LAGOS STATE GOVERNMENT
MINISTRY OF AGRICULTURE
AGRO-PROCESSING, PRODUCTIVITY ENHANCEMENT AND LIVELIHOOD IMPROVEMENT SUPPORT PROJECT

HOW INTRODUCTION OF ALL-MALE TILAPIA CAGE CULTURE TECHNOLOGY INCREASED FARMERS' PRODUCTIVITY AND FISH PRODUCTION IN LAGOS STATE

Value Chain: Aquaculture

Stakeholders: Fish farmers, Aqua culturists, Research Institutes, Nigeria Institute for Freshwater Fisheries (NIFFR), Nigeria Institute for Oceanography and Marine Research (NIOMR)

State: Lagos State

Target Audience: Fish Farmers, Investors

Keywords: Tilapia, Aquaculture, Water bodies, APPEALS project, Lagos State, Cage culture, Fishing, Investors.

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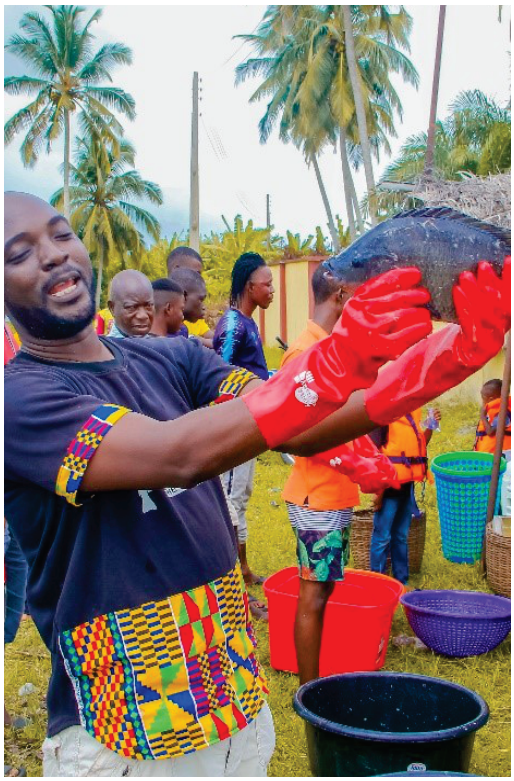


Executive Summary

This document captures the success story on increasing fish production and productivity through the adoption of All-Male Tilapia cage culture technology by Mr. Sejiro Michael Oke-tojinu, the Chairman of the Ashfod Cooperative in Badagry and a beneficiary of the Agro-Processing, Productivity Enhancement and Livelihood Improvement Support (APPEALS) Project cage culture project in Afowo community, Badagry Local Government Area of Lagos State, Nigeria.

Over sixty (60) percent of farmers in Afowo and its environs in the Badagry community are predominantly fish farmers and they depend on fishing for food and means of livelihood. They are also into other small-scale businesses like rice farming and poultry for sale and consumption. The closeness of Badagry to the Benin Republic also provides an avenue for some people to be involved in the importation and exportation of goods.

The farmers and populace in the State have been clamouring for alternatives to cultured Catfish for business diversification and taste preference respectively, thus the project facilitated the popularization of Tilapia, a scaly fish which is an adaptable and widely acceptable fish species. Tilapia can be reared in tanks, earthen ponds and cages in fresh and brackish water. However, Lagos APPEALS Project popularised the cage culture technology because it enhances fast growth due to the superior water quality above the other culture medium. Sejiro and a host of other farmers in the State were facing a lot of challenges before the intervention of the Lagos APPEALS Project. Some of their challenges in Tilapia fish culture were poor growth performance of fishes due to poor oxygen level provisions, high reproductive nature of Tilapia leading to the proliferation of fish beyond the initial budget of farmers, poor pricing, high mortality rate and low patronage due to unattractive sizes attained.

However, the introduction of Tilapia cage culture technology by APPEALS Project in Lagos State has led to productivity enhancement in the fish production. In the past, farmers could not attain beyond 250gms in 9 months but with the introduction of the All-Male Tilapia technology, the farmers are now recording up to 800gms in 6 months. The technology has also provided the opportunity for fish to be reared in natural water to ensure environmental compliance and natural taste retention, thereby addressing some of the previous challenges faced by farmers.

Context and Challenges

The challenges Sejiro and a host of other aquaculture farmers in Lagos State faced before the intervention of Lagos APPEALS Project were enormous in Tilapia fish production. They had challenges of poor growth performance of fishes due to poor oxygen level provisions. There was also high reproductive nature of Tilapia leading to the proliferation of fish beyond the initial budget of farmers.

Cage culture

The challenges Sejiro and a host of other aquaculture farmers in Lagos State faced before the intervention of Lagos APPEALS Project were enormous in Tilapia fish production. They had challenges of poor growth performance of fishes due to poor oxygen level provisions. There was also high reproductive nature of Tilapia leading to the proliferation of fish beyond the initial budget of farmers.

The fish farmers also experienced poor pricing and patronage due to unattractive sizes attained at harvests, which were not usually meaty and fleshy. The farmers also experienced high mortality rate and lack of Tilapia seed because few Tilapia hatcheries existed due to low demand of Tilapia fingerlings and juveniles by farmers. The Tilapia seed mostly available then were mixed sex of Oreochromis niloticus. Tilapia feeds were also not easy to come by, as feed producers never saw the need for it as a result of little or no demand.

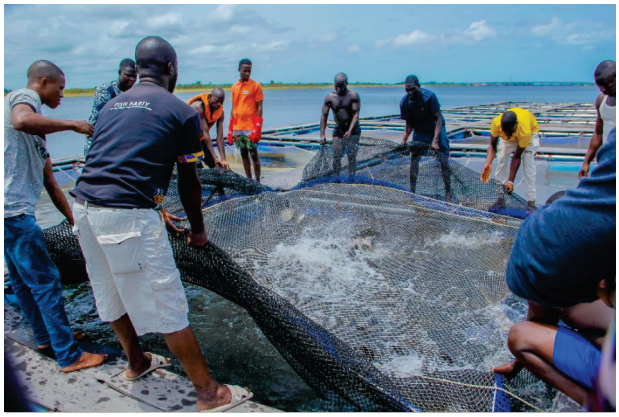
Action, Steps and Solutions

The Agro-Processing, Productivity Enhancement and Livelihood Improvement Support (APPEALS) Project in Lagos State has impacted farmers positively by enhancing their productivity and improving the livelihood of millions of people directly and indirectly. This has impacted the lives of aquaculture farmers in the State positively.

The project conducted a comprehensive water analysis on water bodies across the State and four (4) water bodies were found suitable for Tilapia cage culture. These water bodies are; Ebute Afuye, Epe, Agbowa, Igbo-Olomi, Lekki and Badagry – Gbaji, Igbale, Afowo.

Needs assessment was carried out, capacity building on Tilapia production was conducted while business plans were then developed by the farmers' groups. The Commodity Interest Groups (CIGs) across these locations were supported mainly with construction of the cages, All-Male Tilapia fingerlings, and Tilapia probiotic feeds.

The fear of a lot of the fish farmers in Afowo community including Sejiro regarding investment in Tilapia have been taken care of by the implementation of the cage culture technology system by Lagos APPEALS Project with the provision of cage culture, inputs, training, operational management and marketing linkage. All of these served as the game-changer in the resuscitation of the obviously dead Tilapia culture system in Lagos and beyond.



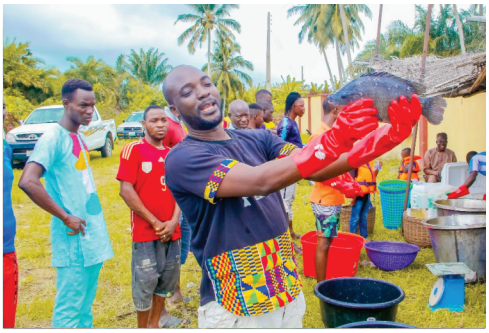
Harvesting of Cage Culture Tilapia fish

Harvested Tilapia fish

Results

After about six to seven months of Tilapia cage culture system, Sejiro observed a great improvement in the sizes of fish in the farm. The average harvest was between 800 kg and 1.2 kg

It is a success story of performance looking at the size of the fish Sejiro and co-farmers harvested after the Project's intervention. Many of the benefitting farmers never imagined they could harvest such big size Tilapia in a short period of six to seven months duration.



Sejiro with harvested Tilapia fish

Lessons Learned

- The All- Male Tilapia specie controls reproduction.
- Predators can be easily controlled in the cage culture system.
- Cost of labour is reduced.
- Cage culture system is easier to manage.
- It offers better yield and pricing.
- Higher Return on Investment (RoI) is achieved.
- Cluster farming improves communal relationship and unity amongst farmers at CIG level.

- Tilapia and cage culture has opened up more opportunities across the value chains from seed and feed production to sales and logistics, among others.
- The bigger the fish the better the price it commands.
- Better marketing strategies and sales outlets for the teeming population and increasing demand.
- There is room for more investors in the Tilapia cage culture system
- There is abundance of more than one specie

Recommendations

- Cage culture is highly recommended due to its cost effectiveness compared to the use of concrete surface tanks or ponds.
- Tilapia fish raised in cages consume very little natural water body hence commercial floating feeds are necessary with a complete balance of nutrients to get good growth and food conversion.
- More investors should be encouraged in tilapia cage culture.
- Group dynamics should be encouraged.
- Potentials of natural water bodies in Lagos should be exploited and harnessed for fish production.
- Water transportation challenges for farmers should be addressed.

RESOURCES AND REFERENCE MATERIALS

- Lagos StateAgro-Processing, Productivity Enhancement and Livelihood Improvement Support (APPEALS) Project
- Mr. Sejiro, a fish farmer in Afowo Community of Badagry, Lagos State.

FOR MORE ENQUIRIES CONTACT

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