

FISHING IN EAST AFRICA

- Fishing is the extraction of aquatic life. It involves catching fish and other aquatic life like shrimps, lobsters and crabs e.t.c.

Fishing grounds in East Africa: Fishing is carried out in fresh water and marine water bodies.

- Fresh water bodies include streams, rivers, lakes, ponds and swamps.
- Marine fishing is done in salty water grounds like the Indian Ocean and the Mangrove swamps. Around Zanzibar and Pemba, Mombasa, Lamu

Types/species of fish caught in East Africa

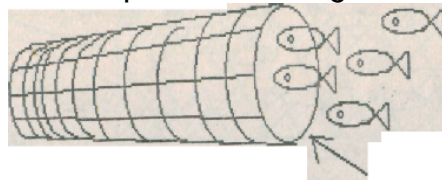
- ❖ There are those that are found close to the surface (pelagic fish) of the lake or ocean. These include Tilapia, Nile perch, Dagaa, Haplochromis in fresh water and Mackerel, Sardines, Anchovy in marine fisheries.
- ❖ There are those that are found deep in the water (demersal fish) or at the bottom (crustacean fish) e.g. shrimps, crabs and lobsters in marine fisheries.

Fresh fish	Local name	Marine fish
Nile perch	Mpuuta	Sardines
Tilapia	ngege	tuna
Lung fish	Mamba	bonita
Silver fish	mukene	Cat fish
clarius	emmale	Barracuda
haplochromis	nkejje	Sail fish
Bagrus	ssemutundu	Dolphin

Fishing methods used in East Africa

These are either traditional or modern methods;

(1) **Traditional Methods** are mainly used for small scale fishing mainly for home consumption and a little surplus for sale e.g. Hooks, Basket traps, Spears, use of arrows.

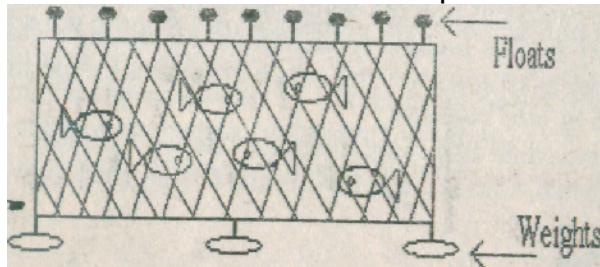


E.g. **used of a basket trap:** A fisherman gets into a boat/canoe that is stationed in the water. He uses a cone shaped basket which is placed in swiftly moving water e.g. along rivers or a stream. When the fish enters the basket, it's trapped and then scooped out of

the water into the boat.

(2) Modern Methods are mainly used for large scale or commercial fishing.

- ❖ **Gill Netting:** This is the most used method for commercial fishing in East Africa. It involves laying a Net vertically in the water. The Net is held vertically by floats on top and weights at the bottom. The nets are left in the water for some time and when the fish try to swim through the net, they are caught by their gills and fins in the net. The Net is then pulled out of the water.

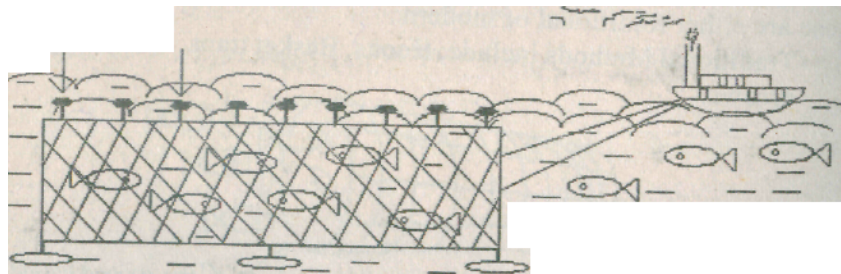


Gill netting is commonly used on Lake Victoria to catch Tilapia. It's divided into two methods which are;

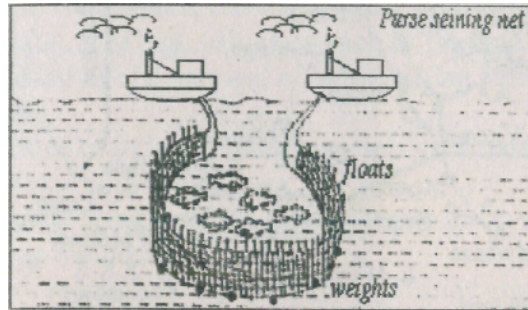
(a) Beach seining: this method involves nets being operated from the

shore/beach. A fisherman in a canoe/boat stretches the net into the water to encircle a shoal of fish near the shoreline. The nets have weights at the bottom and floats on top to keep them vertical in the water. The fishermen pull the net from both sides and the fish catch is poured at the beach. Used to catch tilapia, cat fish and silver fish.

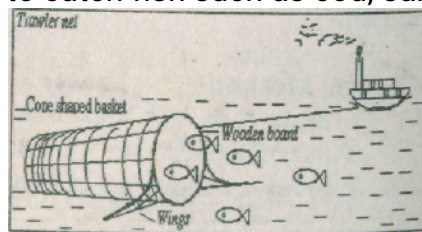
- (b) Drift netting:** This involves use of a much bigger net which is connected to a moving boat called a drifter. The net is held vertically in water by floats on top and weights down. The fish try to swim through the net and are trapped by their gills as a motor boat slowly moves the net. Used to catch anchovy and sardines on the Indian Ocean.



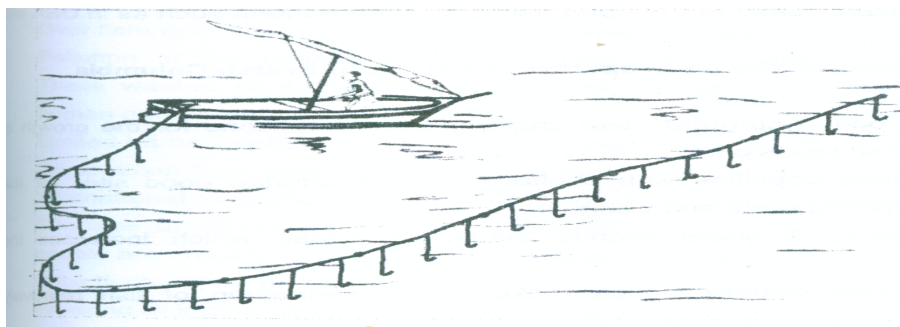
- ❖ **Purse seining net method:** this involve the use of two boats called seine boats. The net is laid out in a circle to surround a shoal of fish attracted by an echo sounder. At the bottom of the net there are rings attached through which the ropes pass. Once the Net has been laid in a circular pattern the ropes are pulled so as to close the bottom of the net to make it bag-shaped to trap all the fish it has surrounded. The Net is then drawn into a boat and the fish is removed. Used to catch sardines, anchovy, mackerel, tilapia and bagrus.



- ❖ **Trawler method:** this involves use of a trawl net dragged by a boat called a trawler. The net forms a wide cone shaped bag whose mouth is kept open by wooden otter boards. The Trawl is pulled along the sea bed by a boat and fish is trapped inside the bag along its way. The net is dragged in water with smooth sea beds. It's used to catch fish such as cod, sardines, mackerel and anchovy.



- ❖ **Long Lining:** In this method, a long rope which has floats and hundreds of baited hooks is set vertically in the water. The rope is pulled by a boat and it's sunk deep in rocky waters where the nets can be damaged. The fish is caught as it struggles to eat the bait on the hook. Fish species caught with this method include Nile perch (fresh water) and cod (marine fisheries).



- ❖ **Lampara method/ lamp attraction method:** It is where bright lights (Lamps) are used to attract fish at dark nights and then trapped. The lamp is held over a floating object e.g. a rock. Fish is attracted to the light and a scoop net is used to trap a shoal of fish. This method is used to catch small fish like Dagaa from Lake

Tanganyika, haplochromis from Lake Kyoga, Silver fish from Lake Victoria and sardines in the Indian Ocean.

- ❖ **Lobster trap:** a metallic cage is put in water. Inside the cage, there is bait which attracts the fish. The fish enters the cage to eat the bait and once it enters the cage, it can't come out. The trapped fish is then removed from the cage by divers. Cages are used in rocky water to trap sea animals that near the sea bed e.g. lobsters, oysters, shrimps and crabs.

Fish preservation methods used in East Africa

Most fish caught is consumed when it is still fresh. However some preservation methods are employed that include:

- Simple/traditional methods for small scale like smoking, sun drying (most common), salting, frying and cooking.
- Modern methods for large scale companies like refrigeration (icing) and fish canning/tinning. In Uganda, such methods are applied by fish processing industries like Masese fisheries, Samaki fisheries, Ngege Uganda Ltd and Gomba fisheries. Most of the fish processing industries are developed near Lake Victoria.

Marketing of fish in East Africa

Some fish is consumed locally but some is exported to Asian and European countries e.g. Japan, China, India, Germany, Britain, France, Netherlands and Belgium.

Factors favouring development of the fishing industry in East Africa

- Availability of large fishing grounds such as Lake Victoria, Kyoga, Tanganyika and Indian Ocean.
- Availability of high value/variety of fish species such as Tilapia and Nile perch with high market demand.
- Introduction of better and effective fishing methods such as the use of gill nets.
- Introduction of better fishing vessels such motor boats fitted with engines which are used for fishing.
- Presence of abundant plankton (food for fish) which has led to fish multiplication in large numbers.
- Availability of Improved transport network linking fishing grounds to market centers.
- Availability of ready market for fish which is both local and international e.g. fish processing industries, local people and neighbouring D.R.C.

- Presence of Indented nature of fishing grounds which are favourable for development of fish landing sites e.g. Kasenye and Majanji on Lake Victoria.
- Introduction of fish corporations which teach better the fishermen new and modern fishing skills.
- Political stability especially along Lake Victoria which has attracted foreign investors e.g. Japanese and Indians.
- Presence of improved storage facilities and processing plants such as refrigerated vehicles to preserve fish until it is transported to the processing plants and market centres.
- Availability of adequate capital for investment e.g. buying boats and engines.
- Supportive government policy which encourages investment in fishing activities e.g. through market research and road construction.

IMPORTANCE OF THE FISHING INDUSTRY

- ✓ Provision of employment opportunities to fishermen hence improving their standards of living.
- ✓ Source of food rich in proteins to the population leading to better health.
- ✓ Source of foreign exchange through fish exports used for infrastructural development e.g. roads.
- ✓ Promotes economic diversification thereby increasing income flow and reduces dependence on agriculture.
- ✓ Facilitates development of fish processing industries which provide more jobs e.g. Masese and Gomba fisheries.
- ✓ Source of government revenue through taxation used for development of schools and hospitals.
- ✓ Stimulates development of other sectors like poultry through providing feeds e.g. silver fish (Mukene).
- ✓ Facilitates development of infrastructures such as roads, markets and training institutions which leads to provision of social services.
- ✓ Has facilitated growth of towns leading to regional balance e.g. Dar-es-salaam, Kisumu and Bukoba.
- ✓ Promotes tourism through game fishing e.g. at Malindi. Earning foreign exchange

PROBLEMS FACING FISHING IN EAST AFRICA

- Limited capital to modernize the fishing industry and also limiting research.
- Most of the fishing grounds like Lake Albert and Turkana are in remote areas which are inaccessible due to poor roads leading to landing sites.
- Limited market for fish due to low income or cultural norms e.g. among the Bahima.
- Limited fish species of commercial value which reduces international demand.
- Over fishing and indiscriminate fishing through use of beach seining method which leads to catching of young fish.
- Narrow continental shelf limits the growth of a large number of fish planktons (fish food)
- Excessive high temperature creates preservation difficulties.
- Political instability especially in Uganda which has scared away foreign investors.
- Threat of crocodiles especially on Lake Kyoga which scare away fishermen.
- Under developed transport network linking to fishing grounds which leads to delays in

delivery.

- Water hyacinth especially on Lake Victoria and Kyoga chokes fish to death.
- Competition with other fish producing countries like Norway Japan which leads to inadequate market.
- Inadequate research has greatly limited improvement of fishing methods implements and fish species.
- Insufficient modern fishing equipment due to lack of capital to buy modern boats with refrigeration facilities, boat engines hence ending up using simple and traditional methods.
- Un-desirable fishing methods like fish poisoning which causes health risks to the local people.
- Inter- territory conflict since some of the fishing grounds are found at borders e.g. Lake Albert, Lake Victoria, Tanganyika and Lake Malawi.
- Reduction of Tilapia due to presence of Nile perch which eats them away.
- Some fishing grounds are too deep and hence doesn't favour fish multiplication.
- Water pollution by industries e.g. Nile breweries which causes death of the fish.
- Post fishing losses e.g. theft of their nets and fish catch.

STEPS THAT HAVE BEEN TAKEN TO SOLVE PROBLEMS FACING FISHING

- ❖ Formation of ministry of fisheries to control fishing activities in the country.
- ❖ Formation of fishing cooperatives for advice, loans and easy marketing.
- ❖ Educating the public about the value of the fish as a source of proteins and vitamins to increase its market.
- ❖ International markets have been opened to local fishermen for example to the European union
- ❖ Removal of the water hyacinth by using chemicals to provide enough oxygen for the fish.
- ❖ There is construction and rehabilitation of road networks linking to fish grounds to improve fish deliveries.
- ❖ Treatment of sewage and industrial wastes to reduce water pollution.
- ❖ Setting strict laws prohibiting illegal fishing methods like poisoning and indiscriminate nets to protect the young fish.
- ❖ Introduction of modern fish preservation methods like freezing and canning by extending power to rural areas.
- ❖ Regular police patrols and UPDF to stop indiscriminate fishing and also to reduce theft on water bodies.
- ❖ Introduction of commercial and high value fish species e.g. Nile Perch which have large market.
- ❖ Increased importation of fishing facilities such as motor boats and motor engines to increase efficiency.
- ❖ Construction of on-site fish processing plants e.g. Masese in Jinja and at Ggaba near Kampala to prevent fish from going bad.
- ❖ Artificial rearing of fish in ponds to reduce depletion of some species e.g. at Kajjansi and Entebbe.
- ❖ Research work has continued in marine, fresh water fisheries and fish farming to improve fish breeding

Effects of fishing on the environment

- Smoking of fish and construction of boats requires timber which leads to

deforestation.

- Fishing exposes fishermen to Tsetse flies and Bilharzia disease.
- Smoking of fish leads to atmospheric pollution which spreads human diseases like flu.
- Fishing leads to growth of towns which leads to high crime rates, unemployment and poor sanitation.
- Wetlands are cleared to construct fish ponds. This has resulted in environmental degradation.
- Increased population in search for work at landing sites leading to environmental degradation.
- Fishermen are exposed to dangerous water animals e.g. crocodiles on Lake Kyoga.
- Some fish which were introduced such as the Nile perch eat away other species like Tilapia leading to reduction in the diversity of fish species in the lake.
- Opening up feeder roads from landing sites to market centres leads to deforestation.
- Clearing of forests to get firewood for smoking of fish leads to deforestation.
- Poor fishing methods like use of poison may lead to health problems for humans.
- Processing industries that are constructed near water bodies have led to pollution due to dumping of wastes in the water bodies.

FISHING IN UGANDA

In Uganda, fishing is developed on Lakes, rivers and swamps. Lake Victoria is the most important fishing ground, followed by Lake Kyoga and Albert, Edward and George. The most common fish caught are Tilapia, Nile perch and Haplochromis.

- ❖ **FISHING ON LAKE VICTORIA:** a number of fishing Villages / ports developed on the Lake including Gomba, Bukakata, Kasenyi, Luzira, Kibanga, Kasensero, Jinja, Majanji, and Masese. Major fish species caught include tilapia, Nile perch and silver fish.
- ❖ **FISHING ON LAKE KYOGA:** This is the second important fishing ground. It's too shallow. Haplochromis, Tilapia and Nile perch are the most common fish caught. Others are Mud fish and Cat fish e.t.c. The lake is characterized by floating Islands of water Hyacinth and a big number of crocodiles which limit fishing. A number of fishing villages/ports developed including Lwampanga, Kachung and Nabyeso. Salting, smoking, sun drying and freezing are used in preserving fish.
- ❖ **FISHING ON LAKE ALBERT:** This is the third most important fishing ground. Tilapia, Nile perch are the most important fish caught. Fishing villages/ports on Lake Albert are:- Butiaba, Wanseko, Biseruka, Buliisa, Buhuka, Ntoroko, Ndaiga and Panyimur. Salting and smoking are mainly used to preserve fish.
- ❖ **FISHING ON LAKE EDWARD AND GEORGE:** Fish caught include, Tilapia, Clarias, Bagrus protopterus e.t.c. The presence of salt from Lake Katwe facilitates the use of salt to preserve fish though smoking is also applied. One of the problems facing fishing here is that Lake Edward is too deep, the area is infested with Tsetse flies, remoteness, poor transport facilities and fish smuggling to Democratic Republic of Congo. Major fishing ports are Rwenshama on Lake Edward and Magyo on Lake George.
- ❖ Fishing is also carried out in swamps e.g. lung fish and mud fish got from swamps along rivers like Katonga and Kagera.

FISHING IN KENYA

- ❖ Fresh water fishing grounds in Kenya include; - Lake Victoria, Lake Baringo, Lake Turkana, River Athi, Tana and Galana, fish ponds at Nyanza, in the central and western provinces at Homa bay.
- ❖ Marine fishing grounds are centered only at the coast. These include: - Malindi fisheries, Lamu, Mombasa and the South Coast fisheries. Today, Kenya is the leading exporter of fish products in East Africa. Such products include:- Fresh or Frozen fish, Fish meal, Fish oil, Canned fish, Salted, smoked and dried fish.
- ❖ Some lakes in East Africa are too salty to contain fish. Such Lakes are barren, they include: - Magadi, Elmenteita and Natron e.t.c.

FISHING IN TANZANIA

- ❖ Fresh water (Inland fisheries) include: Lake Victoria, Lake Tanganyika, Lake Rukwa and Rivers like Rufigi, Pangani, Malagarasi and Ruvuma. Fish caught are Tilapia, and Nile perch from Lake Victoria. Others are Bagrus, Haplochromis.
- ❖ Bukoba, Mwanza and Musoma on Lake Victoria are the major fishing ports.
- ❖ Lake Tanganyika is the second important fishing ground. Its popularity known for a small kind of fish called Dagaa which are caught by use of bright lights at night (Lampara method). The fish are attracted to fish traps by artificial light and then scooped out. Other fish caught are Bagrus and Clarias. Kigoma is the major fishing port along the lake.
- ❖ Marine fishing is confined to the coast along the Indian Ocean, Mangrove Swamps and river estuaries. A lot of marine creatures like Shrimps, Oysters, crabs, Lobsters, Sardines and Herrings are caught. However, Marine fishing is not fully developed due to inadequate capital poor fishing equipment. Important fishing ports along the coast are: Mtwara, Lindi, Tanga and Dar-es-salaam.

Uses of fish

- Provision of food rich in proteins.
- Fish bones can be used for making buttons.
- Used for making cosmetics and soap.
- Used for making animal feeds like chicken feeds.
- Fish fats can be used for making edible cooking oil.
- Fish bones and scales can be crushed to make fertilizers.
- Used in the making of drugs/medicine.
- Fish skin can be used as a leather material for making shoes, bags

GUIDING QUESTIONS

1. a) Draw asketch map of East Africa showing;
2.]
 - (i) two inland fishing grounds
 - (ii) one marine fishing ground
 - b) what are the benefits of the fishing industry to East Africa?
 - c) Outline the Problems facing the fishing sector in East Africa.
 - d) What is the impact of :
 - (i) the fishing industry to the environment.

(ii) suggest the possible measures?