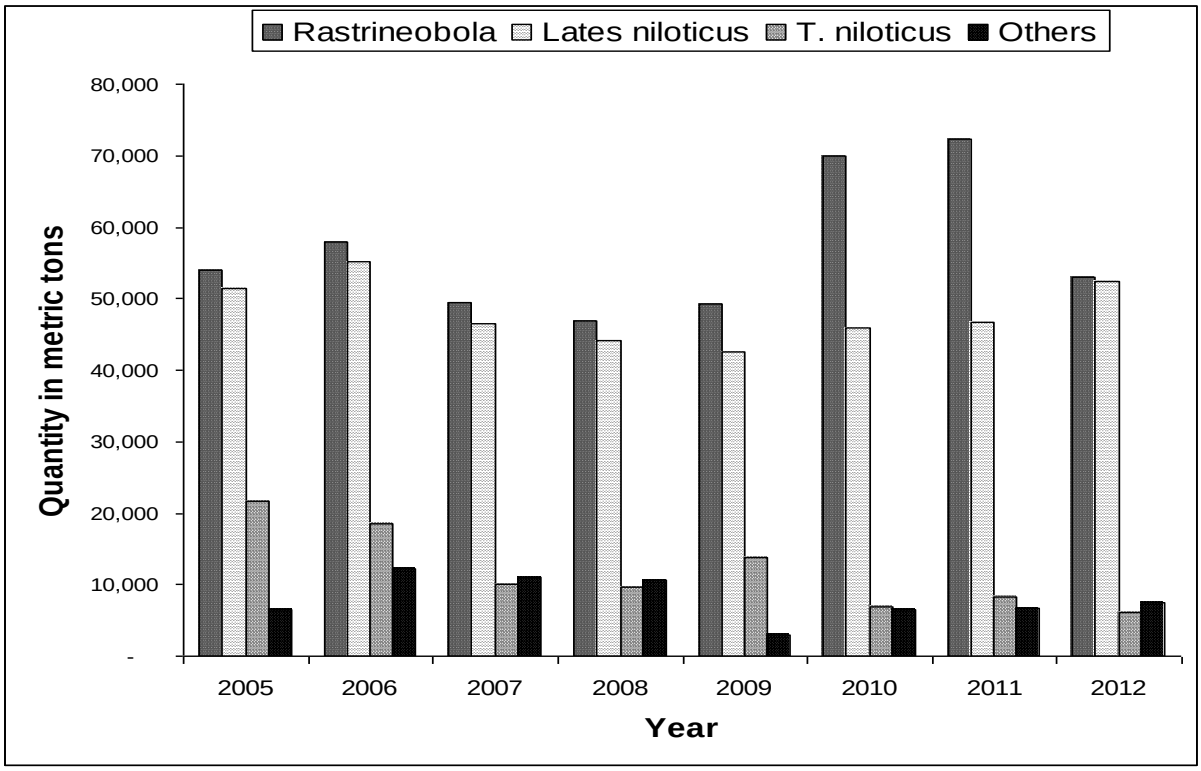

Figure 3: ***Lake Victoria species catch composition 2005-2012***

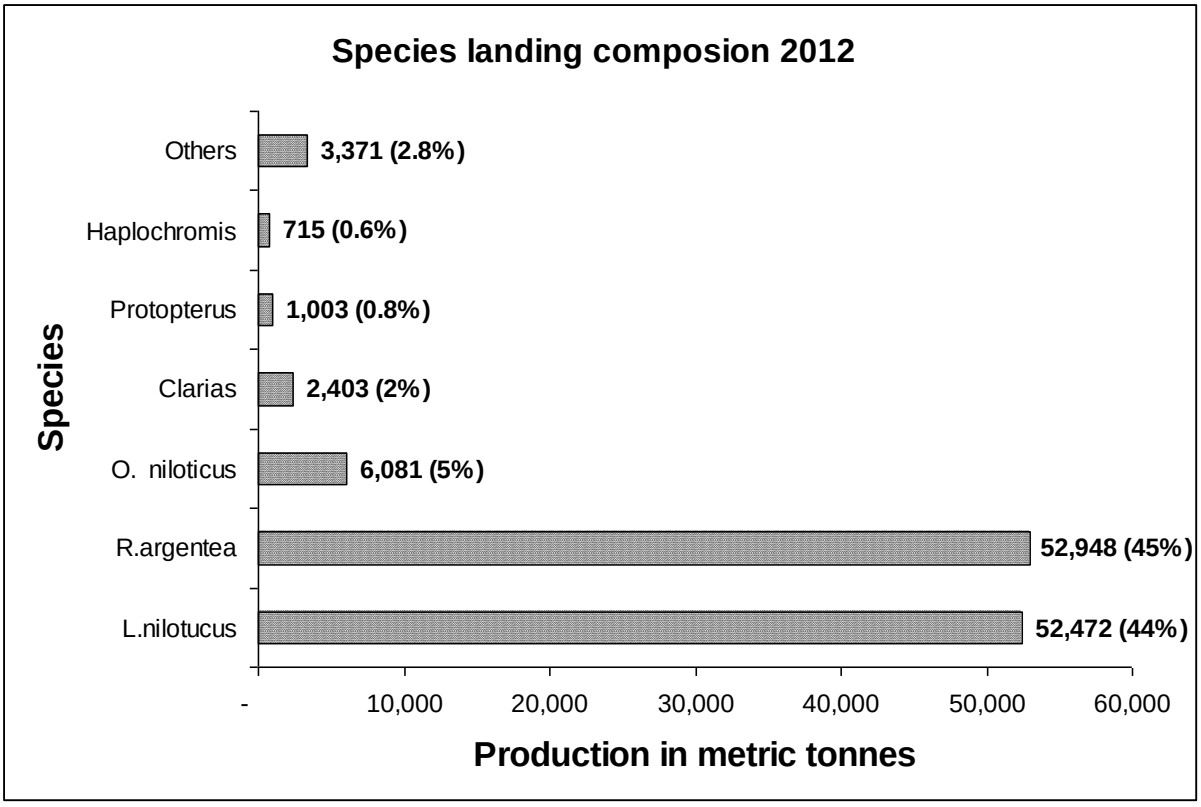

Figure 4: Lake Victoria species catch composition 2012

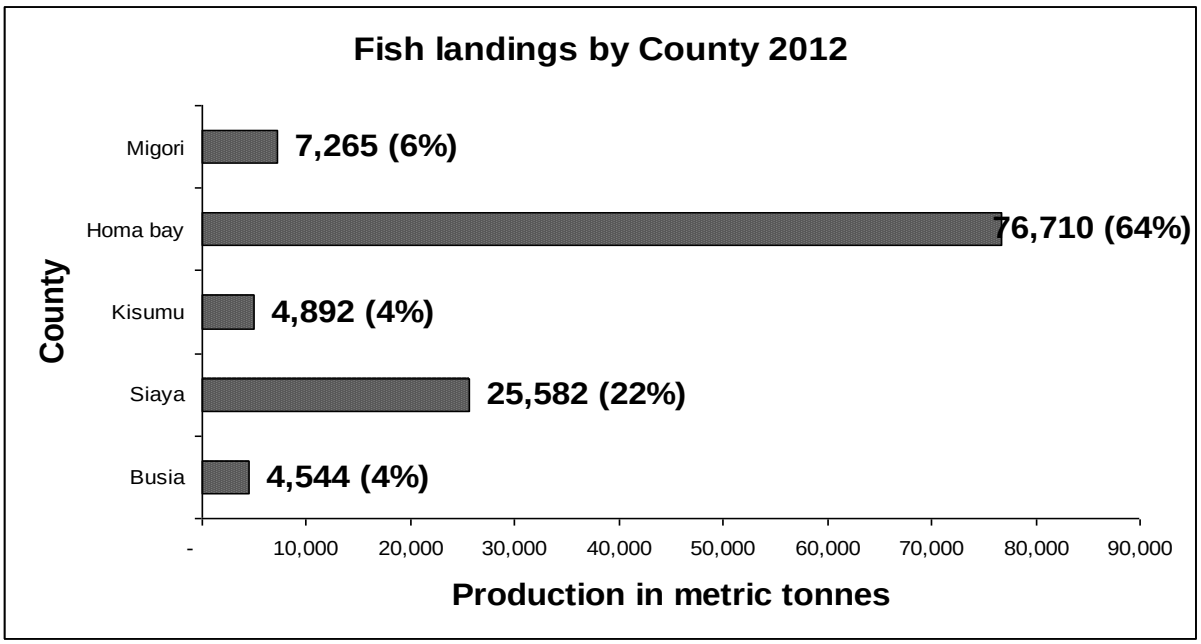

Figure 5: Lake Victoria fish landings by Counties 2012

The bulk of the fish landings from lake Victoria was landed in the district (old districts) of Suba 71,818 metric tonnes (60.4%) followed by Bondo 25,582 metric tonnes (21.5%), Migori 7,263 metric tonnes (6.1%), Busia 4,544 metric tonnes (3.8%), Rachuonyo 3,311 metric tonnes (2.8%), Kisumu 2,740 metric tonnes (2.3%), Nyando 2,151 (1.8%) and lastly Homa bay 1,581 metric tonnes (1.3%), figure 6.

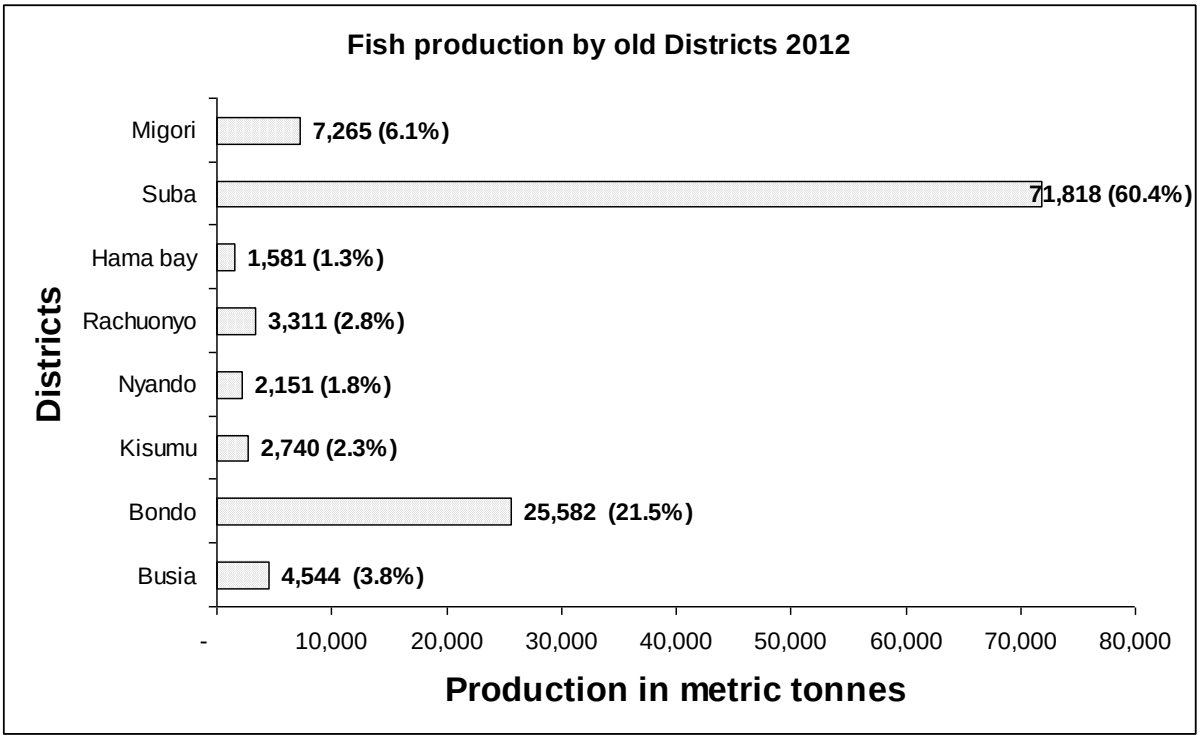

Figure 6: Lake Victoria fish landings by (old) Districts 2012

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 and this explains how 60% of the total lakes' landings were done in Suba district.

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 40,078 (4.3%) in 2012. The number of fishing crafts increased from 11,515 in 2000 to 13,468 (17.0%) in 2012 on the Kenyan side of the lake while lake wide fishers increased from 129,305 to 205,249(58.7%) and fishing crafts from 42,519 to 69,549 (63.6%) during the same period. (*Lake Victoria (Kenya) biennial fisheries frame survey 2012 National report and Lake Victoria biennial fisheries frame survey 2012 Regional report).*

b). Increase in legal and illegal fishing gears:

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 154,012 (54.3%) in 2012 while the number of the illegal mesh sizes <5 inches increased from 33,544 to 54,115 (61.3%) during the same period. Generally, the total number of gillnets of all mesh sizes continued to increase over the years with an increase of 154.4% (from 133,365 to 206,127) between 2000 and 2012. The number of Long line hooks had the highest increase during the same period having increased from 1,039,893 to

2,478,976 an increase of 138.4%. 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 and then increasing tremendously by 728.4% to 12,161 monofilament gillnets in 2012. 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 State Department of Fisheries 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 the State Department of Fisheries 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 MARINE ARTISANAL 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. During the year under review, only two of the semi industrial vessels operated and caught a total of 22,310 kg of prawns and 55,135 kg of fin fishes that were consumed in the local market.

One of the dominant features of the Kenya's coastal oceanographic conditions that affect fishing activities by the artisanal fishers is the seasonal reversal process caused by changes in the monsoon wind system (UNEP, 1998) with NE Monsoons between November-March and SE monsoons between May-September. These oceanographic processes cause distinct seasonality in the fishery, with high catches during the northeast monsoon than the southeast monsoon. These two seasons are referred to as *Kazi kazi* and *Kusi* by the locals. During *Kazi kazi* the sea is calm and there is a lot of fishing activities and fish landings are normally high while during *Kusi* the winds render the sea rough thus unfavorable to fishing trips.

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 operational Monitoring, Control and Surveillance (MCS) system.

During the year under review, a total of 8,865 metric tonnes of assorted fish species with an ex-vessel value of Kshs. 1,207,098,000 were landed. This production reflected a small decrease of 0.92% from last year's production of 8,947 metric tonnes with an ex-vessel value of Kshs.1,003,830,000. The landings were done by 13,706 fishers using 3,947 fishing crafts with different types and sizes of fishing gears. The landings were done at some 160 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 over a number of years has remained fairly constant between 6,000 and 9,000 metric tonnes only showing marginal fluctuations as shown in figure 7 below.

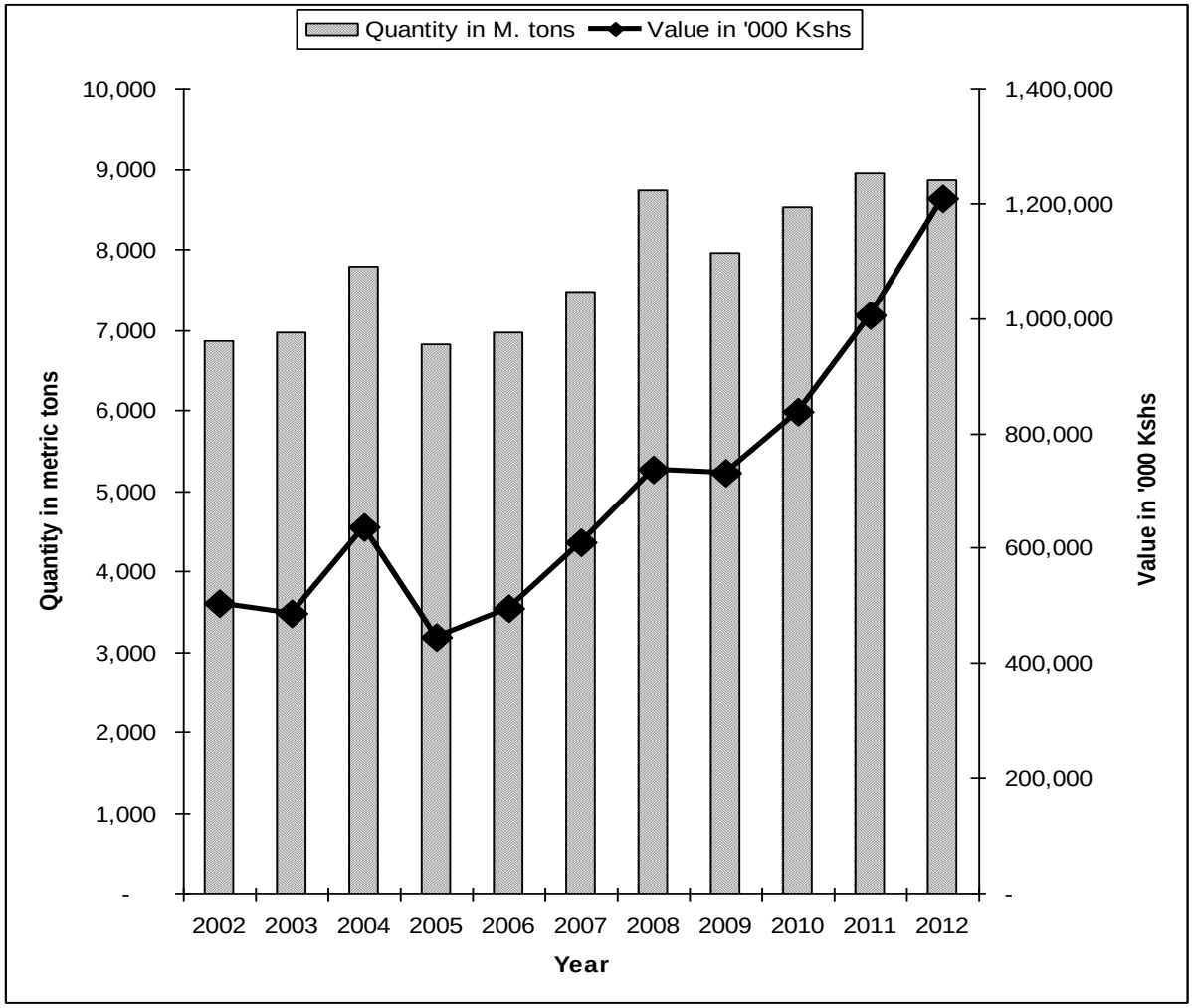

Figure 7: Trends of marine fish production by quantity and value 2002-2012

In 2012, dermersal fish species category dominated the marine artisanal fish landings by contributing 4,300 metric tonnes (48.5%) of the total marine landings while pelagic fish category contributed 2,297 metric tonnes (25.9%), the sharks, rays and sardines category made up 881 metric tonnes (9.9%) of the landings, crustaceans 739 metric tonnes (8.3%), molluscs 649 (7.3%). This trend has been the same over a number of years, figures 8 and 9.

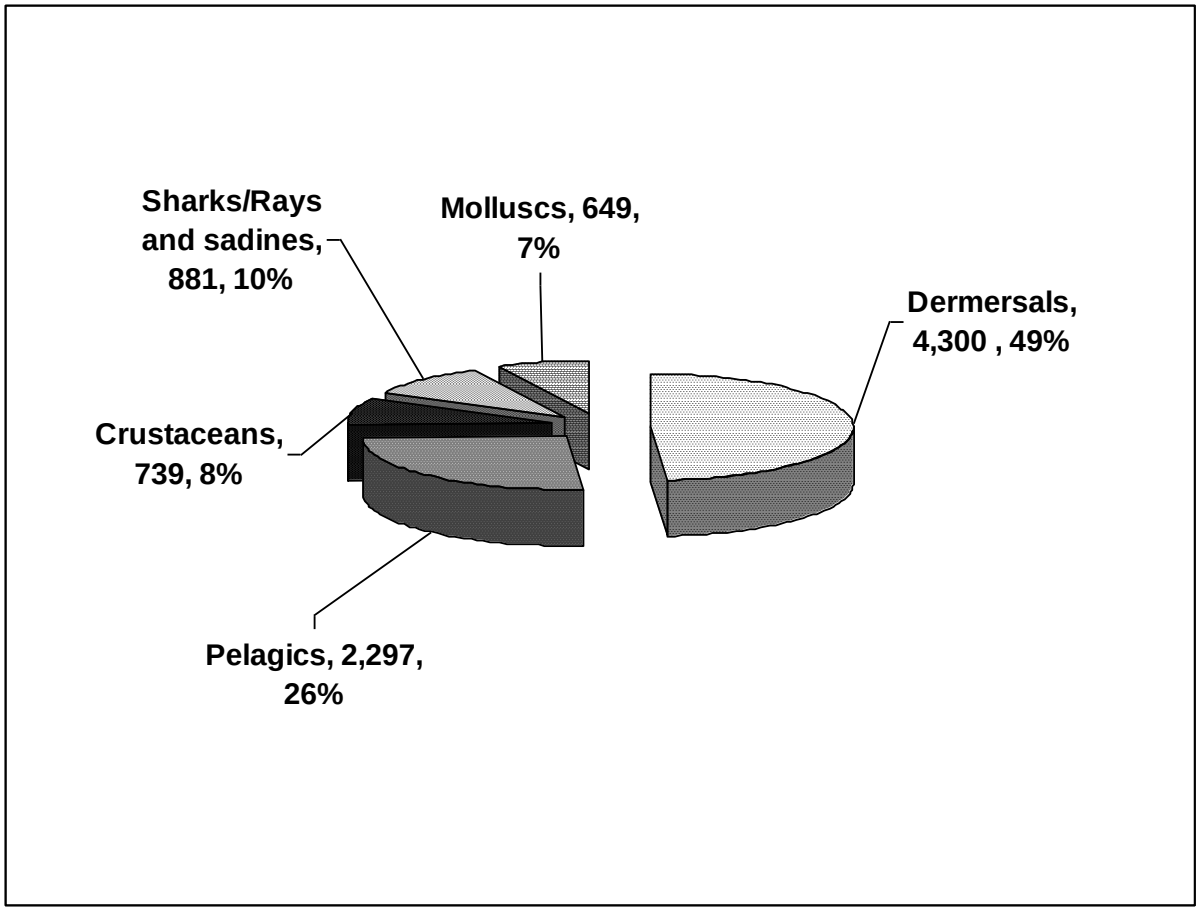

Figure 8: Percentage contribution of marine fish species groups 2012

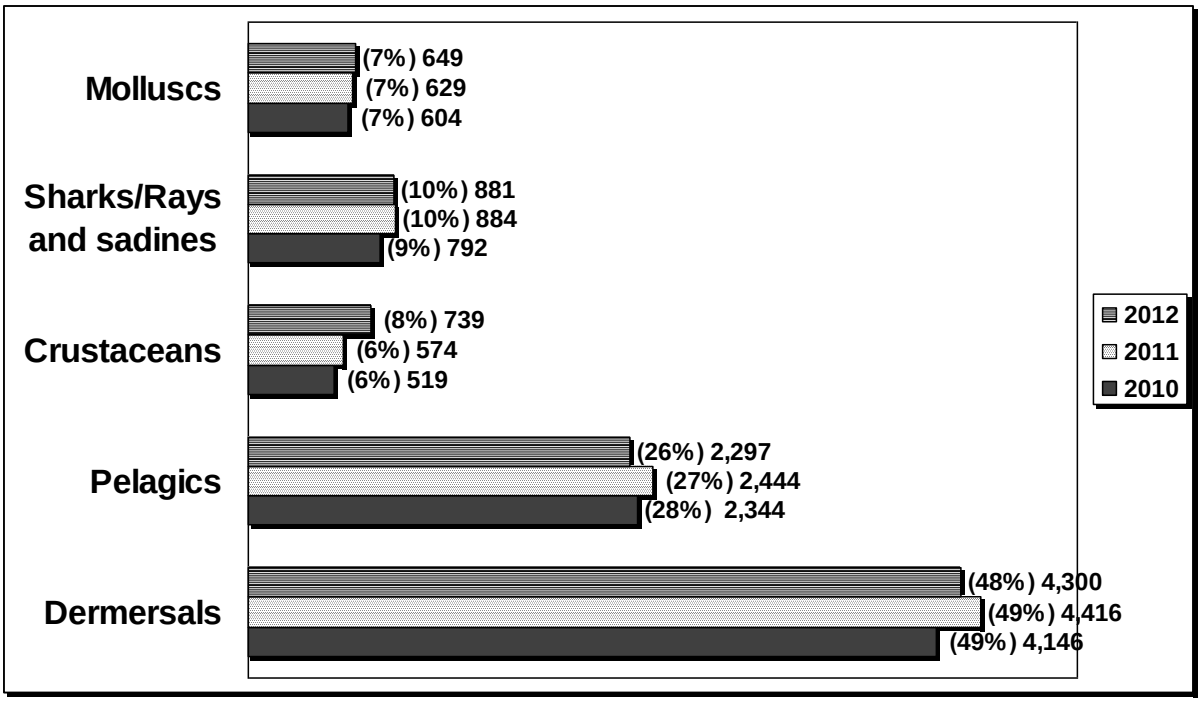

Figure 9: Trends of landings of marine fish species groups 2010-2012

During the year under review, Kilifi County contributed the highest quantity of marine artisanal landings of 2,403 metric tonnes (or 27.1% of the total landings) with an ex-vessel value of Kshs 428,280,000 (or 35.5% of the total ex-vessel value). Kilifi was followed by Kwale 2,373 metric tonnes (26.8%) with an ex-vessel value of Kshs 262,287,000 (or 21.7%), Lamu 2,279 metric tonnes (25.7%) with an ex-vessel value of Kshs 260,230,000 (21.6%), Mombasa 1,066 metric tonnes (12.0%) with an ex-vessel value of Kshs 189,104,000 (15.7%), and lastly was Tana river county with a contribution of 743 metric tonnes or 8.4% with an ex-vessel value of Kshs 67,196,000 or 5.6% of the total ex-vessel value of all the marine artisanal landings as shown in figure 10 below.

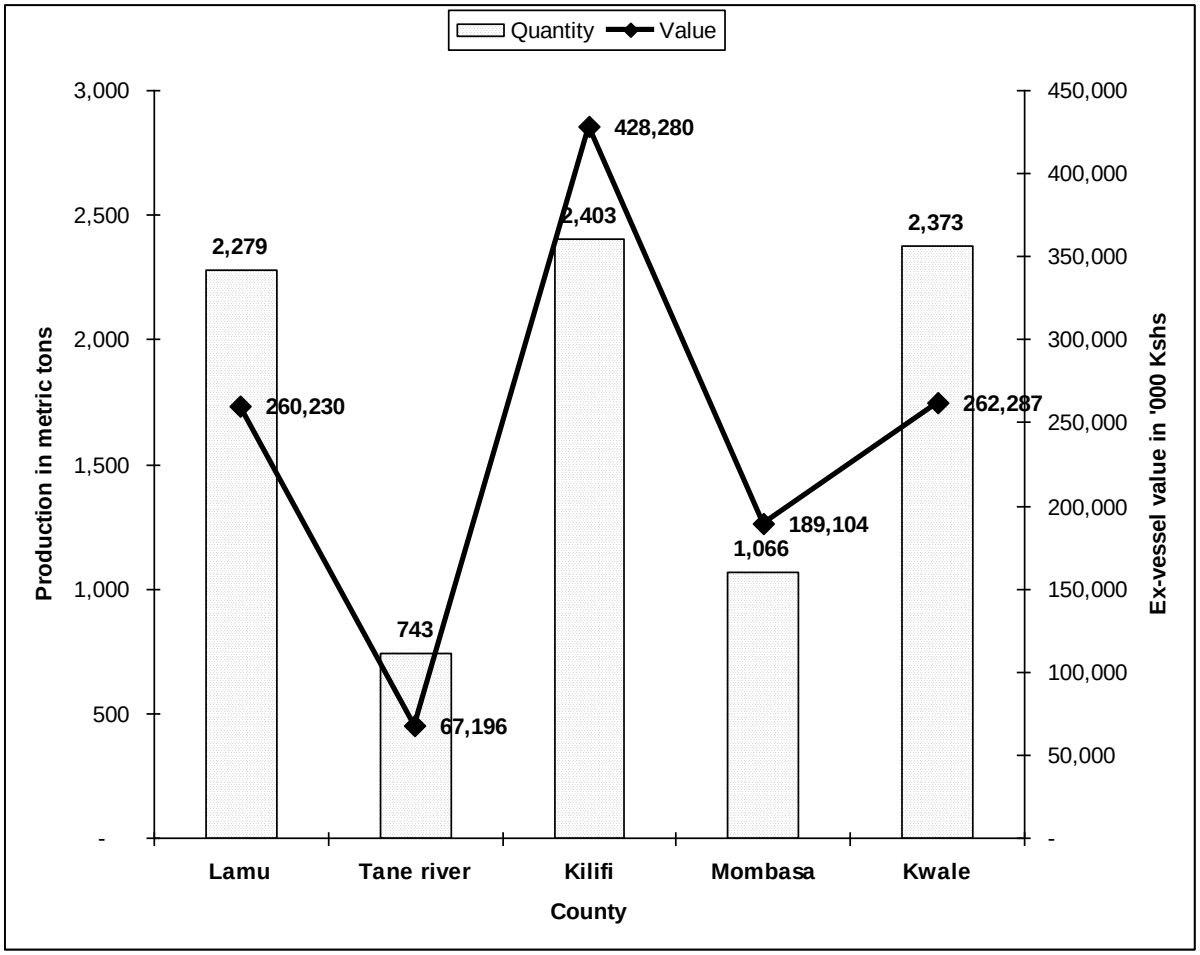

Figure 10: Marine fish production by Quantity, Value and Counties 2012

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 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 3,001 metric tonnes of fish were landed with an ex-vessel value of Kshs 307,381,000 from both sides (Turkana and Marsabit) of the lake. This years' production had a decline of 19.9% in quantity and an increase of 11.4% in ex-vessel value compared to 2011 production of 3,746 metric tones and an ex-vessel value of Kshs 275,919,000. 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. But there has been a continuous decline in the catches since 2009, figure 11.

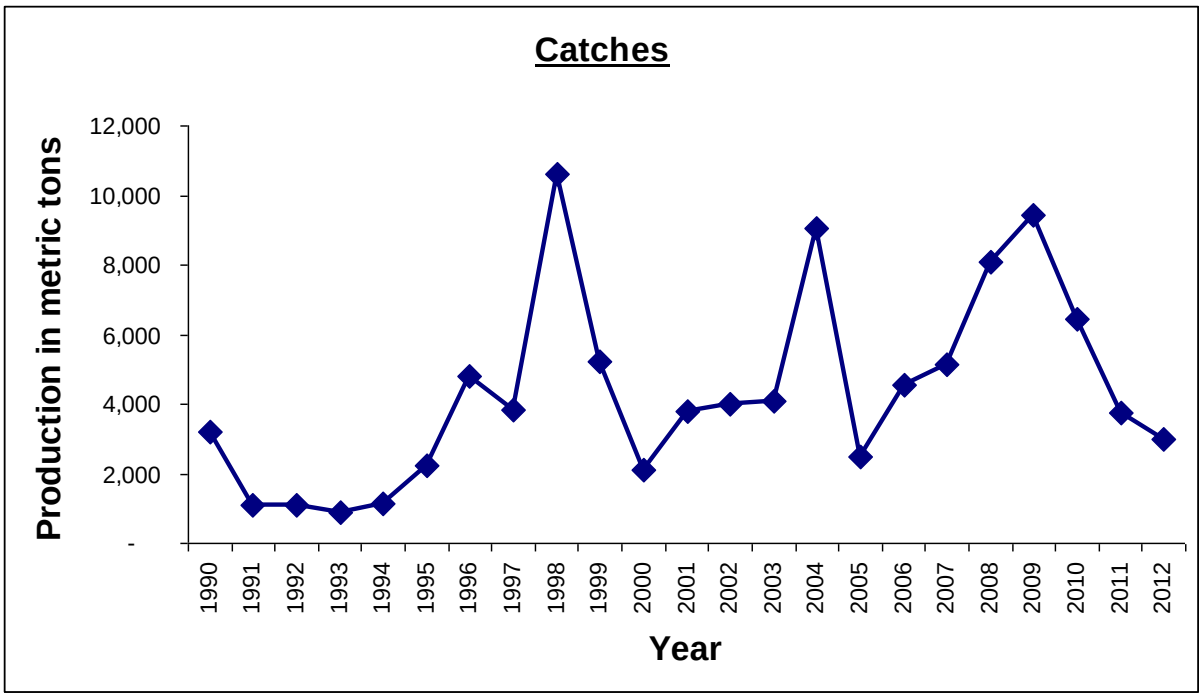

Figure 11: Trends in annual fish landings from Lake Turkana fishery 1990-2012

During the year under review, *Tilapia spp* dominated the landings by contributing 1,194 metric tones (or 39.8%) followed by *Lates niloticus* 551 metric tonnes (18.4%), *Labeo horie* 481 metric tonnes (16.0%), *Distichodus niloticus* 298 metric tonnes *(*9.9%) and *Alestes* 276 metric tonnes (9.2%). The five species combined contributed 93.3% and the other species combined contributed the remaining 6.7%, figure 12.

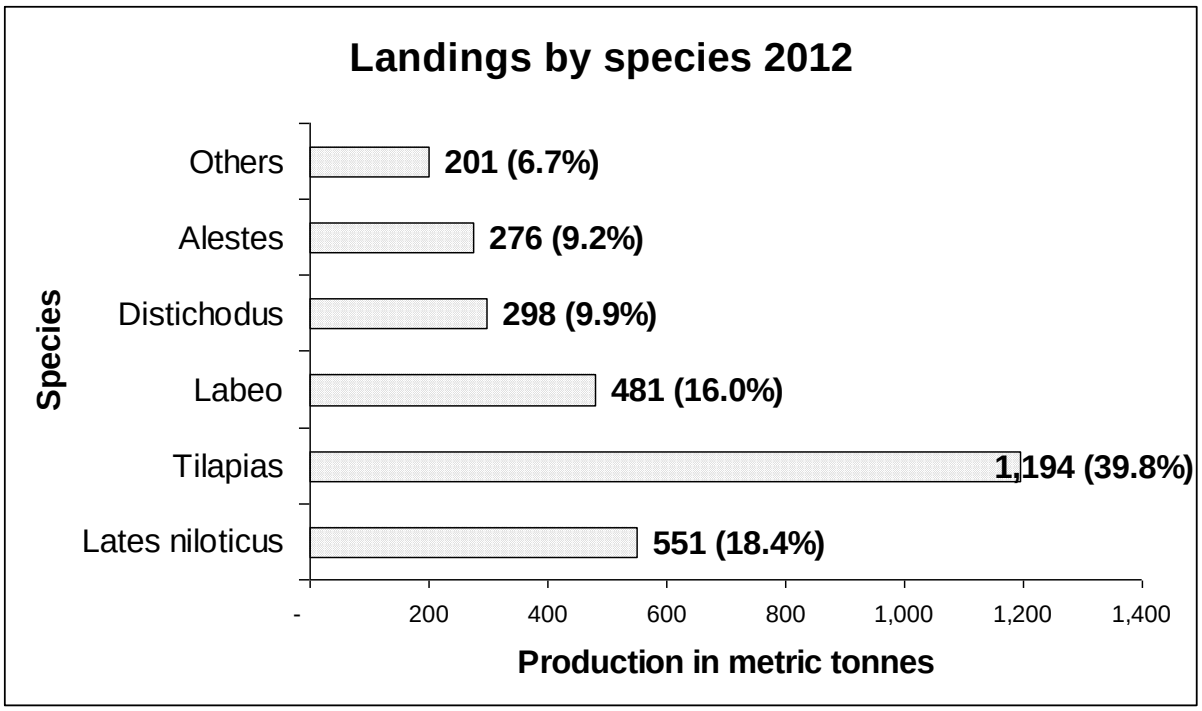

Figure 12: Species composition in catches of Lake Turkana Fishery 2012

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 their 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 19 persons from both sides of the lake as at December 2012, 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 be addressed include the following:

- Lack of appropriate fish handling and preservation facilities that usually lead to post harvest losses and poor quality of fish and fishery 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. The State Department of Fisheries should strengthen community participation in Fisheries resource management, utilization and conservation in the entire lake through:

- Capacity building of BMU officials and fishers from both sides of the lake;
- Train fishers on appropriate hygiene and sanitation, fish handling, processing and fish value addition.

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 crayfish (*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 from the lake. 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 eleven 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* on the breeding grounds/nests of the *tilapiines* in the fishery.

During the year under review, a total of 143 metric tonnes of fish with an ex-vessel value of Kshs. 15,459,939 were landed from Lake Naivasha. This was an decrease of 50.4% in quantity and 33.5% in value compared to 2011 landings of 288 metric tonnes valued at Kshs 23,229, 279 to the fishers. Common carp (*Cyprinus carpio*) continued to be the most dominant species accounting for 94.95% (136,088 Kg) of the total catch. The other species have been on the decline with *Mirror carp* accounting for 4.50% (6,449 Kg), *Tilapia zilli* 0.13% (191 Kg), Black bass (*Micropyerus salmoides*) 0.12% (179 Kg), *Oreochromis niloticus* 0.10% (145 Kg), lake 'Naivasha tilapia' (*Oreochromis leucostictus*) and *Clarias* accounting for 0.10% (139 Kg) each, figure 13

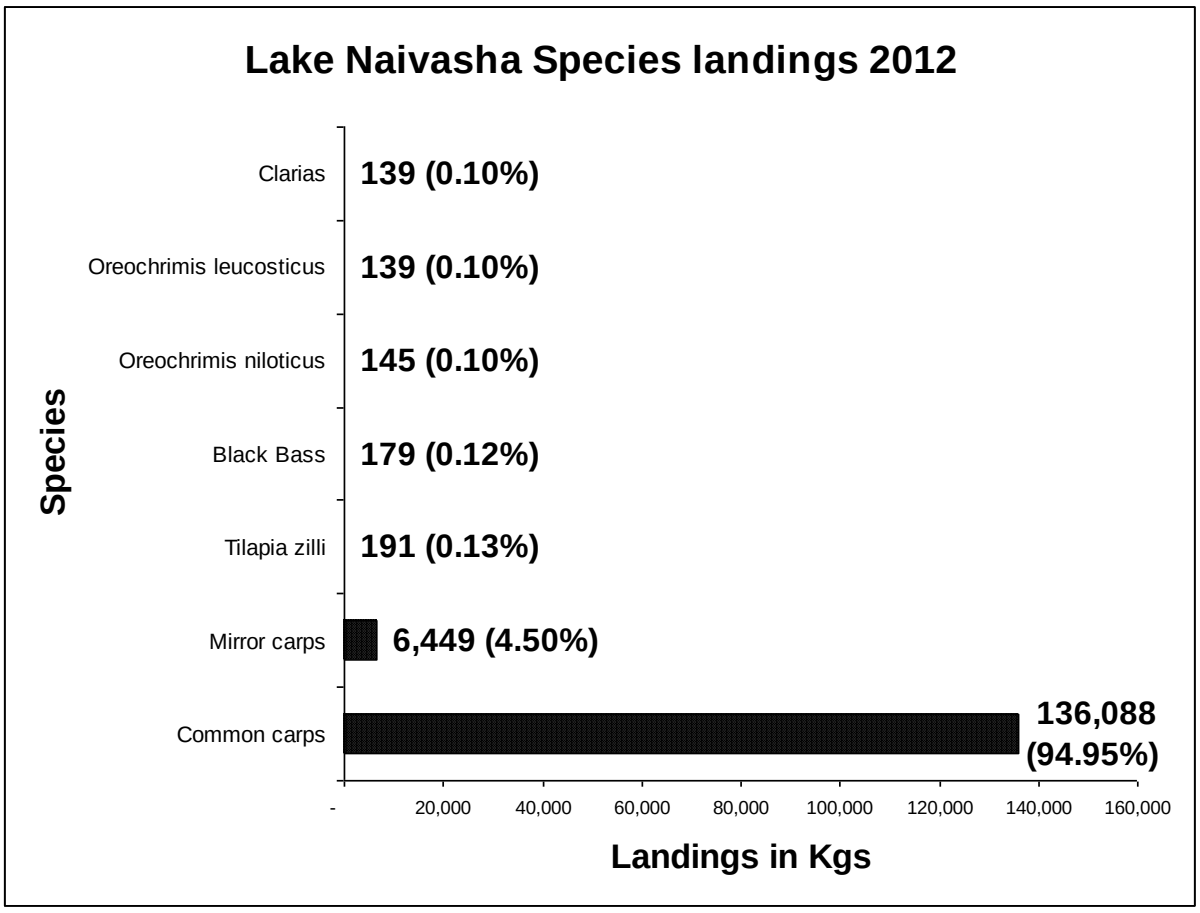

Figure 13: ***Lake Naivasha species percentage landings in Kgs 2012***

During the year under review, average monthly fish catches for the months fished i.e. January to May and September to December was 16 metric tonnes exact a half of last years' figure of 32 metric tonnes, figure 14.

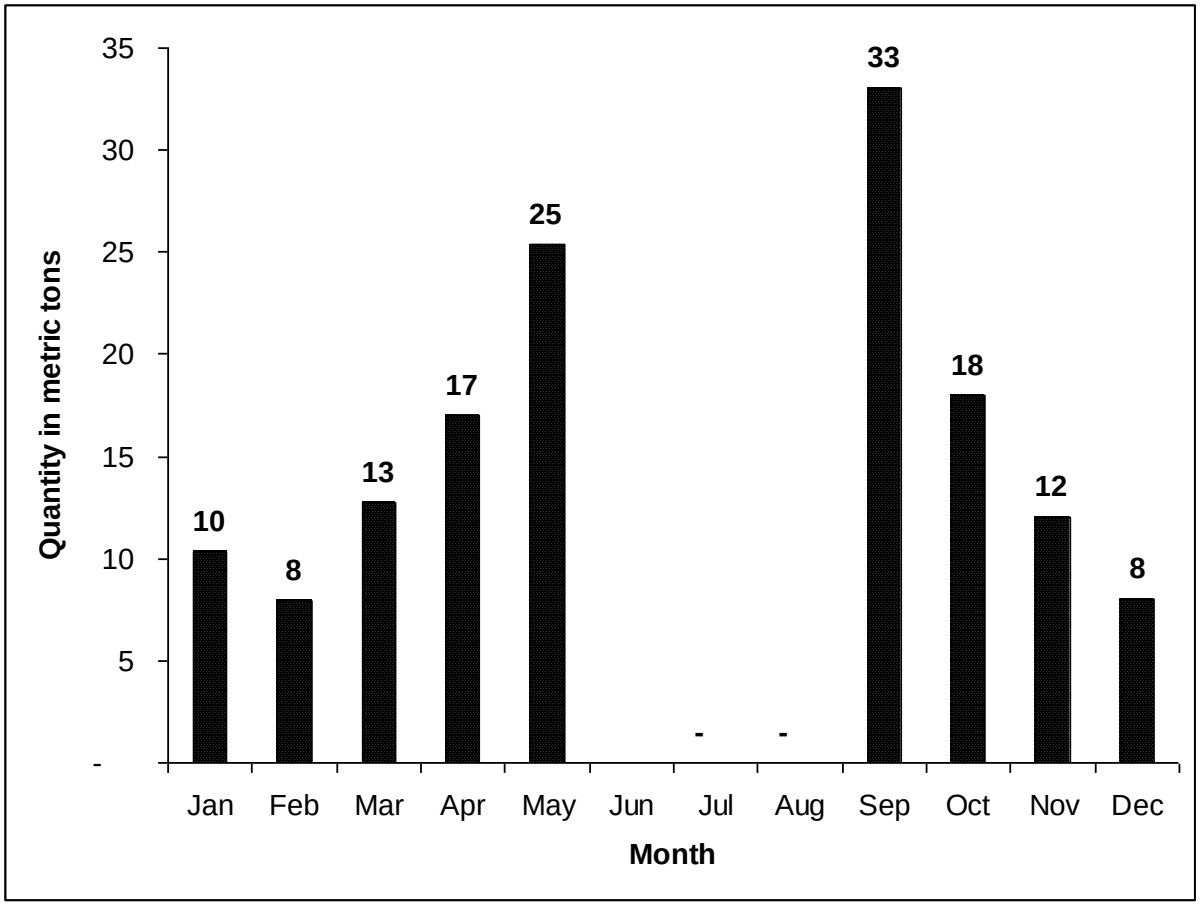

Figure 14: Lake Naivasha monthly catches in metric tonnes 2012

During the year 2012, 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 31st August during the year under review, as part of management measure to allow the fishery to recover.

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 lakes has rivers El Molo, Perkerra and Ol arabel as the main inlets but with no obvious outlet and the waters are assumed to seep through to the underground bedrock which is believed to be volcanic

The fishery of Lake Baringo is currently based on four species including *Oreochromis niloticus* (Tilapia), *Barbus gregorii*, *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 250,624 Kg of fish with an ex-vessel value of Kshs. 23,513,800 were landed. This was a big increase of 46.1% in quantity and 48.3% in ex-vessel value compared to last year's production of 101,191 Kg valued at Kshs. 9,468,820.

The species catch composition was dominated by *Protopterus aethiopicus* having contributed 65.5% (164 metric tonnes) followed by *Tilapia spp* (24.2%) (61 metric tonnes), *Clarias spp* (9.7%) (24 metric tonnes), and *Barbus spp* with 0.6% (2 metric tonnes), figure 15.

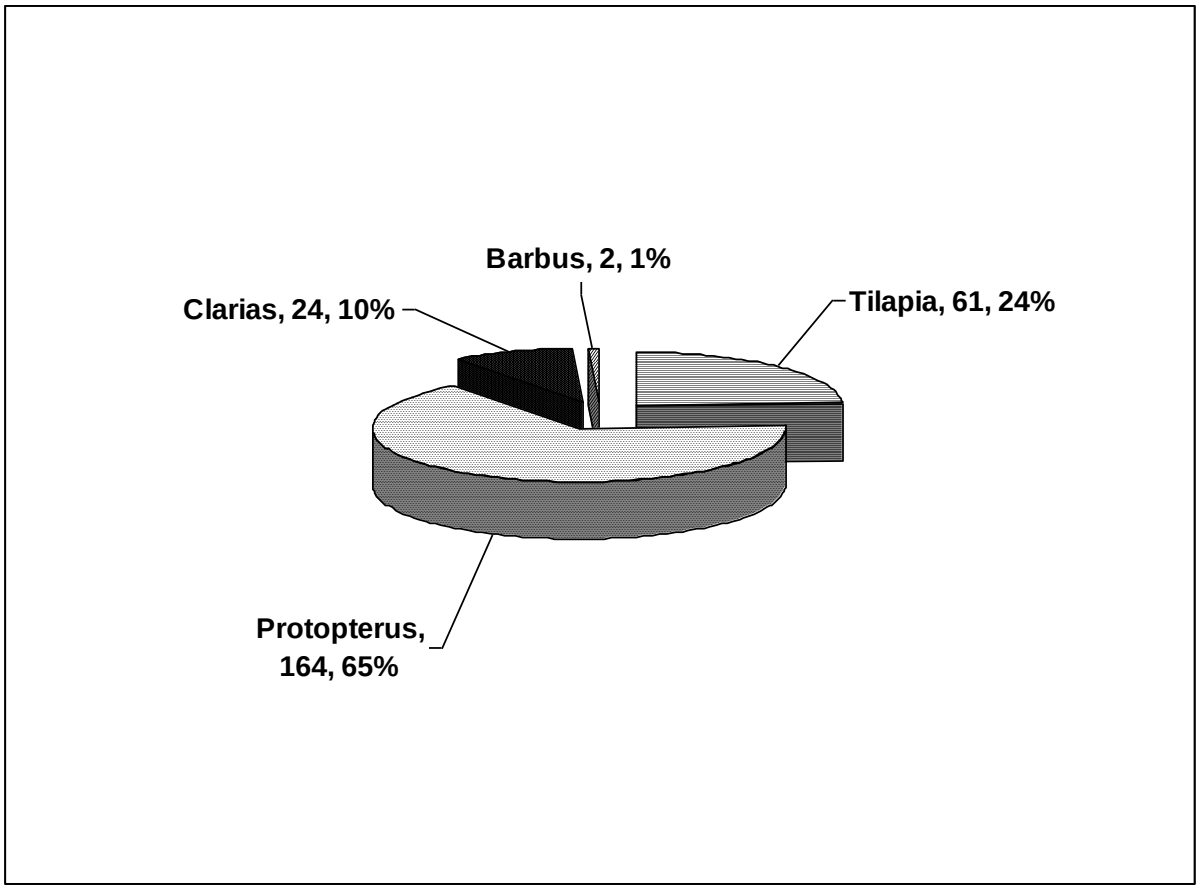

Figure 15: Percentages catch by species composition in Lake Baringo in 2012

2.6 LAKE JIPE FISHERY

During the year 2012, a total of 112 metric tonnes of both Tilapia and Clarias with an ex-vessel value of Kshs 16,715,000 were landed. This reflected an increase of 7.7% (or 8 metric ton) in quantity and 74.9% in ex-vessel value compared to previous year 2011 production of 104 metric tonnes valued at Kshs 9,554,000. The only two species (Tilapia and Clarias) caught in the lake showed a steady average production of 8 metric tonnes per month for Tilapia and 1 metric ton for Clarias. Tilapia contributed 88.4% (99 metric tonnes) and Clarias 11.6% (13 metric tonnes), figure 16.

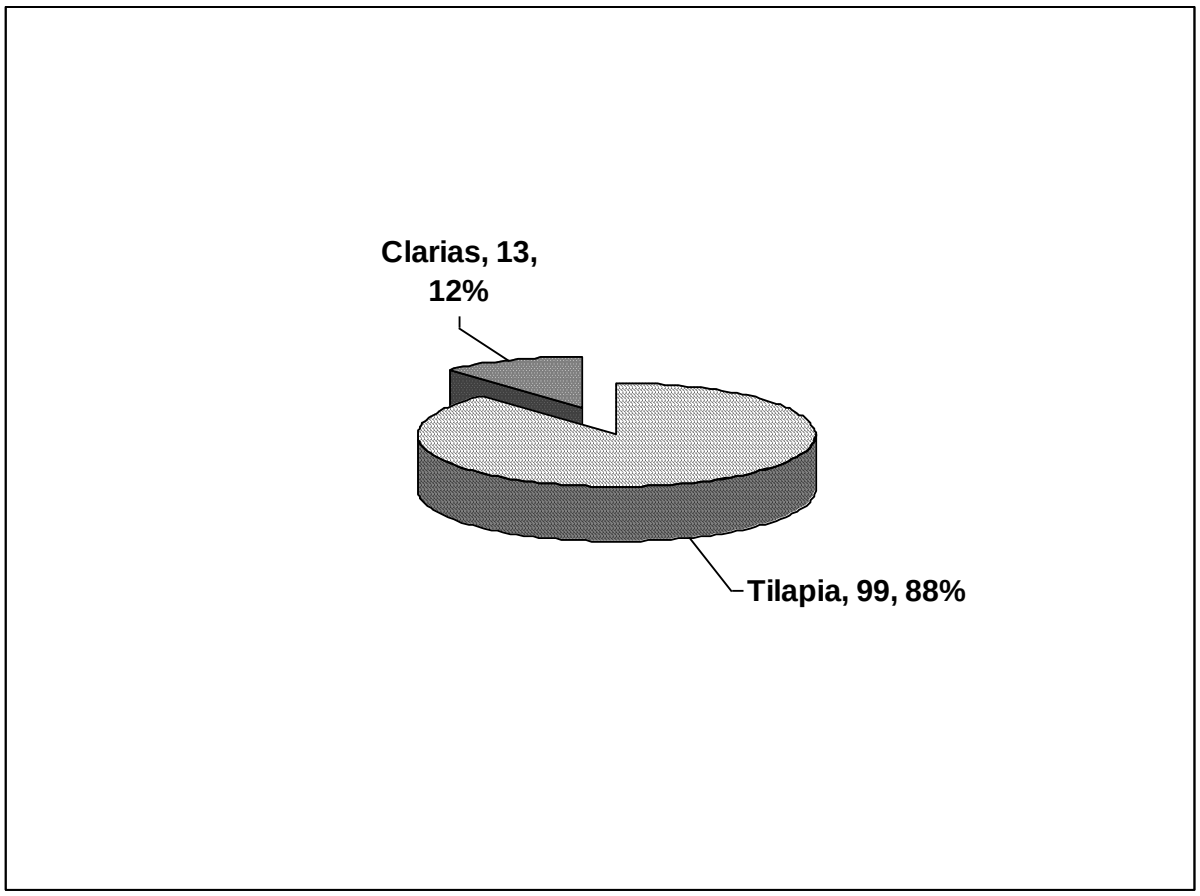

Figure 16: ***Percentages composition of species catch in Lake Jipe 2012***

The fishing activities of the lake were undertaken by an average of 66 fishers using 43 fishing crafts. The fishers fished with an average of 37 gillnets, 1,700 long line hooks and 40 local traps (Migono). The average length of time the nets were left in water was 7 hours per day with an average of 2 fishers per fishing craft. The average haulage was 22kg of fish per trip. The 1,700 long line hooks were operated by two fishers and were left in water for an average of 12 hours per day and were registering an average of 5kg of fish per trip. The 40 local

traps were operated by 8 fishers and were being left in the water for an average of 24 hours a day. The average haulage of the traps was 5kg per day. The average fishing days during the year under review was 264 days.

The challenges which faced capture fisheries in Lake Jipe during the year under review included;

- Floating vegetation continued to stand out as the biggest problem faced by the fishers. The vegetation abstracts fishing crafts motion besides serving as hiding ground for the fish hence impacting substantially on the low production;
- Encroachment by illegal fishers from neighboring Tanzanian Republic. This is complicated by lack of clear demarcation lines and harmonized conservation management policy between the two states but it is worthy to note that there is laid initiative in conservation collaboration efforts between the two states through concerned administrative authorities;
- Siltation – there is observable high rate of silt deposition in the lake's bed which is caused by among others sand harvesting activities on the banks of River Lumi and increased agricultural activities along the river course. The siltation has contributed to creation of a shallow inlet point in the lake which eventually brings about diversion of the river course off the lake and the water ends up in Nyumba ya Mungu resercoir in Mwanga district of Tanzania. The knock on effect accruing from this is and not limited to proliferation of water weeds, increased salinity and receding of the lake shoreline.

2.7 TANA RIVER DAMS FISHERY

A total of 967 metric tonnes of fish with an ex-vessel value of Kshs 81,609,469 were landed from the main fishery water bodies of the Tana River dams of Masinga, Kamburu, and Kiambere. This production reflected an increase of 32.1% in quantity and 51.7% in ex-vessel value compared to 2011 figures of 732 metric tonnes valued at Kshs 53,781,415.

The most important species in the catches were *Tilapia spp*, *Cyprinus carpio* (Common carp) and *Clarias gariepinus*. Landings of *Tilapia spp* were the highest at 463 metric tonnes (or 47.8%) followed by *Cyprinus carpio* 295 metric tonnes (30.5%), *Clarias gariepinus* 207 metric tonnes (21.5%) and the *Eels* with only 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 on the water level in the dams, figure 17,

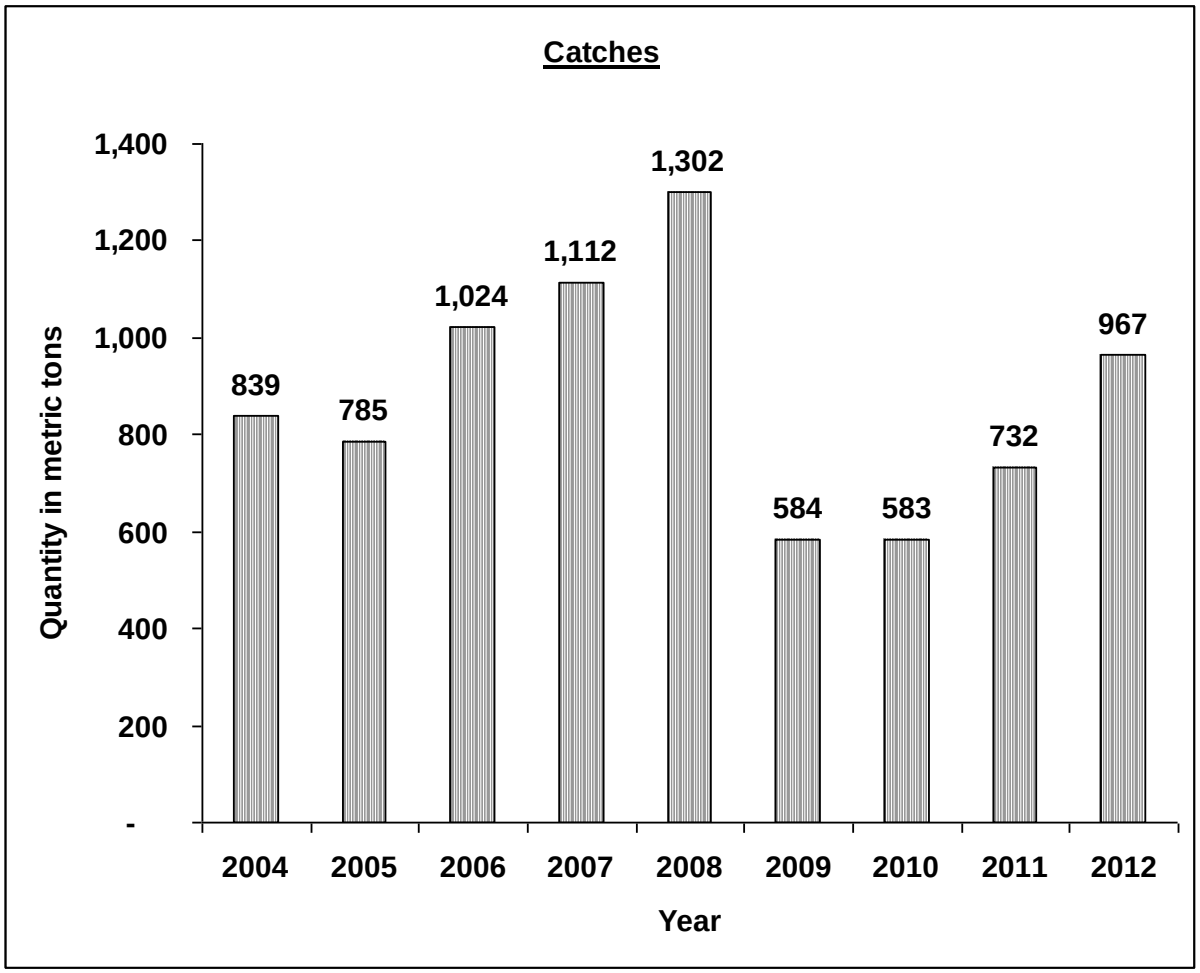

Figure 17: Tana River dams' fish catch trends in metric tonnes 2004 – 2012

Fishing in all the dams is mainly passive using gillnets, traditional traps, and hand lines. Fishing effort during the year under review was 316 fishers using 180 fishing crafts and operating about 10,900 gillnets and 16,600 hooks and 560 traditional traps. The main market of the landed catches was in Nairobi mainly Gikomba market.

The contribution of the landings by dams was as follows: Masinga dam 608 metric tonnes (63%), Kiambere 290 metric tonnes (30%) and Kamburu 69 metric tonnes (7%) while by landing sites Ekalakala had the lion's share of 226 metric tonnes (23%) of the total dams' landings. This was followed by Jua kali 172 metric tonnes (18%), Mananja 152 metric tonnes (16%), Riakanau with 140 metric tonnes (14%), Katooni/Korokocho 118 metric tonnes (12%), Tumutumu 90 metric tonnes (9%) and finally Kisumu ndogo 69 metric tonnes or 7% of the total landings from the dams.

2.8 LAKE KENYATTA FISHERY

During the year under review a total of 33 metric tonnes of fish with an ex-vessel value of Kshs. 2,182,652 was landed from Lake Kenyatta in Lamu County of the coast province. There was an 85.8% decline in quantity of the fish landed coupled with 72.3% decline in ex-vessel value compared with 2011 figures of 233 metric tonnes with an ex-vessel value of Kshs 7,999,711. The catch composition from this lake comprised of three species namely Tilapia, Protopterus and Clarias. Tilapia contributed 91% of the total catch, Clarias 6% and Protopterus 3% 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.

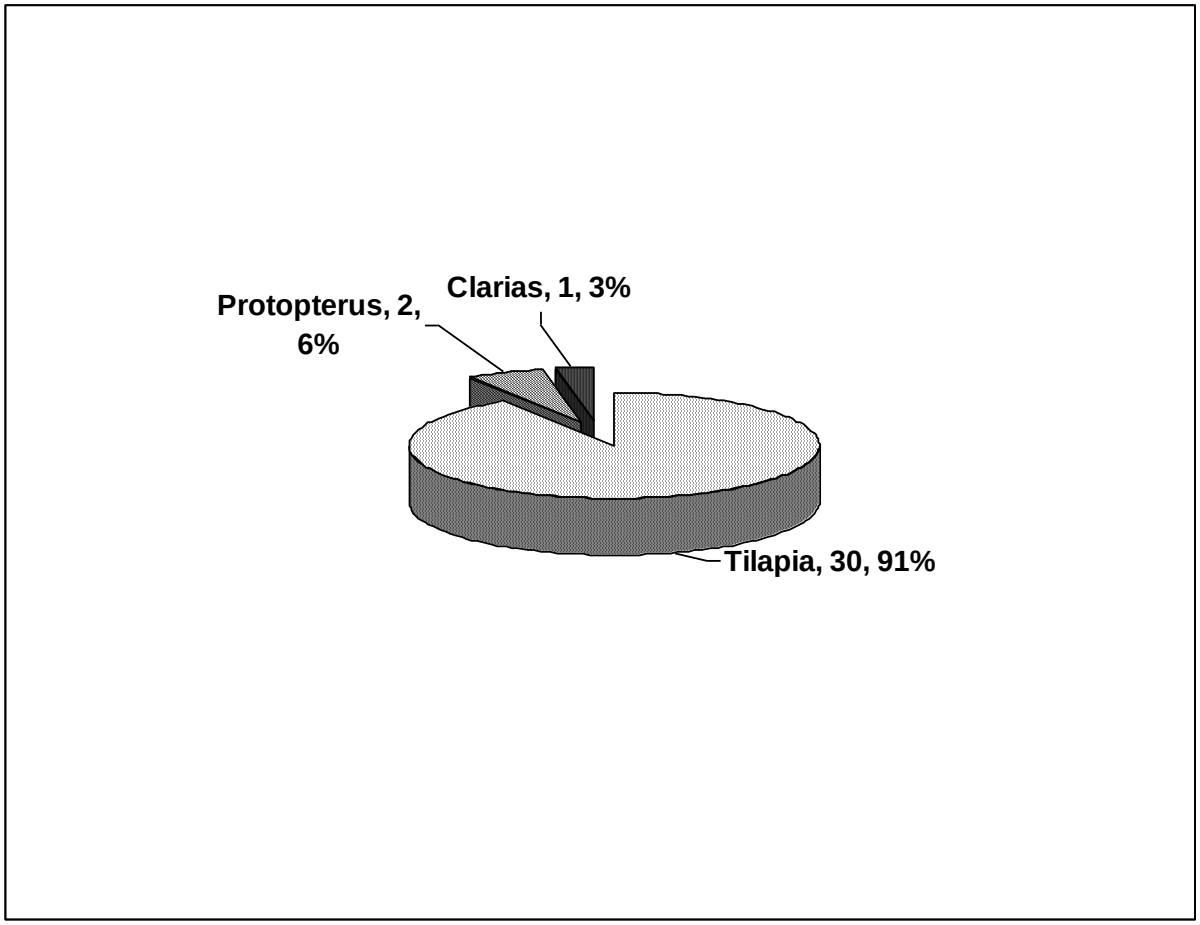

Figure 18: ***Percentages composition of species catch in Lake Kenyatta 2012***

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, Haplochromis* and *Clarias spp*. The productivity of the lake continued to decline during the year

under review. Possible explanations to the decline 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 125 metric tonnes with an ex-vessel value of Kshs 8,479,311 were landed from the lake during the year under review. This was a 28% decline in quantity of the fish landed coupled with a 33% decrease in ex-vessel value compared with 2011 figures of 173 metric tonnes with a value of Kshs 12,676,975.

The main species in catches were Tilapia which contributed 54.3% (79 metric tonnes) of the total catch followed by Protopterus 17% (21 metric tonnes), Clarias 14% (17 metric tonnes), and Haplochromis 6% (8 metric tonnes). 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 217 hectares (2,169,424 M^2) and producing 962 MT of farmed fish. The contribution of farmed fish at that time was just about 1% of the National Fish production in Kenya.

The Initiation of the Fish Farming Economic Stimulus Programme started during the 2009/2010 financial year in Kenya, 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 State Department of Fisheries has aggressively been 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 to our young generation.

Fish farming production during the year (2012) was 21,486, 828 Kgs (21,487 metric tonnes) with a farm gate value of Kshs. 4,633,634,405 compared to 19,584,843 Kgs (19,585 metric tonnes) valued at Kshs. 4,223,471,393 in 2011. Of the total farmed fish production, Nile tilapia contributed 75% (16,115 metric tonnes), African catfish 18% (3,868 metric tonnes), Common carp 6% (1,289 metric tonnes) and Rainbow trout 1% (214 metric tonnes). This production was from 68,734 ponds with an area of 20,620,200 metres square (2,062 hectares), 161 tanks measuring 23,085 metres square and 124 reservoirs with an area of 744,000 square metres throughout the country. Over the last ten years, fish production has increased from as low as 1,012 metric tonnes produced in year 2003 to the present production of 21,487 metric tonnes, figure 19.

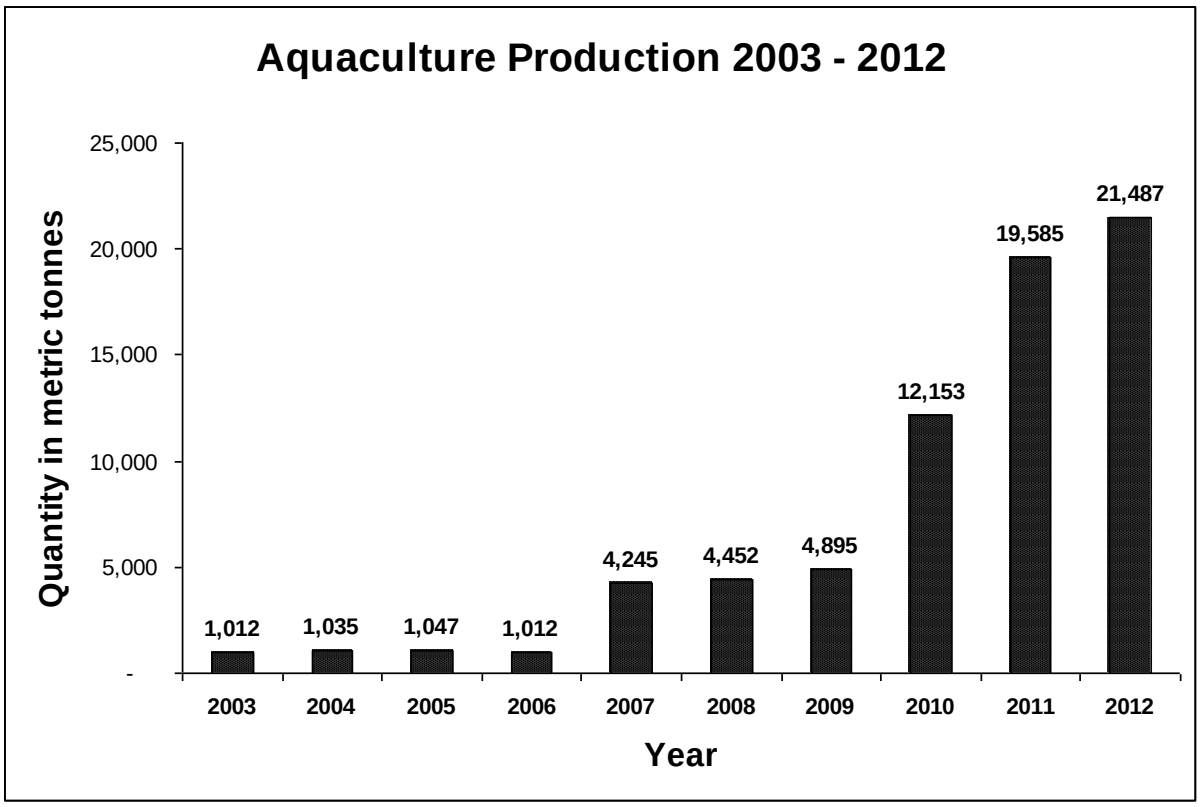

Figure 19: Aquaculture production for last ten years (2003-2012)

The following constraints continued to affect aquaculture activities during the year under review:

- Lack of readily available and affordable quality fish seed (fingerlings);
- Lack of adequate good quality and affordable fish feeds;
- Poor adoption of fish husbandry techniques by some farmers even after being trained on basic pond management;

- 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;
- Poor book keeping and record management leading to inaccurate data from farmers along the aquaculture value chain e.g. input costs, management cost, quantities of fish harvested and value;
- 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 farmers in the best pond and dam/reservoir management practices.

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

4.0 EXPORTS OF FISH AND FISHERY PRODUCTS

During the year under review, a total of 10,165 metric tonnes of fish and fishery products were exported earning the country Kshs. 3,967,712,000 in foreign exchange. In quantity, exported fish products were mainly Nile perch products (i.e. fillets 8,300 metric tonnes or 81.7% and Headless and Gutted Nile perch 547 metric tonnes (or 5.4%) and fish maws 275 metric tonnes (or 2.7%)), Octopus 733 metric tonnes (or 7.6%), marine shells 114 metric tonnes (or 1.1%) and frozen fin fish 73 metric tonnes (or 0.7%). This year's Nile perch products export of 9,122 metric tonnes was an increased of 10% from the previous years' export of 8,297 metric tonnes. By country destination, Israel had the lion's share of Nile perch products exports at 3,570 metric tonnes or 40.4%. Israel was followed by Netherlands with 1,342 metric tonnes (15.2%), Germany with 661 metric tonnes (7.5%), Portugal 611 metric tonnes (6.9%), UAE 520 metric tonnes (5.9%), China with 349 metric tonnes (3.9%), Spain 326 metric tonnes (3.7%), and France 221 metric tonnes (2.5%) among others, figure 20.

By product type, exports of frozen Nile perch fillets contributed the highest percentage of 60.9% (5,314 metric tonnes) followed by chilled fillets 32.9 % (2,9149 metric tonnes), frozen headless and gutted whole Nile perch 4.7% (417 metric tonnes) then fresh headless and gutted whole Nile perch 1.5% (130 metric tonnes) figure 21.

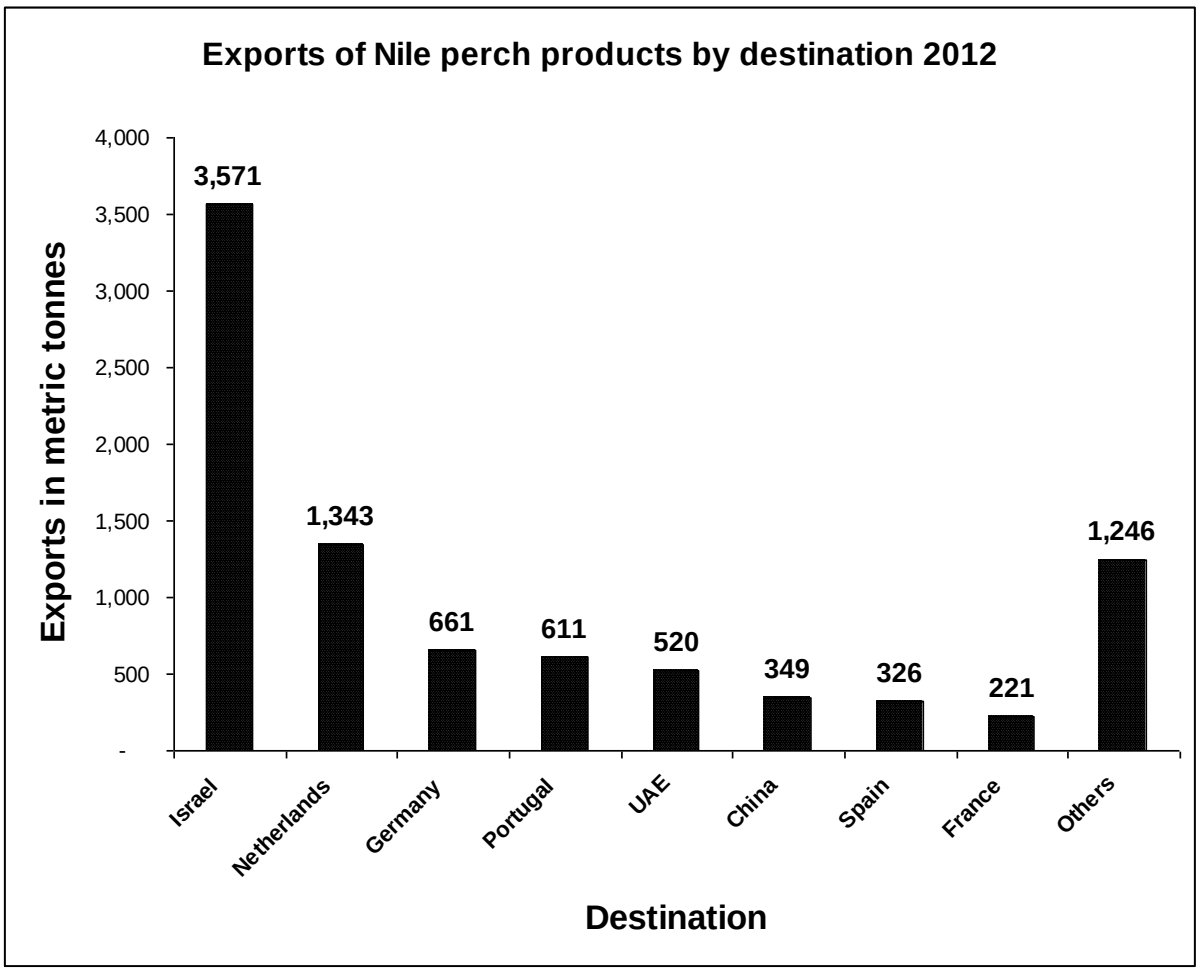

Figure 20: Exports of Nile Perch Products by destinations- 2012

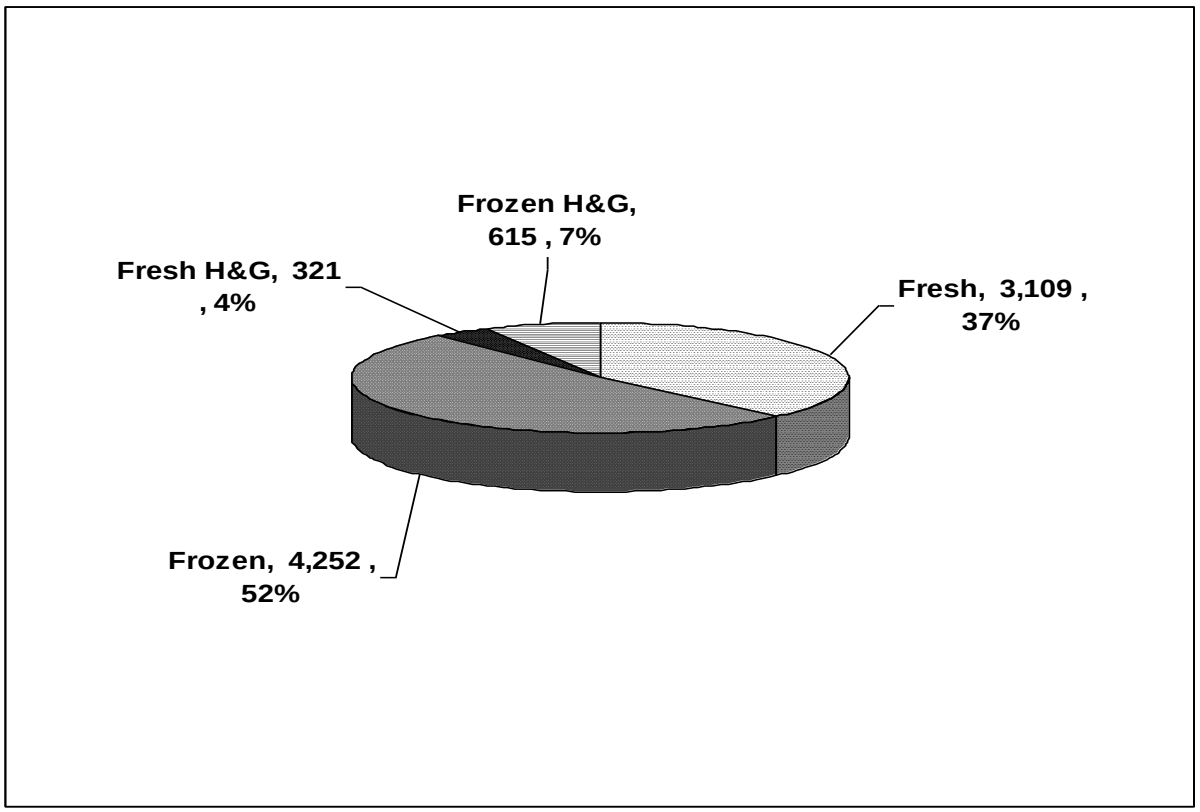

Figure 21: Exports of Nile perch by product type 2012

Apart from the above mentioned exports, 5,305 metric tonnes of Tuna loins were processed and trans-shipped through the port of Mombasa. This quantity was a decrease of 46% from the previous year's trans-shipment of 9,821 metric tonnes.

5.0 IMPORTS OF FISH AND FISHERY PRODUCTS

In 2012, Kenya imported 2,622 metric tonnes of fish and fishery products worth Kshs 111,363,000. The imports were mainly composed of frozen mackerels with 1,634 metric tonnes (62.3%), sardines 360 metric tonnes (13.7%), *Tilapia niloticus* 202 metric tonnes (7.7%), frozen mixed marine fish 105 metric tonnes (4.0%), frozen Prawns 60 metric tonnes (2.3%), Salmon 56 metric tonnes (2.1%) and frozen Lizard fish 55 metric tonnes (2.1%), 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 174,100 were imported from Britain during the year under review.

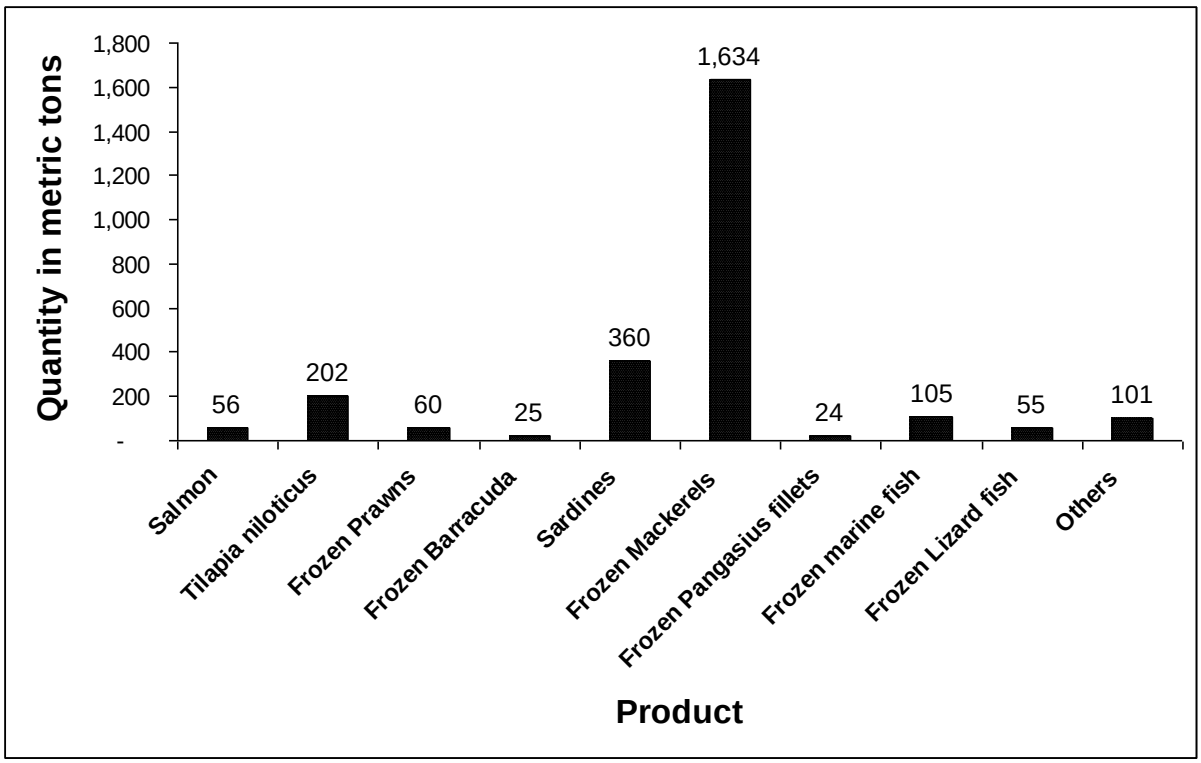

Figure 22: Import of fish and fish products 2012

6.0 FRAME SURVEYS

Two Frame Surveys were conducted during the year under review, one on the Lake Victoria fisheries and the other on the Marine waters artisanal fisheries. Both surveys were a complete census of crafts, gears, fishers operating and all landing sites facilities. For Lake Victoria this was the seventh Frame survey others having been conducted in 2000, 2002, 2004, 2006, 2008 and 2010. For the marine waters artisanal fisheries it was the fourth one the first having been conducted in 2004, the second in 2006 and the third in 2008. The surveys are supposed to be bi-ennial but in 2010 the marine waters artisanal fisheries frame survey was not conducted due lack of funds.

The overall objective of a Frame Survey is to provide information on the composition, magnitude and distribution of fishing effort, available facilities and services at landing sites to guide fisheries planning, management and infrastructure development

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 specific objectives were to provide information on:
g) number of fish landing sites;
h) the facilities available at the landing sites to service the sector including accessibility;
i) number of fishers;
j) the support and services available at the landing sites including fisheries staff and Beach Management Units (BMUs);
k) number and types of fishing crafts and their mode of propulsion;
l) number, types and sizes of fishing gears used on the lake and their mode of operation;
m) craft/gear combinations by target species; and
n) number of transport crafts (fish carriers and general purpose)

The key fisheries management questions which the Frame Surveys sought to answer included:

a) Are the number of landing sites and fishing crafts and their mode of propulsion changing?
b) Are the numbers of fishers increasing or decreasing?
c) Are fishing gears and their sizes increasing or decreasing?
d) Are the facilities and infrastructure at the landing sites changing?
e) Are service providers adequate (Fisheries staff and BMUs, factory agents)?
f) Are HIV and AIDS issues addressed at the level of the landing sites?

The outputs generated from the Frame Survey included information on:
o) number of fish landing sites and fishers;
p) number and types of fishing crafts and their mode of propulsion, number of transport crafts; number, types and sizes of fishing gears and their mode of operation;
q) service providers especially fisheries staff and Beach Management Units (BMUs);
r) Facilities and infrastructure available at the fish landing sites to service the sector.

The results of Lake Victoria fisheries and the Marine waters artisanal fisheries are summarized and presented in tables 2 and 3 by districts respectively.

From the results of the seven frame surveys conducted on lake Victoria fisheries and the four on the Marine waters artisanal fisheries the following is recommendation were made:-

Lake Victoria fisheries recommendations included

- **(i)** Access and new entry of crafts into the fishery should be controlled consistently with the regional plan of action of managing fishing capacity in Lake Victoria;
- **(ii)** It is urgent to determine the fishing effort and capacity that will match the current exploitable stock biomass for each species so that access is only limited to the available stock biomass;
- **(iii)** Unregistered and/or unlicensed fishing crafts and fishers should be removed from the fisheries;
- **(iv)** The safety standards of the operational fishing crafts should be improved.
- **(v)** Options for alternative livelihood should be assessed and developed;
- **(vi)** 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;
- **(vii)** There is need to deploy more fisheries field staff and facilitate them to establish offices at landing site;
- **(viii)** The capacity of BMUs to undertake some of the functions of fisheries staff should also be enhance;
- **(ix)** The strategy of involving communities in combating illegal fishing by engaging them in policing of the resource should be strengthened;
- **(x)** BMU should take lead in prohibiting illegal fishing and fishing gears in their respective areas
- **(xi)** 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
- **(xii)** Awareness raising programs targeting fishing communities through different mass media e.g. radios, TV, posters and public rallies should be strengthened;
- **(xiii)** Informers should be planted in hot spot areas to provide quick and reliable information on where the illegal fishing gears are used.

Marine waters artisanal fisheries recommendations were

- **(i)** Control access to the inshore reef fishery to only licensed fishing crafts and gears and ensure that fishing access is consistent with the available exploitable fish biomass;
- **(ii)** The number of illegal gears in the fishery should be purged by implementing a robust MCS measures to ensure compliance with the current management regulations;

(iii) Empower BMUs to enforce fisheries regulations to enhance voluntary compliance at the local level;

(iv) The BMU leadership at landing sites should be sensitized to prioritize fish handling and sanitation facilities and lobby or seek innovative ways of funding to ensure that these facilities are availed.

(v) 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;

(vi) Lack of a boat making industry and a fisher's training school along the coastline is a challenge that needs to be addressed;

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 (Kenyan side)Fisheries Frame Survey 2012

Facilities	Busia		Siaya		Kisumu					Homa bay			Migori		Total
	Bunyala	Samia	Bondo	Rarieda	Kisumu East	Kisumu North	Kisumu West	Nyakach	Nyando	Homa Bay	Mbita	Rachuonyo North	Suba	Nyatike	
Landings/Fishers															
Number of landing sites	18	5	56	33	12	9	10	6	1	6	67	38	35	28	324
Number of fishers	2,659	543	8,543	3,318	947	582	844	405	47	470	8,418	2,770	5,103	5,429	40,078
Landing site facilities															
Bandas (Fish sheds)	7	3	26	12	5	3	4	-	2	11	2	7	23	16	121
Cold rooms	1	-	1	-	1	1	-	-	-	1	-	1	-	1	7
Cold rooms (Non working)	1	-	1	-	1	1	-	-	-	1	-	1	-	1	7
Pontoon/Jetty	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jetty	2	-	3	1	1	3	1	-	-	1	-	1	3	3	19
Pontoon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish stores	4	-	3	5	-	-	-	-	-	-	-	1	8	3	24
Electricity supply	4	-	6	2	1	3	4	-	-	4	-	10	7	5	46
Toilet facilities	14	5	21	24	9	5	6	-	4	23	2	20	53	20	206
Portable water	-	-	4	2	1	1	1	-	-	-	-	1	4	2	16
All weather roads	8	2	14	9	2	4	5	-	4	14	4-	19	30	20	135
Craft repair facilities	11	2	27	23	7	5	5	-	6	30	1	25	55	15	212
Net repair facilities	5	2	16	19	-	3	4	-	4	16	-	18	34	12	133
Engine repair facility	2	-	8	3	-	1	-	-	-	4	-	6	12	4	40
Drying rack	2	-	5	4	-	-	1	-	-	-	-	1	11	-	24
Smoking kilns	4	-	20	5	-	-	-	-	-	-	-	9	17	7	62
Other process	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mobile network	17	5	55	32	10	9	12	1	6	38	6	34	67	28	320
Primary school	16	4	36	20	10	8	11	1	5	26	5	30	63	23	258
Health clinic	8	3	22	8	6	3	3	-	1	14	2	16	33	18	137
No. of landing sites with BMUs	18	5	56	33	10	9	12	1	6	38	6	35	67	28	324
Landing site with BMU office	13	3	27	21	9	5	7	-	4	23	4	21	43	23	203
Landing sites visited by agents	11	4	35	19	7	2	1	-	2	31	1	29	44	27	213
HIV awareness	16	5	50	27	10	9	10	1	3	27	6	32	64	25	285
HIV VCT	14	5	42	28	10	8	10	1	2	21	3	32	64	26	266
HIV ARV	11	3	24	8	-	-	1	-	-	6	1	18	25	16	113

HIV Orphan Widows	7	1	18	8	-	-	1	-	-	14	2	10	17	11	89
Fenced landing site	4	1	3	3	1	3	1	-	1	-	2	2	3	6	30
Privately owned LS land	4	1	13	3	-	4	4	-	-	5	1	8	15	-	58
Sites with shop selling gears	5	-	11	12	-	-	-	-	-	7	-	7	25	12	79
Fisheries staff															
LS served by fisheries staff	15	4	54	30	10	8	11	1	5	37	5	32	66	23	301
LS served on weekly basis	4	2	36	21	5	4	7	1	5	17	4	16	10	12	144
LS served on monthly basis	8	1	17	8	5	2	4	-	-	17	-	14	40	7	123
LS served on quarterly basis	3	1	1	1	-	2	-	-	-	3	1	2	16	4	34
Fishing Craft type															
Dugout	1	-	-	-	2	1	-	-	-	-	97	1	-	-	102
Parachute	205	94	878	129	233	62	67	89	-	97	371	179	110	774	3,288
Sesse flat at one end	190	40	365	15	4	57	4	-	-	-	714	16	335	459	2,199
Sesse pointed at both ends	489	66	1,670	960	120	122	262	72	21	110	1,628	800	1,057	454	7,831
Rafts	-	-	-	7	-	-	-	-	-	-	-	-	-	41	48
Foot fishers	-	-	25	52	14	3	-	3	-	2	29	25	30	66	249
Total Fishing Crafts	885	200	2,938	1,163	373	245	333	164	21	207	2,839	1,021	1,532	1,794	13,717
Mode of Propulsion															
No. using inboard engines	-	-	-	-	-	-	-	-	-	-	12	-	-	-	12
No. using outboard engines	107	10	338	8	6	11	-	-	-	1	717	6	326	436	1,966
No. using paddles	519	153	1,854	720	215	87	116	92	21	130	1,420	280	833	770	7,210
No. using sails	259	35	717	383	138	144	217	69	-	76	662	711	341	521	4,273
Foot fishers	-	-	25	52	14	3	-	3	-	2	29	25	30	66	249
Fishing Gears															
Gill nets															
Gill net, mesh size < 2½"	1,014	356	568	319	2,259	951	771	794	-	1,148	617	2,782	-	91	11,670
Gill net, mesh size 2½"	1,286	94	272	825	747	726	463	233	-	1,124	1,437	1,873	141	83	9,304
Gill net, mesh size 3"	1,276	37	370	1,271	403	185	695	136	-	152	1,167	1,389	313	309	7,703
Gill net, mesh size 3½"	264	4	210	482	291	1,104	565	114	-	326	789	666	108	231	5,154
Gill net, mesh size 4"	114	54	134	413	569	2,162	1,157	548	114	129	1,001	2,563	176	316	9,450
Gill net, mesh size 4½"	29	15	316	414	394	530	975	260	10	467	1,328	1,973	145	147	7,003
Gill net, mesh size 5"	192	192	774	715	821	1,654	1,371	712	87	807	2,379	3,060	91	423	13,278
Gill net, mesh size 5½"	-	-	196	67	93	563	571	120	-	841	2,360	1,524	251	251	6,837
Gill net, mesh size 6"	545	80	325	98	412	465	169	458	10	313	2,348	2,552	416	258	8,449

Gill net, mesh size 6½"	30	-	70		71	37	45	70	-	84	487	246	256	79	1,475
Gill net, mesh size 7"	60	-	20	84	424	169	65	188	-	7	214	466	10	189	1,896
Gill net, mesh size 7½"	-	-	-	-	25	-	-	-	-	-	83	-	222	-	330
Gill net, mesh size 8"	-	-	-	-	18	29	-	39	-	-	48	330	23	-	487
Gill net, mesh size 9"	-	-	-	-	10	-	15	18	-	-	-	5	-	-	48
Gill net, mesh size 10"	-	-	-	-	-	10		15	-	-	-	6	-	-	31
Gill net, mesh size > 10"	-	-	-	-	-	5	27	2	-	-	-	400	-	-	434
Gillnets D 2½''	84	55	72	522	55	-	-	3	-	-	113	509	-	-	1,413
Gillnets D 3''	-		-	-	-	-	-	-	-	-	20	9	-	-	29
Gillnets D 3½''	6	-	30	13	-	-	-	-	-	-	16	-	-	-	65
Gillnets D 4''	9	30	56	91	9	40	9	-	-	-	30	458	12	-	744
Gillnets D 4½''	2	-	138	483	-	25	40	-	-	-	68	567	125	10	1,458
Gillnets D 5''	203	20	563	834	-	20	30	-	-	115	265	289	351	408	3,098
Gillnets D 5½''	65	20	442	322	-	-	42	-	-	135	615	1,082	1,413	693	4,829
Gillnets D 6''	1,758	160	1,888	1,156	-	-	97	-	-	52	1,752	1,672	6,436	3,542	18,513
Gillnets D 6½''	255	-	1,291	146	-	-	31	-	-	10	838	301	1,655	3,232	7,759
Gillnets D 7''	632	242	607	781	-	-	59	-	-	-	1,550	343	593	776	5,583
Gillnets D 7½''	43	-	15	248	-	-	-	-	-	-	282	20	-	-	608
Gillnets D 8''	75	-	40	150	-	-	-	-	-	-	219	12	20	-	516
Gillnets H 5''	-	-	6	-	-	-	-	-	-	-	-	-	-	-	6
Gillnets H 5½''	-	-	-	-	-	-	-	-	-	-	4	-	-	-	4
Gillnets H 6''	-	-	-	-	-	-	-	-	-	-	82	25	-	-	107
Gillnets H 6½''	-	-	-	-	-	-	-	-	-	-	-	-	-	30	30
Gillnets P 6''	-	-	30	-	10	-	-	-	-	-	-	12	-	30	82
Gillnets Q 2½''	-	-		-	-	-	-	15	-	-	-	-	-	-	15
Gillnets Q 5''	-	-	25	-	-	-	-	-	-	-	-	-	-	-	25
Gillnets Q 6''	-	-	9	-	-	-	-	-	-	-	10	20	-	42	81
Gillnets T 2½''	-	-		-	-	-	-	-		-	10	-	-	-	10
Gillnets T 3''	-	-	30	-	-	-	-	-		-	-	-	-	-	30
Gillnets T 3½''	-	-		-	-	-	-	-		-	-	-	-	5	5
Gillnets T 4''	-	-	12	-	-	-	-	-		-	-	20	-	-	32
Gillnets T 4½''	-	-	-	-	-	-	-	-	-	-	30	-	-	-	30
Gillnets T 5''	10	-	101	100	10	-	30			17	27	15	85	349	744
Gillnets T 5½''	21	-	-	99	-	-	-	-	-	-	415	12	74	2,169	2,790
Gillnets T 6''	141	52	1,596	774	-	-	-	-	-	-	22,534	44	734	8,450	34,325
Gillnets T 6½''	-	-	5,344	963	-	-	-	-	-	-	19,334	6	408	4,147	30,202

Gillnets T 7”	61	-	6,667	314	-	-	-	-	-	-	2,812	-	238	785	10,877
Gillnets T 7½”	-	-	231	-	-	-	-	-	-	-	145	-	-	50	426
Gillnets T 8”	10	-	-	27	-	-	-	-	-	-	105	-	-	-	142
Total No. of gillnets <5"	4,084	645	2,208	4,833	4,727	5,723	4,675	2,103	124	3,346	6,626	12,809	1,020	1,192	54,115
Total No. of gillnets >5"	4,101	766	20,240	6,878	1,894	2,952	2,552	1,622	97	2,381	58,908	12,442	13,276	25,903	154,012
Total No. of all gillnets	8,185	1,411	22,448	11,711	6,621	8,675	7,227	3,725	221	5,727	65,534	25,251	14,296	27,095	208,127
Dagaa fishing gears															
Small seine, <5 mm	34	3	3	3	52	36	23	-	-	-	75	109	-	14	352
Small seine, 6-7 mm	-	-	68	-	-	-	-	-	-	-	1	-	-	-	69
Small seine, 8-10 mm	-	-	-	-	-	-	-	-	-	-	187	-	-	-	187
Small seine D <=5	11	4	-	-	-	-	-	-	-	-	10	-	-	5	30
Small seineD 6-7	-	-	-	-	-	-	-	-	-	-	12	-	-	-	12
Small seineD 8-10	-	-	-	-	-	-	3	-	-	-	5	2	-	-	10
Small seine I <=5	1	-	-	-	-	-	-	-	-	-	-	-	30	119	150
Small seine I 6-7	-	-	-	-	-	-	-	-	-	-	-	-	60	1	61
Small seineI 8-10	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2
Small seine P <=5	148	-	276	99	-	-	-	-	-	-	47	1	68	3	642
Small seine P 6-7	-	-	188	84	-	-	-	-	-	-	86	-	59	1	418
Small seine P 8-10	-	-	56	1	-	-	-	-	-	1	361	-	40	2	461
Small seine Q <=5	3	9	4	-	-	-	-	-	-	-	25	-	107	43	191
Small seine Q 6-7	-	-	6	-	-	-	-	-	-	-	12	-	43	-	61
Small seine T <=5	-	-	-	-	-	-	-	-	-	-	1	2	-	14	17
Small seine T 6-7	-	-	-	-	-	-	-	-	-	-	-	-	16	1	17
Small seine X <=5	34	15	51	1	-	-	-	-	-	-	4	-	38	143	286
Small seine X 6-7		9	39	8	-	-	-	-	-	-	1	-	65	-	122
Small seine X 8-10	-	-	-	-	-	-	-	-	-	-	2	-	1	-	3
Total small seines	231	40	691	196	52	36	26	-	-	1	819	114	527	346	3,219
Hand lines	278	41	522	653	165	33	305	6	-	7	1,944	29	85	1,077	5,145
No. Long line hooks															
Size <4	-	-	-	100	-	100	650	-	-	1,280	1,735	-	-	700	4,565
Size 4-7	950	186	8,645	15,115	1,500	330	3,976	800	300	6,850	10,740	3,450	604	26,490	79,936
Size 8-10	50,345	14,600	269,862	55,500	11,960	3,500	29,550	16,470	750	14,540	133,740	192,701	108,621	264,515	1,166,654
Size >10	105,750	24,100	227,242	56,950	33,695	12,200	27,704	7,420		5,400	199,670	60,466	342,395	124,829	1,227,821
Total long line hooks	157,045	38,886	505,749	127,665	47,155	16,130	61,880	24,690	1,050	28,070	345,885	256,617	451,620	416,534	2,478,976
Other gears															
Beach/Boat seine	67	8	188	147	64	8	31	6	-	14	226	53	185	66	1,063

Cast net	4	12	43	11	6	-	-	-	-	-	4	-	-	5	85
Monofilament	276	17	8,751	1,492	15	-	6	-	-	44	967	3	385	205	12,161
Traps/Baskets	6	7	861	-	124	-	92	53	106	-	84	61	12	-	1,406

Table 2: Summary Results of Marine Artisanal Fisheries Frame Survey 2012

ITEM	Lamu	Tana Delta	Malindi	Kilifi	Mombasa	Kwale	Total
Number of landing sites	19	4	31	29	31	46	**160**
Landing site facilities							
Bandas (Fish sheds)	1	0	4	2	2	11	**20**
Cold rooms (working)	0	0	1	1	2	1	**5**
Cold rooms (Non working)	0	0	0	0	0	1	**1**
Jetty/Slipway	5	0	4	2	3	2	**16**
Fish stores	1	0	1	1	1	3	**7**
Electricity supply	3	0	3	2	4	5	**17**
Toilet facilities	2	0	2	8	2	9	**23**
Portable water	0	0	3	3	3	8	**17**
All weather roads	2	1	15	14	13	29	**74**
Craft repair facilities	8	1	4	4	2	21	**40**
Net repair facilities	3	0	4	5	4	22	**38**
Engine repair facility	3	0	3	3	3	2	**14**
Drying rack/Oven	5	0	4	0	0	2	**11**
Smoking kilns	0	0	1	0	0	2	**3**
Mobile network	18	2	25	25	31	44	**145**
Primary school	18	2	18	16	24	32	**110**
Health clinic	14	2	11	9	17	25	**78**
Landing site with BMU office	1	0	2	2	1	9	**15**
Landing sites visited by agents	13	2	4	2	0	10	**31**
HIV awareness	15	1	8	1	15	26	**66**
HIV VCT	13	2	9	1	14	17	**56**
HIV ARV	14	1	6	0	10	7	**38**
HIV Orphan Widows	8	2	9	2	4	6	**31**
Fenced landing site	0	0	3	2	3	7	**15**
Privately owned LS land	5	0	4	18	8	16	**51**
Sites with shop selling gears	3	2	3	2	3	14	**27**
Fisheries staff							**-**
Landing site served by fisheries staff	16	4	19	20	30	45	**134**
Landing site served on daily basis	6	1	2	1	2	2	**14**
Landing site served on weekly basis	8	-	6	-	17	12	**43**
Landing site served on monthly basis	2	2	5	8	11	20	**48**
Landing site served on quarterly basis	-	1	6	11	-	11	**29**
Fishers							
No. of fishers	3,064	643	2,830	1,883	1,449	3,837	**13,706**
Fishing crafts							
Total No. of fishing crafts excluding foot fishers	756	314	699	583	542	1053	**3,947**
Mode of Propulsion							
No. using inboard engines	12	-	44	3	3	9	**71**
No. using outboard engines	8	1	87	84	36	80	**296**
No. using paddles	32	99	84	300	436	291	**1,242**
No. using sails	479	20	479	70	12	443	**1,340**

Pole/Pondo	8	-	48	22	-	89	**167**
Craft types							
Mashua	248	16	229	42	21	89	**645**
Ngalawa	5	1	8	42	1	122	**179**
Hori	187	8	110	41	8	8	**362**
Dugout	41	73	122	280	415	663	**1,594**
Dau	5	22	96	56	35	12	**226**
Mtori	53	-	11	5	-	15	**84**
Foot fishers	152	175	443	447	195	662	**2,074**
Other (Specify	-	-	2	17	8	1	**28**
Transport crafts							
Transport crafts (non fishing)	347	21	195	60	112	144	**879**
Transport crafts (fish)	41	0	2	5	15	28	**91**
Derelict crafts							
No. Derelict crafts	60	16	70	107	165	245	**663**
Fishing gears							
Gillnets by size							
Gill net, mesh size < 2½"	6	31	150	44	18	79	**328**
Gill net, mesh size 2½"	13	26	75	99	5	133	**351**
Gill net, mesh size 3"	128	30	159	12	59	84	**472**
Gill net, mesh size 3½"	17	57	61	2	8	3	**148**
Gill net, mesh size 4"	170	42	113	12	21	70	**428**
Gill net, mesh size 4½"	47	20	18	-	10	14	**109**
Gill net, mesh size 5"	166	51	412	32	14	25	**700**
Gill net, mesh size 5½"	8	7	153	-	4	2	**174**
Gill net, mesh size 6"	278	77	586	75	9	106	**1,131**
Gill net, mesh size 6½"	8	7	16	-	-	-	**31**
Gill net, mesh size 7"	9	21	34	8	6	8	**86**
12 Gill net, mesh size 7½"	4	12	-	-	-	-	**16**
Gill net, mesh size 8"	28	9	9	8	-	12	**66**
Gill net, mesh size 9"	-	-	-	2	4	9	**15**
Gill net, mesh size 10"	49	-	-	-	-	-	**49**
Gill net, mesh size > 10"	23	-	3	2	12	24	**64**
Total No. of all gillnets	954	390	1,789	296	170	569	**4,168**
Monofilament gillnets	881	198	430	1,066	409	255	**3,239**
Seine nets							
Prawn seine	71	269	77	19	182	112	**730**
Beach seine	97	-	4	2	40	74	**217**
Reef seine	-	-	3	2	24	34	**63**
Trawl nets	-	-	2	-	-	1	**3**
Cast nets	4	9	34	74	176	111	**408**
Ring nets	-	-	2	1	1	18	**22**
Trammel nets	11	-	1	8	14	14	**48**
Long line Hooks							
Size <4	350	50	180	55	580	141	**1,356**
Size 4-7	2,968	1,100	611	1,165	612	172	**6,628**
Size 8-10	1,185	4,920	241	15	103	35	**6,499**
Size >10	45	1,503	411	16	6	12	**1,993**

Total Long line hooks	4,548	7,573	1,443	1,251	1,301	360	**16,476**
Hand lines	360	148	503	620	624	2,431	**4,686**
Traps	291	16	680	98	969	2,384	**4,438**
Scoop nets	371	56	110	24	3	88	**652**
Trolling lines	14	-	298	240	97	92	**741**
Spear gun	-	-	27	381	19	612	**1,039**
Harpoons	549	28	32	181	48	511	**1,349**
Hooked sticks	-	-	12	-	52	128	**192**
Pointed sticks	-	-	43	1	8	307	**359**
Others (Specify	356	-	4	-	-	83	**443**

Table 3: Fish landings by Weight, Value, Fishers, Ponds and fishing Crafts 2012

Fresh water	**M. tons**	**000 Kshs.**	**Fishers**	**Farmers**	**Crafts**	**Ponds**
Lake Victoria	118,992	11,775,377	40,078		13,468	
Lake Turkana	3,001	307,382	7,000		1650	
Lake Baringo	251	23,514	120		47	
Lake Naivasha	143	15,460	150		50	
LakeJipe/Dams	112	16,715	66		46	
Lake Kanyaboli	125	8,479	188		99	
Lake Kenyatta	33	2,182	120		40	
Tana River dams	967	81,609	316		180	
Fish Farming	21,487	4,633,634		67,423		68,734
Tana River delta	39	2,409	299		93	
Total	**145,150**	**16,866,761**	**48,337**	**67,423**	**15,673**	**68,734**
Marine water						
Dermersal	4,300	486,451				
Pelagic	2,297	288,152				
Crustaceans	739	233,253				
Other Marine	881	102,981				
Miscellaneous	649	96,260				
Total Marine	**8,865**	**1,207,098**	**13,706**	**-**	**3,947**	**-**
Grand Total	**154,015**	**18,073,859**	**62,043**	**67,423**	**19,620**	**68,734**

Table 4: Quantity and Value of fish landings 2010 - 2012

	2010		2011		2012	
FRESH WATER	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
L. Victoria	111,868	11,543,125	133,801	13,847,170	118,992	11,775,377
L. Turkana	6,430	271,687	3,746	275,919	3,001	307,382
L. Naivasha	209	12,712	288	23,229	143	15,460
L. Baringo	53	4,529	102	9,469	251	23,514
L. Jipe/Dams	103	6,017	104	9,554	112	16,715
Lake Kanyaboli	215	11,329	173	12,676	125	8,479
Lake Kenyatta	369	11,015	233	8,000	33	2,182
Tana River Dams	583	37,391	732	53,781	967	81,609
Fish Farming	12,153	2,620,794	19,584	4,223,471	21,487	4,633,634
Tana delta	362	28,537	53	3,480	39	2,409
TOTAL	**132,345**	**14,547,136**	**158,816**	**18,466,750**	**145,150**	**16,866,761**
MARINE FISH						
Lamu County	2,056	112,215	2150	138987	2,062	170,483
Tana River County	276	20,194	704	51735	596	43,979
Kilifi County	2,001	201,363	2152	250305	2,061	335,820
Mombasa County	926	116,939	860	121327	782	129,236
Kwale County	2,024	161,325	1879	174510	1,976	198,066
TOTAL	**7,283**	**612,036**	**7,744**	**736,864**	**7,477**	**877,584**
CRUSTACEA						
Lamu County	163	57,456	162	79576	132	69,905
Tana River County	58	17,465	51	7563	129	21,654
Kilifi County	47	13,164	70	22806	164	64,125
Mombasa County	154	31,700	187	40619	207	48,374
Kwale County	97	29,189	105	25974	108	29,195
TOTAL	**519**	**148,974**	**574**	**176,539**	**739**	**233,253**
MOLLUSCS						
Lamu County	52	7,355	85	32,222	86	19,842
Tana River County	24	1,425	35	2098	18	1,563
Kilifi County	142	29,658	109	12823	178	28,335
Mombasa County	55	5,548	70	7904	77	11,494
Kwale County	331	31,259	330	35379	289	35,026
TOTAL	**604**	**75,245**	**629**	**90,427**	**649**	**96,260**
MARINE TOTAL	**8,406**	**836,255**	**8,947**	**1,003,830**	**8,865**	**1,207,098**
GRAND TOTAL	**140,751**	**15,383,391**	**167,763**	**19,470,579**	**154,015**	**18,073,859**

Table 5: Fresh Water and Marine fish catches by Species, Weight and Value 2010- 2012

	2010		2011		2012	
FRSH WATER	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Alestes	50	1,550	286	17,092	276	23,456
Bagrus	101	2,995	92	5,341	49	4,123
Barbus	353	10,506	82	5,208	10	848
Black bass	1	65	3	27	2	100
Clarias	6,916	763,025	6,426	879,376	6,596	1,048,549
Rastreonobola	47,716	2,225,780	72,314	3,224,846	52,948	2,813,882
Labeo	1,144	36,567	558	38,708	480	40,263
Haplochromis	21	1,120	539	22,010	723	63,272
Lates niloticus	39,045	6,656,608	47,116	9,143,763	53,023	7,547,723
Momyrus	*	4	-	2	-	-
Protopterus	3,891	234,310	1,346	114,021	1,196	95,886
Synodontis	136	4,085	994	54,964	15	1,283
Tilapia niloticus	24,572	4,113,299	23,144	4,427,842	22,196	4,525,560
Tilapia others	3,726	184,913	2,006	151,092	1,935	190,740
Trout	122	66,842	195	107,717	215	118,177
Carps	1,146	91,989	1,695	147,266	1,727	155,993
Eels	4	228	1	60	1	114
Citharinus	63	1,845	104	8,820	14	1,188
Hydrocynus	39	1,150	95	6,138	60	5,121
Distichodus niloticus	812	23,920	287	21,593	298	25,289
Unspecified	2,487	126,335	1,533	90,864	3,386	205,194
TOTAL	**132,345**	**14,547,136**	**158,816**	**18,466,750**	**145,150**	**16,866,761**
MARINE FISH						
Demersal	4,146	325,133	4,416	408,567	4,300	486,451
Pelagic	2,344	219,628	2,444	252,767	2,297	288,152
Sharks/Rays	274	26,948	306	31,602	373	46,064
Sardines	224	14,068	211	15,238	194	17,449
Unspecified	294	26,259	367	28,690	313	39,468
TOTAL	**7,282**	**612,036**	**7,744**	**736,864**	**7,477**	**877,584**
CRUSTACEA						
Spiny Lobster	100	69,674	93	80,899	96	94,255
Prawns	251	51,450	275	54,719	408	83,747
Crabs	168	27,850	206	40,922	235	55,251
TOTAL	**519**	**148,974**	**574**	**176,539**	**739**	**233,253**
MOLLUSCS						
Oysters	33	507	30	1,903	74	6,942
Squids	142	17,980	46	30,832	144	21,241
Octopus	407	36,697	419	40,093	394	49,402
Beche-de-mers	22	6,147	134	17,600	36	18,676
TOTAL	**604**	**61,331**	**629**	**90,427**	**649**	**96,260**
TOTAL MARINE	**8,405**	**822,341**	**8,947**	**1,003,830**	**8,865**	**1,207,098**
GRAND TOTAL	**140,750**	**15,369,477**	**167,763**	**19,470,579**	**154,015**	**18,073,859**

Table 6: Marine fish landings by Species, Weight and Value 2010 - 2012

SPECIES	2010		2011		2012	
	M. tonnes	000 Kshs	M. tonnes	000 Kshs	M. tonnes	000 Kshs
DEMERSAL						
Rabbit fish	675	60,281	791	82,522	645	81,776
Scarvenger	642	53,349	683	63,759	602	71,633
Snapper	298	27,477	346	38,443	432	54,197
Parrot fish	475	30,444	538	42,151	416	44,969
Surgeon fish	121	7,797	94	8,332	104	11,295
Unicorn fish	164	11,484	154	14,692	133	13,680
Grunter	149	13,215	160	14,919	161	19,855
Pouter	181	12,817	164	14,403	168	17,277
Black skin	181	13,336	174	14,146	225	20,890
Goat fishr	110	9,855	115	11,460	125	14,940
Steaker	30	2,593	48	3,224	45	4,186
Rock cod	150	12,450	198	18,861	248	30,391
Cat fish	92	6,759	173	15,444	215	21,833
Mixed dermasal	878	63,276	778	66,211	781	79,531
TOTAL	**4,146**	**325,133**	**4,416**	**408,567**	**4,300**	**486,451**
PELAGICS						
Cavalla jacks	227	21,667	283	27,005	241	29,096
Mullets	292	22,464	228	22,807	292	31,381
Littla mackerels	419	37,204	339	32,183	329	37,998
Barracudas	281	26,924	327	33,869	260	31,386
Milk fish	78	5,689	63	5,578	79	9,521
King fish	119	13,982	173	20,835	121	17,942
Queen fish	141	11,867	199	20,711	179	20,889
Sail fish	165	19,360	145	17,735	142	21,193
Bonitos/Tunas	180	18,539	302	33,902	201	30,807
Dolphins	41	3,321	18	1,810	61	5,756
Mixed Pelagics	400	38,612	365	36,332	391	52,183
TOTAL	**2,344**	**219,628**	**2,444**	**252,767**	**2,297**	**288,152**
Sharks &Rays	274	26,948	306	31,602	373	46,064
Sardines	224	14,068	211	15,238	194	17,449
Mixed fish/Others	294	26,258	367	28,690	313	39,468
TOTAL	**792**	**67,274**	**884**	**75,530**	**881**	**102,981**
CRUSTACEANS						
Lobsters	100	69,674	93	80,899	96	94,255
Prawns	252	51,451	275	54,719	408	83,747
Crabs	168	27,850	206	40,922	235	55,251
TOTAL	**519**	**148,974**	**574**	**176,539**	**739**	**233,253**
MISCELLANEOUS						
Oysters	33	507	30	1,903	74	6,942
Beche-de-mers	22	6,147	46	30,832	36	18,676
Octopus	408	36,698	419	40,093	394	49,402
Squids	142	17,980	134	17,600	144	21,241
TOTAL	**604**	**61,331**	**629**	**90,427**	**649**	**96,260**
TOTAL MARINE	**8,406**	**822,341**	**8,947**	**1,003,830**	**8,865**	**1,207,098**

Table 7: Marine monthly fish landing by Species, Weight and Value 2012

SPECIES	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep	
DEMERSAL	M.tonnes	000 Kshs	M.tonnes	000 Kshs	M.tonnes	000 Kshs	M.tonnes	000 Kshs	M.tonnes	000 Kshs	M.tonnes	000 Kshs	M.tonnes	000 Kshs	M.tonnes	000 Kshs	M.tonnes	
Rabbit fish	52	6,673	59	6,382	46	5,457	57	7,054	69	8,064	60	6,834	44	5,934	50	7,203	46	
Scarvenger	49	6,183	58	5,760	46	5,367	55	6,779	46	5,381	57	5,897	44	5,700	46	6,211	44	
Snapper	104	13,679	59	8,825	67	9,275	27	2,770	19	2,085	20	2,215	17	2,079	18	2,021	18	
Parrot fish	34	3,567	32	3,256	35	3,650	42	4,343	48	4,440	39	3,782	26	2,974	29	3,611	33	
Surgeon fish	8	808	8	862	8	931	9	1,039	6	795	7	694	5	619	6	686	8	
Unicorn fish	10	1,076	10	1,069	12	1,271	15	1,413	10	1,043	11	1,060	5	605	8	815	10	
Grunter	14	1,596	14	1,312	11	1,297	15	1,622	15	1,754	12	1,610	11	1,567	12	1,626	17	
Pouter	13	1,151	17	1,287	12	1,158	15	1,411	13	1,321	13	1,273	14	1,445	14	1,519	14	
Black skin	16	1,448	18	1,612	17	1,475	20	1,825	16	1,529	19	1,619	13	1,168	17	1,659	22	
Goat fishr	12	1,294	12	1,294	11	1,324	10	1,207	11	1,239	9	1,095	9	1,146	9	1,229	9	
Steaker	2	171	4	350	3	279	6	488	3	305	4	337	4	327	3	294	5	
Rock cod	25	2,824	26	3,002	35	4,155	22	2,443	17	2,524	18	2,155	14	1,850	13	1,746	15	
Cat fish	19	1,709	23	1,806	23	1,921	19	1,796	12	1,302	16	1,553	14	1,443	10	1,773	17	
Mixed dermasal	64	6,148	76	7,808	61	6,097	87	8,551	93	8,785	60	5,747	63	6,514	61	6,595	54	
TOTAL	**423**	**48,328**	**417**	**44,625**	**388**	**43,657**	**399**	**42,742**	**380**	**40,566**	**343**	**35,871**	**282**	**33,371**	**297**	**36,988**	**313**	
PELAGICS																		
Cavalla jacks	33	3,749	18	2,058	16	1,989	17	1,987	18	2,522	15	1,872	14	1,604	13	1,783	14	
Mullets	21	2,174	20	2,013	25	2,539	26	2,567	22	2,469	27	3,045	21	2,760	27	3,304	30	
Mackerels	23	2,600	32	3,294	31	3,280	27	3,209	22	2,523	20	2,202	17	2,100	25	3,052	17	
Barracudas	32	3,002	27	2,874	23	2,968	21	2,373	19	2,386	20	2,299	14	1,609	24	2,866	17	
Milk fish	8	762	6	788	7	816	8	840	7	1,089	6	689	6	746	7	879	5	
King fish	16	1,913	9	1,523	8	1,064	10	1,349	9	1,266	9	1,262	7	1,091	8	1,388	6	
Queen fish	28	2,988	10	1,052	11	1,174	12	1,321	17	1,986	19	2,399	19	2,199	9	1,040	11	

Sail fish	16	2,331	28	3,823	12	1,949	7	1,001	4	579	7	1,061	5	631	8	1,267	7	1
Bonitos/Tunas	13	2,115	16	2,360	22	2,781	20	2,904	11	1,259	13	1,580	10	1,250	9	1,273	17	2
Dolphins	17	1,343	4	416	6	615	6	592	1	89	2	198	1	112	1	200	1	9
Mixed Pelagics	30	3,655	34	4,027	29	3,747	35	3,673	24	6,234	23	2,514	26	3,147	36	5,096	35	4
TOTAL	**237**	**26,631**	**202**	**24,227**	**191**	**22,923**	**189**	**21,816**	**153**	**22,401**	**160**	**19,121**	**141**	**17,248**	**167**	**22,148**	**160**	**2**
Sharks &Rays	34	3,896	29	3,629	19	2,253	17	2,312	36	3,588	37	4,147	42	4,693	17	3,237	39	4
Sardines	13	1,323	14	1,229	18	1,731	16	1,498	19	1,561	17	1,278	17	1,699	19	2,129	15	1
Mixed fish	23	2,772	27	3,247	21	2,394	32	3,483	24	3,312	18	2,654	20	2,444	27	3,390	31	4
TOTAL	**69**	**7,991**	**71**	**8,105**	**58**	**6,378**	**65**	**7,293**	**78**	**8,461**	**72**	**8,079**	**78**	**8,837**	**62**	**8,756**	**85**	**9**
CRUSTACEANS																		
Lobsters	11	12,131	8	6,343	10	8,336	9	9,237	6	5,851	6	6,185	6	5,677	5	6,513	8	5
Prawns	47	9,155	50	11,299	43	6,198	28	5,504	34	4,925	41	6,868	30	6,006	24	5,693	22	6
Crabs	18	3,751	22	4,141	21	4,556	17	3,878	19	4,074	24	9,197	20	4,123	23	5,147	16	4
TOTAL	**75**	**25,037**	**80**	**21,783**	**75**	**19,089**	**53**	**18,620**	**59**	**14,850**	**71**	**22,250**	**56**	**15,806**	**51**	**17,353**	**46**	**1**
MOLLUSCS																		
Oysters	3	196	10	397	7	371	9	1,776	3	428	3	311	5	495	9	477	13	7
Beche-de-mers	4	996	3	745	3	928	3	771	3	634	1	275	2	466	3	3,160	3	1
Octopus	36	3,783	34	3,981	33	3,869	35	4,615	28	3,817	38	4,156	36	5,041	35	4,875	36	4
Squids	8	1,165	12	1,645	13	1,781	13	1,758	11	1,564	10	1,428	11	1,722	13	2,208	13	2
TOTAL	51	6,140	59	6,768	56	6,949	59	8,920	44	6,443	53	6,170	54	7,725	59	10,720	64	8
TOTAL MARINE	**856**	**114,127**	**829**	**105,508**	**767**	**98,997**	**766**	**99,391**	**714**	**92,721**	**699**	**91,491**	**612**	**82,988**	**637**	**95,965**	**667**	**9**

Table 8: Marine fish landing by Species, Weight and Value and by Counties 2012

	Lamu		Tana River		Kilifi		Mombasa		Kwale		Total	
DEMERSAL	**M. Tonnes**	**000 Kshs**	**M. Tonnes**	**000 Kshs**	**M. Tonnes**	**000 Kshs**	**M. Tonnes**	**000 Kshs**	**M. Tonnes**	**000 Kshs**	**M. Tonnes**	**000 Kshs**
Rabbit fish	270	22,725	20	1,160	115	19,449	98	20,437	143	18,004	645	81,776
Scarvenger	263	20,416	21	1,246	93	17,377	79	15,675	146	16,919	602	71,633
Snapper	91	8,640	29	1,711	206	31,128	15	3,054	91	9,664	432	54,197
Parrot fish	156	11,201	10	493	65	10,336	48	8,394	138	14,544	416	44,969
Surgeon fish	11	834	3	125	35	5,151	6	1,241	49	3,944	104	11,295
Unicorn fish	20	1,477	1	48	47	6,080	10	1,701	55	4,374	133	13,680
Grunter	57	4,452	3	200	27	4,709	36	6,078	38	4,416	161	19,855
Pouter	64	4,990	-	-	15	2,161	30	4,531	59	5,595	168	17,277
Black skin	101	8,171	10	616	21	2,973	4	996	88	8,134	225	20,890
Goat fishr	45	3,559	3	160	13	1,966	29	5,461	35	3,794	125	14,940
Steaker	7	627	3	206	7	1,008	-	-	27	2,345	45	4,186
Rock cod	59	5,259	35	2,774	79	14,166	9	1,666	65	6,525	248	30,391
Cat fish	33	2,115	93	5,592	50	9,754	9	1,527	30	2,844	215	21,833
Mixed dermasal	441	38,038	8	488	179	26,006	27	3,569	126	11,431	781	79,531
TOTAL	**1,619**	**132,504**	**238**	**14,819**	**952**	**152,265**	**401**	**74,329**	**1,090**	**112,533**	**4,300**	**486,451**
PELAGICS					**-**	**-**						
Cavalla jacks	64	5,558	33	1,963	61	11,154	24	4,213	59	6,208	241	29,096
Mullets	130	9,603	8	459	60	10,683	23	3,673	70	6,964	292	31,381
Littla mackerels	-	-	21	1,273	112	16,389	34	5,151	162	15,185	329	37,998
Barracudas	63	6,016	23	1,355	71	11,682	30	5,558	74	6,776	260	31,386
Milk fish	29	2,200	-	-	24	3,920	6	1,050	20	2,351	79	9,521
King fish	13	1,070	30	2,907	54	10,379	4	649	21	2,937	121	17,942
Queen fish	27	1,974	67	7,225	44	7,206	11	1,628	30	2,856	179	20,889
Sail fish	8	576	16	1,576	68	11,411	38	6,125	12	1,504	142	21,193
Bonitos/Tunas	11	873	-	-	89	19,753	11	1,564	90	8,617	201	30,807
Dolphins	-	-	39	2,714	9	1,442	-	-	12	1,599	61	5,756
Mixed Pelagics	37	2,912	-	-	209	31,469	4	659	142	17,143	391	52,183
TOTAL	**383**	**30,782**	**236**	**19,472**	**802**	**135,489**	**186**	**30,269**	**690**	**72,140**	**2,297**	**288,152**

Sharks &Rays	23	3,081	117	9,377	109	18,319	76	10,591	48	4,696	373	46,064
Sardines	-	-	1	96	48	6,066	66	7,232	79	4,054	194	17,449
mixed fish/Others	37	4,116	4	215	150	23,681	54	6,814	69	4,643	313	39,468
TOTAL	**60**	**7,196**	**122**	**9,688**	**308**	**48,066**	**195**	**24,638**	**196**	**13,394**	**881**	**102,981**
CRUSTACEANS					0	0						
Lobsters	32	37,246	7	5,878	30	34,293	2	817	25	16,021	96	94,255
Prawns	13	3,377	120	15,544	75	15,032	174	44,434	26	5,359	408	83,747
Crabs	86	29,282	2	231	58	14,800	32	3,123	58	7,815	235	55,251
TOTAL	**132**	**69,905**	**129**	**21,654**	**164**	**64,125**	**207**	**48,374**	**108**	**29,195**	**739**	**233,253**
MISCELLANEOUS					0	0						
Oysters	29	121	-	-	30	5,997	16	823	-	-	74	6,942
Beche-de-mers	7	13,830	-	-	10	1,295	-	-	19	3,551	36	18,676
Octopus	38	3,337	18	1,528	114	16,944	36	5,988	188	21,606	394	49,402
Squids	13	2,554	0	35	24	4,099	25	4,684	82	9,869	144	21,241
TOTAL	**86**	**19,842**	**18**	**1,563**	**178**	**28,335**	**77**	**11,494**	**289**	**35,026**	**649**	**96,260**
TOTAL MARINE	**2,279**	**260,230**	**743**	**67,196**	**2,403**	**428,280**	**1,066**	**189,104**	**2,373**	**262,287**	**8,865**	**1,207,098**

Table 9: Lake Victoria fish landings by Species, Weight and Value 2010 – 2012

	2010			2011			2012		
Species	**M. tonnes**	**000 Kshs**	**% Comp**	**M. tonnes**	**000 Kshs**	**% Comp**	**M. tonnes**	**000 Kshs**	**% Comp**
Lates niloticus	38,375	6,617,885	34.30	46,612	9,100,611	34.84	52,472	7,472,681	44.10
R. Argentae	47,716	2,225,780	42.65	72,314	3,224,846	54.05	52,948	2,813,882	44.50
Tilapia niloticus	15,457	2,062,480	13.82	8,240	1,112,239	6.16	6,081	899,643	5.11
Clarias	4,181	291,350	3.74	2,537	148,710	1.90	2,403	244,836	2.02
Protopterus	3,638	218,455	3.25	1,166	101,118	0.87	1,003	77,216	0.84
Haplochromis	14	840	0.01	527	21,272	0.39	715	62,774	0.60
Others	2,487	126,335	2.22	2,405	138,374	1.80	3,370	204,345	2.83
TOTAL	**111,868**	**11,543,125**	**100**	**133,801**	**13,847,170**	**100**	**118,993**	**11,775,377**	100.00

Table 10: Lake Victoria Monthly fish landings by Species, Weight (M. tonnes) and Value ('000 Kshs) 2012

Species		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
	Weight	3,964	3,400	3,167	4,258	4,639	4,074	3,613	4,497	4,120	5,853	5,396	5,492	52,473
L. niloticus	Value	568,288	483,978	450,893	605,939	660,161	579,876	514,388	639,280	586,987	833,321	767,352	782,218	7,472,681
	Weight	4,180	4,081	4,505	5,496	4,074	5,311	3,192	3,600	4,368	5,262	3,694	5,185	52,948
R. argentea	Value	222,382	213,888	236,692	291,895	221,094	286,768	169,481	189,514	232,179	279,795	194,589	275,605	2,813,882
	Weight	477	575	552	552	449	599	562	435	485	450	383	562	6,080
O. niloticus	Value	69,267	83,398	79,910	79,924	70,959	96,078	80,964	65,636	70,143	65,087	56,875	81,402	899,643
	Weight	198	204	189	178	230	156	235	206	212	177	188	230	2,403
Clarias	Value	20,174	20,785	19,257	18,136	23,434	15,894	23,944	20,989	21,600	18,034	19,155	23,434	244,836
	Weight	81	73	103	126	85	67	89	78	98	56	64	83	1,003
Protopterus	Value	6,236	5,620	7,929	9,700	6,544	5,158	6,852	6,005	7,544	4,311	4,927	6,390	77,216
	Weight	63	74	56	43	34	52	75	78	68	74	51	47	715
Haplochromis	Value	5,531	6,497	4,917	3,775	2,985	4,565	6,585	6,848	5,970	6,497	4,478	4,126	62,774
	Weight	268	366	333	354	313	271	203	227	295	288	198	256	3,372
Others	Value	17,026	21,387	19,458	21,141	17,621	16,776	12,885	14,427	18,447	17,140	12,429	15,609	204,345
	Weight	**9,230**	**8,773**	**8,905**	**11,007**	**9,824**	**10,530**	**7,970**	**9,121**	**9,645**	**12,161**	**9,973**	**11,854**	118,993
TOTAL	**Value**	**908,904**	**835,553**	**819,055**	**1,030,510**	**1,002,797**	**1,005,114**	**815,099**	**942,700**	**942,870**	**1,224,186**	**1,059,804**	**1,188,784**	**11,775,377**

Table 11: Lake Victoria Annual fish landings by Species, Weight, Value and by Counties 2012

	BUSIA		SIAYA		KISUMU		HOMA BAY		MIGORI		TOTALS	
SPECIES	M. tonnes	000 Kshs	M. tonnes	000 Kshs	M. tonnes	000 Kshs	M. tonnes	000 Kshs	M. tonnes	000 Kshs	M. tonnes	000 Kshs
L.Niloticus	952	153,431	10,071	1,510,718	963	142,321	37,263	5,215,031	3,223	451,180	52,472	7,472,681
R. Argentae	2,241	113,217	11,488	689,290	1,360	108,782	34,359	1,727,550	3,501	175,043	52,948	2,813,882
O. Niloticus	1,250	195,675	2,869	401,619	899	141,049	737	115,705	326	45,595	6,081	899,643
Clarias	-	-	74	3,702	862	57,068	1,427	181,661	40	2,404	2,403	244,836
Protopterus	-	-	0	24	291	5,016	582	64,361	130	7,814	1,003	77,216
Haplochromis	-	-	44	2,213	97	5,346	530	53,055	43	2,160	715	62,774
Others	102	9,916	1,035	41,386	420	26,835	1,812	126,073	2	135	3,370	204,345
TOTAL	**4,544**	**472,239**	**25,582**	**2,648,952**	**4,892**	**486,418**	**76,710**	**7,483,436**	**7,265**	**684,332**	**118,993**	**11,775,377**

Table 12: Lake Turkana fish landings by Species, Weight and Value 2012

	Western side		Eastern side		Total	
Species	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**	**M. tons**	**000 Kshs**
Tilapias	1,156	121,332	38	3,892	1,194	125,224
L. niloticus	537	72,460	14	2,582	551	75,042
Labeo	412	35,025	69	5,238	481	40,263
Barbus	10	848			10	848
Distichodus	298	25,289			298	25,289
Hydrocy forskalii	60	5,121			60	5,121
Citharinus	14	1,188			14	1,188
Synodontis	15	1,283			15	1,283
Alestes	276	23,456			276	23,456
Bagrus	49	4,123			49	4,123
Clarias	54	5,545			54	5,545
TOTAL	**2,880**	**295,670**	**121**	**11,712**	**3,001**	**307,382**

Table 13: Lake Turkana Monthly fish landings by Weight and Value 2012

	Western side		Eastern side		Total	
MONTH	M. tons	000 Kshs	M. tons	000 Kshs	M. tons	000 Kshs
January	453	54,312	8	798	461	55,110
February	384	41,565	10	1,086	394	42,651
March	280	28,579	8	810	288	29,389
April	160	17,656	10	503	170	18,159
May	303	29,346	11	1,112	314	30,458
June	276	26,898	10	1,286	286	28,184
July	379	26,932	7	756	386	27,688
August	249	26,425	7	757	256	27,182
September	224	24,648	15	1,293	239	25,941
October	102	10,300	22	2,024	124	12,324
November	42	5,510	6	563	48	6,073
December	28	3,499	7	724	35	4,223
TOTAL	**2,880**	**295,670**	**121**	**11,712**	**3,001**	**307,382**

Table 14: Lake Baringo Monthly fish landings by Species, Weight and Value 2012

	Tilapia		Protopterus		Clarias		Barbus		Total	
MONTH	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**
Jan	2,550	255,000	7,855	785,500	783	31,320	54	2,160	11,242	1,073,980
Feb	4,563	456,300	7,000	700,000	732	29,280	76	3,040	12,371	1,188,620
Mar	4,857	485,700	7,173	717,300	1,451	58,040	66	2,640	13,547	1,263,680
Apr	3,371	337,100	8,392	839,200	1,808	72,320	69	2,760	13,640	1,251,380
May	3,853	385,300	10,314	1,031,400	2,383	95,320	61	2,440	16,611	1,514,460
Jun	2,853	285,300	7,882	788,200	985	39,400	125	5,000	11,845	1,117,900
Jul	3,827	382,700	10,289	1,028,900	948	37,920	107	4,280	15,171	1,453,800
Aug	5,270	527,000	11,842	1,184,200	941	37,640	149	5,960	18,202	1,754,800
Sep	6,052	605,200	11,951	1,195,100	1,605	64,200	147	5,880	19,755	1,870,380
Oct	8,725	872,500	14,094	1,409,400	3,014	120,560	285	11,400	26,118	2,413,860
Nov	9,219	921,900	17,857	1,785,700	5,607	224,280	303	12,120	32,986	2,944,000
Dec	5,575	557,500	49,450	4,945,000	3,937	157,480	174	6,960	59,136	5,666,940
TOTAL	**60,715**	**6,071,500**	**164,099**	**16,409,900**	**24,194**	**967,760**	**1,616**	**64,640**	**250,624**	**23,513,800**
	Tilapia		**Protopterus**		**Clarias**		**Barbus**		**Total**	
	M. tonnes	000 Kshs	M. tonnes	000 Kshs	M. tonnes	000 Kshs	M. tonnes	000 Kshs	M. tonnes	000 Kshs
TOTAL	**61**	**6,072**	**164**	**16,410**	**24**	**968**	**2**	**65**	**251**	**23,514**

Table 15: Lake Naivasha Monthly fish landings by Species, Weight and Value 2012

	Black Bass		O. leucosticus		O. niloticus		T. zilli		Common carps		Mirror carps		Clarias		Total	
MONTH	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**
Jan	25	5,367	-	-	-	-	-	-	9,776	1,236,309	449	55,297	-	-	10,250	1,296,973
Feb	10	1,900	-	-	-	-	-	-	7,419	874,500	466	52,024	-	-	7,895	928,424
Mar	15	2,700	2	230	-	-	-	-	12,087	1,359,767	563	59,050	-	-	12,667	1,421,747
Apr	8	1,000	-	-	-	-	-	-	16,101	1,948,719	893	74,092	-	-	17,002	2,023,811
May	4	1,350	-	-	-	-	-	-	24,262	2,503,062	1,142	111,550	-	-	25,408	2,615,962
Jun	**CLOSED SEASON**															
Jul																
Aug																
Sep	25	3,555	17	1,790	32	1,280	1	100	31,586	2,673,374	1,249	112,659	-	-	32,910	2,792,758
Oct	46	10,745	36	7,930	49	5,880	1	80	16,892	1,745,512	910	96,297	27	2,160	17,961	1,868,604
Nov	26	5,170	59	6,740	-	-	33	2,730	10,934	1,429,859	517	69,956	55	1,650	11,624	1,516,105
Dec	20	3,070	25	2,760	64	7,680	156	13,030	7,031	930,068	260	36,687	57	2,260	7,613	995,555
TOTAL	**179**	**34,857**	**139**	**19,450**	**145**	**14,840**	**191**	**15,940**	**136,088**	**14,701,170**	**6,449**	**667,612**	**139**	**6,070**	**143,330**	**15,459,939**
	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**
TOTAL	*****	**35**	*****	**19**	*****	**15**	*****	**16**	**136**	**14,701**	**6**	**668**	*****	**6**	**143**	**15,460**

Table 16: Lake Jipe Monthly fish landings by Species, Weight and Value 2012

	Tiilapia		Clarias		Total	
MONTH	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**
Jan	9	1,739	1	136	10	1,875
Feb	8	1,243	1	117	9	1,360
Mar	8	1,228	1	151	9	1,379
Apr	8	1,190	1	96	9	1,286
May	8	1,205	1	141	9	1,346
Jun	8	1,153	1	118	9	1,271
Jul	8	1,141	1	91	9	1,232
Aug	8	1,182	1	78	9	1,260
Sep	8	1,199	1	72	9	1,271
Oct	8	1,259	1	70	9	1,329
Nov	9	1,337	1	176	10	1,513
Dec	9	1,395	2	198	11	1,593
TOTAL	**99**	**15,271**	**13**	**1,444**	**112**	**16,715**

Table 17: Tana River dams Monthly fish landings by Species, Weight and Value 2012

	Tilapia		Common carp		Clarias		Eels		Others		Total	
Month	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**
Jan	42	3,294	22	1,551	19	1,789	*	6	*	1	83	6,641
Feb	53	4,210	21	1,868	24	1,905	*	5	*	*	98	7,989
Mar	62	5,037	23	2,044	19	1,999	*	6	*	1	105	9,086
Apr	38	2,293	31	2,303	19	1,750	*	4	*	1	88	6,351
May	43	2,549	22	1,635	17	1,589	*	6	*	*	82	5,776
Jun	38	2,284	24	1,769	17	1,577	*	3	*	*	79	5,634
Jul	32	2,684	30	2,528	17	1,855	1	49	*	1	80	7,117
Aug	31	2,770	25	2,197	17	1,879	*	9	*	1	74	6,856
Sep	28	2,492	23	2,028	15	1,665	*	6	*	1	67	6,192
Oct	30	2,578	24	1,969	14	1,420	*	4	*	1	69	5,972
Nov	31	2,721	24	1,916	14	1,346	*	7	*	1	69	5,992
Dec	33	3,661	25	2,788	14	1,545	*	8	*	1	73	8,003
Total	**463**	**36,575**	**295**	**24,595**	**207**	**20,318**	**1**	**114**	*****	**7**	**967**	**81,609**

Table 18: Lake Kenyatta Monthly fish landings by Species, Weight and Value 2012

	Tilapia		Clarias		Protopterus		Total	
	Quantity (MT)	Value ('000)	Quantity (MT)	Value (000)	Quantity (MT)	Value ('000)	Quantity (MT)	Value('000)
Jan	3	115	*	5	*	4	3	124
Feb	2	94	*	15	*	7	3	116
Mar	1	52	*	17	*	7	2	76
Apr	1	54	*	17	*	9	2	81
May	3	255	*	11	*	15	3	280
Jun	3	91	*	5	*	0	3	96
Jul	3	122	*	5	*	0	3	127
Aug	3	311	*	6	*	0	3	318
Sep	2	160	*	7	*	7	2	174
Oct	3	308	*	7	*	13	3	328
Nov	4	378	*	7	*	6	4	391
Dec	1	67	*	3	*	3	1	73
TOTAL	**30**	**2,005**	**2**	**105**	**1**	**72**	**33**	**2,182**

Table 19: Lake Kanyaboli Monthly fish landings by Species, Weight and Value 2012

	Tiilapia		Protopterus		Clarias		Haplochromis		Total	
Month	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**
Jan	4,608	289,889	810	66,169	1,174	91,232	1,118	70,032	7,710	517,321
Feb	10,478	659,171	2,371	193,687	1,524	118,430	795	49,799	15,168	1,021,087
Mar	3,808	239,561	1,207	98,600	1,905	148,038	1,163	72,850	8,083	559,049
Apr	10,742	675,779	2,405	196,464	1,676	130,242	1,113	69,718	15,936	1,072,204
May	5,581	351,101	1,412	115,346	665	51,677	512	32,072	8,170	550,196
Jun	4,027	253,339	1,662	135,769	577	44,839	413	25,870	6,679	459,816
Jul	6,935	436,281	707	57,755	770	59,837	375	23,490	8,787	577,362
Aug	5,887	370,351	1,911	156,110	616	47,869	325	20,358	8,739	594,688
Sep	5,171	325,308	2,180	178,084	1,885	146,483	545	34,139	9,781	684,014
Oct	8,337	524,481	2,074	169,425	1,737	134,982	475	29,754	12,623	858,642
Nov	8,721	548,638	2,135	174,408	2,093	162,647	654	40,967	13,603	926,660
Dec	5,093	320,401	1,980	161,746	1,890	146,872	467	29,253	9,430	658,272
TOTAL	**79,388**	**4,994,299**	**20,854**	**1,703,563**	**16,512**	**1,283,148**	**7,955**	**498,301**	**124,709**	**8,479,311**
	M. tonnes	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**
TOTAL	**79**	**4,994**	**21**	**1,704**	**17**	**1,283**	**8**	**498**	**125**	**8,479**

Table 20: Tana River delta freshwater monthly fish landings by Species, Weight and Value 2012

	Tiilapia		Clarias		Protopterus		Other		Total	
	Kgs	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**	**Kgs**	**Kshs**
Jan	659	42,530	824	53,200	524	39,830	1,445	76,350	3,452	211,910
Feb	733	46,230	782	51,200	644	38,760	1,282	72,540	3,441	208,730
Mar	736	47,580	833	49,830	515	37,440	1,574	88,100	3,658	222,950
Apr	758	47,360	609	38,070	660	50,970	1,609	89,230	3,636	225,630
May	659	42,030	797	51,770	674	51,200	1,347	75,550	3,477	220,550
Jun	791	50,670	466	28,800	361	27,240	1,041	58,200	2,659	164,910
Jul	957	58,410	783	47,530	420	31,760	1,331	73,660	3,491	211,360
Aug	999	61,070	817	49,350	530	40,530	1,264	75,650	3,610	226,600
Sep	1,005	61,650	765	46,590	573	43,630	1,313	72,610	3,656	224,480
Oct	940	57,080	745	45,810	564	43,040	1,391	77,290	3,640	223,220
Nov	427	26,830	497	30,850	573	43,640	847	47,300	2,344	148,620
Dec	374	22,920	419	25,510	479	36,080	640	35,660	1,912	120,170
TOTAL	**9,038**	**564,360**	**8,337**	**518,510**	**6,517**	**484,120**	**15,084**	**842,140**	**38,976**	**2,409,130**
									-	-
	M. tonnes	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**	**M. tonnes**	**000 Kshs**
TOTAL	**9**	**564**	**8**	**519**	**7**	**484**	**15**	**842**	**39**	**2,409**

Table 21: Exports of Fish and Fishery Products 2012

Commodity	M. Tons	000Kshs	% Quantity	% Value

Nile perch Fillets	8,300	3,191,302	81.7	80.4
H & G Whole Nile perch	547	202,397	5.4	5.1
Fish maws	275	303,465	2.7	7.6
Frozen Lobsters	26	6,865	0.3	0.2
Live Lobsters	18	11,976	0.2	0.3
Live Crabs	23	7,947	0.2	0.2
Frozen Octopus	768	213,557	7.6	5.4
Frozen Cuttle fish	1	125	0.0	0.0
Bech-der-mer	8	3,627	0.1	0.1
Shark fins	8	3,627	0.1	0.1
Marine shells	114	4,613	1.1	0.1
Frozen fin fish	73	18,212	0.7	0.5
TOTAL	**10,162**	**3,967,712**	**100.0**	**100.0**
Tuna loins	5,259	734,426		
Grand total	**15,421**	**4,702,138**		

Table 22: Imports of Fish and Fishery Products 2012

Product	Quantity (M. Tons)	Quantity (Pieces)	Value ('000Kshs)	% Quantity
Dried Sharks	14	-	280	0.53
Frozen Sharks	13	-	1,671	0.49
Frozen Barracuda	25	-	744	0.95
Frozen Lizardfish	55	-	3,101	2.09
Frozen Mackerels	1,634	-	80,914	62.31
Frozen Marine Fish	105	-	5,703	4.00
Frozen Pangasius Fillets	24	-	2,052	0.92
Frozen Sardines	360	-	18,471	13.74
Frozen Tilapia	64	-	5,230	2.45
Fried Tilapia	1	-	120	0.04
Tilapia	137	-	43,898	5.21
Frozen Tuna	12	-	3,683	0.47
Frozen Prawns	60	-	24,365	2.27
Salmon	56	-	8,852	2.14
Frozen fishfingers	6	-	2,632	0.24
Frozen Lobster	3	-	1,957	0.13
Tuna fishmeal	40	-	3,812	1.53
Omena	13	-	1,950	0.50
Fingerlings	0	-	83	0.00
Trout ova	-	100,000	174	-
Live fish	-	11,363	171	-
TOTAL	**2,622**	**111,363**	**209,862**	**100.00**