Introduction

The farming of African catfish dates back to several centuries with the first domestication trials conducted during mid 1950's. Under traditional capture based aquaculture, African catfish were reared in wheddos in Benin and Ghana, and barochois which are coastal ponds with rocky walls providing semi-enclosures for extensive rearing of fishes, oysters and crustaceans are, in Mauritius. However, the barachios are no longer used in production. It was mid 1970's when the African catfish was the most desirable aquaculture species particularly in the Central and Western Africa. It is found predominantly in the lakes, rivers, swamps, floodplains and man-made oxidation ponds or urban sewage systems of Africa and Middle East. This species is of major economic importance and also an important aquaculture species thus it was introduced all over the world for farming purposes in the early 1980s. The farming of catfish cannot be important to many large producing countries more evidently in Nigeria such that it provides a source of income, create employment opportunities, contributes towards Gross Domestic Product (GDP), fetches higher price than tilapia due to the fact that it can be sold live at the market. Of highest importance in addressing food insecurities, it provides animal protein to the majority of African populace and has low cholesterol content.

Characteristics of catfish that makes it ideal for farming are that:

- It grows fast and feeds on a large variety of agricultural by-products
- It is hardy and tolerates adverse water quality conditions
- It can be raised in high densities, resulting in high net yields

1 Wheddos are defined as ‘Holes or trenches up to 5000 m² or more in size, dug, by hand in the floodplain of the Ouenne River delta, Benin, West Africa; wild fish take refuge in these whedos as the annual inundation recedes’ (Balarin, J.D. (1984) Études nationales pour le développement de l’aquaculture en Afrique. S. Bénin. FAO Circ. Pêches, (770.5):52p. Rame, FAO)
• It attains higher price than tilapia in other countries and can be sold live at the market
• It matures and relatively easily reproduces in captivity
• It requires less space, time, money and has a higher feed conserving rate.

Apart from food fish, catfish have been utilized as ‘police-fish’ to control over-breeding in mixed-sex tilapia culture in earthen ponds and in Uganda as baits for fishing in Lake Victoria.

**Natural geographical distribution**

*Clarias gariepinus* and *Clarias anguillaris* remain the two catfish species most farmed in Africa, even though more than 100 species populate African waters. *Clarias gariepinus* is commonly referred to as African Catfish, Sharptooth Catfish, Catfish, Common Catfish, Mudfish, Barbel, Sharptoothed Catfish and North African catfish. In Africa, the *C. gariepinus* species is native to the following countries: Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Central African Republic; Chad; The Democratic Republic of Congo; Egypt; Eritrea; Ethiopia; Ghana; Guinea; Israel; Jordan; Kenya; Libya; Malawi; Mozambique; Namibia; Niger; Nigeria; Rwanda; Senegal; Somalia; South Africa; Sudan; Swaziland; Syrian Arab Republic; Tanzania, United Republic of Togo; Turkey; Uganda; Zambia and Zimbabwe (Figure 1). While the *C. anguillaris* has restricted distribution mainly found in Mauritania, in most West African basins and in the Nile.

The farming of *C. gariepinus* extended outside natural habitats and was introduced to Argentina; Bangladesh; Brazil; Cambodia; China; Côte d’Ivoire; Czech Republic; Gabon; Greece; India; Indonesia; Iraq; Lao People’s Democratic Republic; Lesotho; Mali; Myanmar; Netherlands; Philippines; Singapore; Thailand and Viet Nam. The catfish is present in Cyprus; France; Hungary; Mauritania; Poland; Russian Federation even though the origin is uncertain.

The technological advances in culture systems (concrete/fibreglass tanks and water recirculation systems) and development of extruded feed led to commercial sectoral growth. Nigeria is reaping the benefits currently leading the catfish production in Africa.

The African catfish species does not qualify for Near Threatened (NT) or a threat category due to its wide range and ubiquitous habitat demands (http://www.iucnredlist.org/details/166023/0).

![Figure 1: Geographical distribution of the African catfish](http://www.fao.org/docrep/003/w3595e/w3595e03.htm)
**Characteristics**


The African sharptooth catfish is a large, eel-like fish, usually of dark gray or black coloration on the back, fading to a white belly. With an average adult length of 1–1.5 m it reaches a maximum total length (TL) of 1.7 m and up to 60 kg of weight. It is characterized by slender bodies, flat bony heads and broader in size and terminal mouths with four pairs of barbels. The African sharptooth catfish is also gifted with large accessory breathing organs composed of modified gill arches sometimes referred to as rudimentary lungs and only the pectoral fins have spines.

**Habitat**

The African catfish is a nocturnal fish like many other species of catfish. It feeds on living and dead animal matter. It is also able to swallow relatively large prey whole, because of its wide mouth. It can even feed on large water-birds such as the common moorhen. The catfish is mostly found in lakes, streams, rivers, swamps and floodplains which are often subjected to seasonal drying. However, during dry seasons, the African catfish crawl on dry ground to escape drying pools and survives in shallow mud between rainy seasons due to their accessory air breathing organs. Seldom, it produces loud croaking sounds.

**Spawning**

Prior to reproduction, catfish commence with lateral migrations from the larger water bodies where they feed and mature until the age of 12 months, to a temporarily flooded marginal areas where they breed. The spawning occurs naturally at night in the shallow, swamped areas of the rivers lakes and streams. The courtship process is highly aggressive between males and concurrently mating which takes place in shallow waters between isolated pairs of males and females (Figure 2). Under favourable conditions, a ripe female may lay about 60,000 eggs/kg. There is no parental care except careful choice of a suitable site. The egg and

![Figure 2: Natural reproduction of the African Catfish](http://www.fao.org/docrep/fi eld/003/ac578e/AC578E04.htm)
larval development is very rapid hence the larvae are able to swim within 48–72 hours after fertilization. However, under farming conditions, it is difficult for the fish to spawn naturally. Hence, protocols for artificial propagation based on hormonal stimulation were developed since the 1980s.

**Hybridisation of African catfish**

In hatcheries, *Clarias gariepinus* are easily crossed with *Heterobranchus longifillisi* to produce hybrid called *Hetero-clarias*. This crossbred has the following advantages over *C. gariepinus* such as: (i) improved growth compared to the parental species (ii) fish cannot reproduce itself (even when artificial breeding techniques are used so spending energy on reproduction is eliminated) and (iii) fish has white meat (preferred by consumers)

**On-growing techniques**

The African catfish can be grown using different culture systems such as Traditional flooded ponds (commonly used in Nkam Valley, Cameroon and locally known as Mbeuth); Catfish holes in Bangladesh and Nepal; Polyculture ponds in earthen ponds; Peri-urban concrete tanks and raceways (flow-through systems) in Nigeria; Recirculation aquaculture systems (RAS) in Netherlands and in Belgium and cages in some Asian countries. Efforts are currently being made to establish extruded feed plants in many African countries (e.g. Nigeria and Uganda).

**Local dishes in Africa**

In Cameroon, a black soup (bongo) is specifically adapted to make a very tasty stew using a fresh African catfish (Pictures from [http://www.awayfromafrica.com/2009/07/cameroonian-food-part-3-steamed-in.html](http://www.awayfromafrica.com/2009/07/cameroonian-food-part-3-steamed-in.html) and [http://we-are-cameroon.com/?cat=295](http://we-are-cameroon.com/?cat=295))

Ms. Kobusingye Lovin proudly showing catfish sausage and Kati farms Staff packaging and labeling the farmed catfish sausages (pictures received from Ms Lovin, courtesy www.katifarms.org)

References
http://www.fao.org/docrep/003/w3595e/w3595e03.htm (Accessed 26.06.15)


