MONOSEX PRODUCTION IN AFRICAN GIANT CATFISH: Heterobranchus longifilis USING Tribulus terrestris EXTRACT (Plant extract)

IBADAN, Nigeria
MATTHEW OJELADE
https://www.youtube.com/watch?v=YcvtWzo0lxw
https://www.youtube.com/watch?v=1orAz-NysB4
https://www.youtube.com/watch?v=UNFbhATeGFo

Year Founded:
2005
Organization type:
for profit
Project Stage:
Scaling
Budget:
$50,000 - $100,000
Twitter:
https://twitter.com/vermacglobal
Facebook:
https://www.facebook.com/catfish.farminginvestment

- Business
- Employment
- Income generation
**Trade**

**Project Summary**

**Concise Summary:** Help us pitch this solution! Provide an explanation within 3-4 short sentences.

Monosex (all males catfish) production in African giant catfish *Heterobranchus longifilis* using *Tribulus terrestris* extract (natural plant extract). Our innovation creates jobs for educated & non-educated Africans.

**WHAT IF - Inspiration:** Write one sentence that describes a way that your project dares to ask, "WHAT IF?"

"What if a plant weed reduces hunger, malnutrition & unemployment among millions in Africa?"

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**About Project**

**Problem: What problem is this project trying to address?**

African catfish breeders & growers often faced with problem of in-breeding in catfish which usually resulted into stunted growth & poor feed conversion. Plant extract (*Tribulus*) used to reverse the sex of all female catfish at a day-old. Fish farmers can then stock fast growth All Males Catfish & hybrid for optimum yield. Increase yield in fish production would result into creation of more jobs, reduction in hunger & malnutrition among Africans.

**Solution: What is the proposed solution? Please be specific!**

We have two solutions to low yield in catfish production: (1) using natural plant weed, *Terrestris tribulus* (non-carcinogenic plant with no known side effect in human) to reverse the sex of all females catfish to ALL MALES CATFISH population using most eco-friendly technology. (2) Inter-generic cross (crossbreeding) between the catfish species; after having abundantly made more males population of *Heterobranchus* spp (most expensive & scarce species of African catfish) available at cheaper rates for crossbreeding with other African catfish species females like *Clarias gariepinus* to produce hybrid. These two methods proffers breakthrough solution to increase catfish production in Africa like does YY Super Male Tilapia in global aquaculture.

**Awards**

Gold Medal as one of Top 10 Finalist(Growth Category) in 1st Business Plan Competition for entrepreneurs in Sub-Saharan Africa organized by Islamic Development Bank Group on Dec. 4th 2014, Casablanca, Morocco.

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**Impact: How does it Work**

**Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.**

When African Catfish is artificially or naturally spawned, sex ratio in a population is 1:1. In a biomass, male tends to grow faster than female, & fish farmers are primarily interested in fast growing catfish fingerlings to stock their ponds. Innovation of sex reversal in catfish breeding allows for the production of over 92% All Males Catfish (AMC). E.g. in Nigeria most catfish farmers are switching to stocking of hybrid catfish for optimum profit. But the challenge posed b catfish breeders are the expense & scarcity of *Heterobranchus* spp for the use of its males to cross *Clarias* gariepinus. Presently some of the farmers that patronize our catfish hatchery for AMC & hybrid fingerlings reiterate their high profit potential during harvest.

**Impact: What is the impact of the work to date? Also describe the projected future impact for the coming years.**

Our innovation has been immensely contributing to increase in fish production in Nigeria. In the last 10 months the demand for our products has increased 120% & the yield at harvest has drastically increased by 32% among the fish farmers in my locality. I have trained about 25 young graduates in modern fish production on our farm in the last 6 months. Presently 14 out of them have started fish farming with great enthusiasm having had first hand training on modern catfish production. The remaining of my trainees are presently seeking for start-up fund to kick off. We intend to impact our knowledge among African youth to create more entrepreneurs (fish farmers) for self-employment to reduce the numbers of job seekers roaming the streets. Our innovation tends to narrow the gap between demand & supply of fish in entire Africa continent for less dependent on importation of fish into Africa.

**Spread Strategies: Moving forward, what are the main strategies for scaling impact?**

I have studied with keen interest how the positive impact of production of YY super male tilapia is sustained globally since last decades. I plan to adopt such sustenance. To sustain my impact over a long period of time in Africa, I would adopt the use of social media & internet to train prospective catfish breeders how to produce all male catfish using the natural ways. For quick infiltration of my innovation into Africa market, I plan to train 1,000 graduates from Sub-Saharan African countries in AMC catfish breeding & spread the idea to other fish farmers in their locality for full impact.

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**Sustainability**

**Financial Sustainability Plan: What is this solution’s plan to ensure financial sustainability?**

We are into production of catfish fingerlings, table-size & fish feed. We intend to financially sustain our innovation of AMC production by gradual expansion; funded from the proceeds of our current business revenue. Our business was established in 2005 with less than U.S$100 initial capital, it has grown over the years by re-investing the proceeds for the expansion. We intend to judiciously optimize the "business proceeds re-investment approach"
Marketplace: Who else is addressing the problem outlined here? How does the proposed project differ from these approaches?

In African catfish, sex reversal to produce monosex male population by using the hormone \(17\alpha\text{-methyltestosterone}\) is not effective (Pongthana 2010). The use of natural plant extract; tribulus terrestris to produce all males African catfish (AMC) is very effective. Some of the success achieved in fish reversal by other researchers is done by using synthetic chemical hormones with very low production achieved. Presently, our market survey in Nigeria reveals that there is no known any supply of AMC fingerlings using natural plant weed extract, tribulus terrestris, for sex reversal presently.

Team

Founding Story

I started fish business with initial capital of U.S$85 in 2005 as an undergraduate student. Presently, I have my permanent farm sites acquired from the proceeds of the business over the years. Recently I was not satisfied with the high amount expended on importation of frozen fish to augment the deficit in fish demand & supply in Africa. Having watched with keen interest over the years how male catfish grows faster than female, we began to research on how to produce All Male Catfish(AMC) like YY Super male Tilapia to increase fish yield. We came up with innovation of AMC using plant weed, my business partner(my wife) embarked on her Msc Research Thesis in 2011-2014 to validate our innovation

Team

Femi-Matthew Ojelade: MD/CEO (Vermac Global Resources, Nigeria), Full Time, MBA (Obafemi Awolowo University, Ile-Ife), Entrepreneurship (PAN-Atlantic University, Lagos), B.Agric. Animal Science (Obafemi Awolowo University, Ile-Ife), Experience: 10 years. Entrepreneur, Consultant, Farmer, Expertise: Aquaculture, Agri-business Development, Entrepreneurship, fish breeding Adetomi Ojelade: Executive Director (Vermac Global Resources, Nigeria) Full Time MSc Animal Sciences, Obafemi Awolowo University, Ile-Ife. B.Agric. Animal Science (Fish Biotechnology) (Obafemi Awolowo University, Ile-Ife), MBA (Obafemi Awolowo University, Ile-Ife). Entrepreneurship (PAN-Atlantic University, Lagos), Entrepreneur, Scientist. Experience: 5 years Expertise: Agriculturalist, Fish Biotechnologist & Nutritionist, Researcher, Farmer We have other 6 employees in our company. As our projects grows we intend to re-arrange our company organogram to accommodate external investors, funding e.t.c

File attachments:
- business plan presentation matthew ojelade.ppt
- research to produce all males catfish.ppt
- prof o.g omitogun rec letter.pdf

Background

Please confirm how you heard about the Unilever Awards:

- from www.opportunitiesforafricans.com

Please confirm your role in the initiative (eg Founder/co-Founder) and your organisational title:

- Co-Founder. MD/CEO

Which of the 8 UN Global Goals (Sustainable Development Goals) pre-selected for this competition does your solution relate most closely to? [select all that apply]

- No Poverty, Zero Hunger, Decent Work and Economic Growth, Responsible Consumption and Production.

Leadership and the Unilever Awards

Please provide examples of any previous entrepreneurial initiatives you have pioneered.

I have made it a point of duty training youth in catfish production & entrepreneurs development since 2008. As at my last count, I have trained not less than 500 youth in catfish production & agribusiness development in Nigeria in the last eight years. Most of them being unemployed youth have established their own agribusiness ventures and have employed themselves, now making good income & descent living

Beyond your existing team, who else are you working with to achieve your objectives, eg partners, advisors, mentors?

My mentor, Professor (Mrs) Ofelia Galman Omitogun, Faculty of Agriculture Department of Animal Science, Obafemi Awolowo University, Ile-Ife, Nigeria. She was my teacher in my university days and was also the project supervisor for my wife, Mrs. Adetomi Ojelade, during her MSc Research Thesis on our innovation.

At completion of the research, “MONOSEX (ALL MALES CATFISH (AMC)) PRODUCTION IN AFRICAN GIANT CATFISH Heterobranchus longifilis USING Tribulus terrestris EXTRACT (Natural plant weed extract)”, it won Ministry of Agriculture Award for best MSc Project Thesis in 2014 in the Faculty of Agriculture Obafemi Awolowo University Ile-Ife, Nigeria. We have been commercialized our research result in the last 11 months.

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