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DIVERSIFICATION OF SPECIES IN NIGERIAN AQUACULTURE: A Farmer experience

Dr. OLUDAYO I. GANIYU

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OUTLINE

- Fish farming in Nigeria
- State of Aquaculture in Nigeria
- Demand and supply of fish in Nigeria
- Diversification
- Some exotic breeds that can be cultured in Nigeria



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FISH FARMING IN NIGERIA

- Fish farming Is a popular business in Nigeria and it is increasingly growing popular because of the demand of healthy animal protein
- About 80% of fish farmers in Nigeria engage in catfish farming.
- Nigeria, like many coastal developing countries, fish is an important source of food for the population, which is currently estimated at 217 million people according to UN data





STATE OF AQUACULTURE IN NIGERIA

Aquaculture is the rational rearing of fish in an enclosed and fairly shallow body of water where all its life processes can be controlled.

It is a potential means of contributing to the food security of the nation, directly by producing fish for food and indirectly by generating employment for the teeming unemployed populace, save foreign exchange and generate foreign exchange through export of fish and fish products.

Nigeria is the largest market for fish products in Africa.

Nigerian aquaculture is still technologically immature and based on two species: tilapia and catfish.





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- Access to fresh fish from inland capture fisheries in the north is more limited, and the diversity of fish consumed there is lower than in southern states.



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DEMAND AND SUPPLY OF FISH IN NIGERIA

Fish accounts for around 40 percent of the country's protein intake

Fish consumption in Nigeria is measured at 13.3kg per person per year, while the world's average is around 21kg

Nigeria's annual fish demand is 3.6 million metric tonnes, but only able to produce only 1.2 million metric tonnes through the artisanal, industrial and aquaculture.

The deficit is being supplemented by frozen fish importation, which is being used to bridge the gap costing it about 1.2 billion USD annually which depletes Nigeria's forex.





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Diversification

Diversification of fisheries and aquaculture means a substantial change in the production activity, responding to changes in the availability of fish stocks (for fisheries).



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Drivers Of Diversification

- Market forces
- Opportunities
- location or resource availability
- Diseases
- Government policies
- Social pressure





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POTENTIALS TO LOOK INTO WHEN SELECTING BREEDS

- Fast growth rate
- Low FCR
- Easy propagation
- Low labour and technology



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Some exotic breeds of fish that are now cultured in Nigeria with 95% -98% survival rates.

Some of this special breeds Include

- Pangasius hypophthalmus
- Rohu
- Freshwater brama
- Common carp



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PANGASIOUS HYPOPTHALMUS

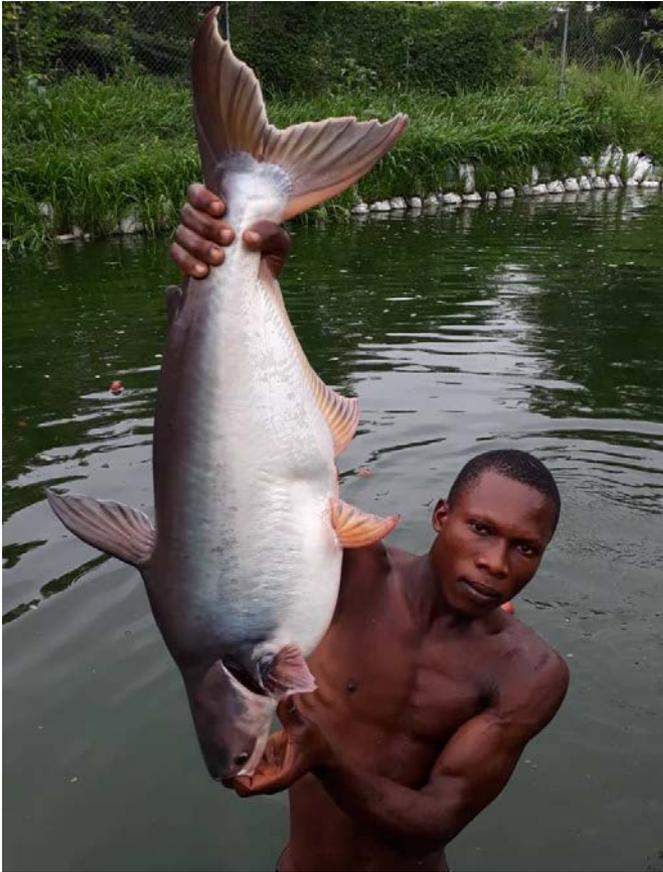
- Pangasius can be farmed under monoculture and polyculture systems
- They can grow to 1 – 1.5kg in 4 month and annual yields are up to 90 to 120 tons per hectare.
- They can tolerate temperature range of around 30°C.
- They have high disease tolerance
- Pangasius can be produced using feeds of 28% to 32% Protein.
- Pangasius fish has high stocking density





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PANGASIUS BROODSTOCK



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PANGASIUS JUVENILE HARVEST



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PANGASIOUS TABLE SIZE HARVEST



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FRESH WATER BRAMA

Freshwater brama is a Neotropical (preferred temperature range 25°-34°C), benthopelagic, omnivorous fish.

Freshwater brama has proven suitable for both monoculture or polyculture systems. The farming and husbandry of freshwater brama characterized the species as easily adaptable to farming conditions and feeding on formulated aquafeeds.

It can be farmed in extensive, semi-intensive and intensive systems.

They are resilient under high stocking densities

Adaptation to routine farm management

Unsurpassed growth rate 2-3kg year⁻¹.





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Freshwater Brama juvenile harvest



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FRESH TABLE SIZE BRAMA FISH HARVEST



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Owere



FROZEN BRAMA FISH



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COMMON CARP

- They grow in a short period of time
- Ability to adapt to farms local climatic condition
- They show a ready preference to artificial feed
- They have high disease resistance



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FRESH TABLE SIZE COMMON CARP



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ROHU

- It's a freshwater bony fish proven to have up to 80% survival rate
- It can attain 1kg in 3 month when cultured with proper feeding.
- They support monoculture and polyculture systems
- Good seedling production for induced spawning





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ROHU POST JUVENILE



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PROSPECTS IN DIVERSIFICATION

Nigeria is the most populous nation in Africa and 7th in the world with population of about 217 million people and 3% annual population increase projection.

In deed there is guaranteed future for fish farming in Nigeria. There is ready, larger and expanding market for fish farming business.

If we all embrace and implement backward integration in the commercial fish farming sector. This will boost local production of fish. With the rise in the consumption of fish products in Nigeria, one can only imagine how limitless supply would be when the amount expended on importation is invested in the local production value chain.





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Farm production of tilapia and catfish alone is unlikely to be sufficient to bridge the demand-supply gap for fish or satisfy consumer demand for aquatic food over the coming decade. As a result, it is vital to explore opportunities for species diversification in Nigerian aquaculture with indigenous and/or introduced species.

These breeds are good substitutes for the commonly imported breeds of fish and if we can embrace this, The era of importation will fizzle out.



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Some of the domesticated fish imported and sold as frozen have been cultured and they have thrived well in Nigeria with 95-98% survival rate, acceptance in the market, low cost of production and they can be farmed under monoculture and polyculture systems.

Leveraging on this breeds can help in meeting up with the future supply and demand as catfish alone cannot help us to meet up with that. These breeds have much prospects in helping fish farmers, giving food security in the country, investment opportunities and exportation for the growth of Nigeria economy.



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