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18 /MHS07 /005

PHARMACOLOGY

AFE: assignment on food production and health

IDENTIFICATION: Business plan on a Fishery Farm

Fish farming or pisciculture involves raising fish commercially in tanks or enclosures such as fish ponds, usually for food. It is the principal form of aquaculture, while other methods may fall under mariculture. Worldwide, the most important fish species produced in fish farming are carp, tilapia, salmon, and catfish. Demand is increasing for fish and fish protein, which has resulted in widespread overfishing in wild fisheries. China provides 62% of the world's farmed fish As of 2016, more than 50% of seafood was produced by aquaculture

Today, fish provides more than one billion poor people with most of their daily animal protein. Fish provides nutrients and micronutrients that are essential to cognitive and physical development, especially in children, and are an important part of a healthy diet. As an affordable animal source of protein in some of the poorest countries, fish is the primary source of nutrition, creating growing demand for this staple. However, fish supplies are failing to meet demand and there are major shortages in some critically poor countries where they are needed most.

Globally, more than 250 million people depend directly on fisheries and aquaculture for their livelihoods and millions are employed in fisheries and aquaculture value chains in roles such as processing or marketing. The very poor often rely on fishing as a primary source of income

For Nigerians and Nigeria, fish farming is also a great attraction for foreign investments. Since Nigerians have a stable place at the global market of fish production

Of course, the competition is high and it's necessary to give efforts to be successful.

Why I chose fish Farming

1. Fish is Popular

Fishery products are by far the most popular animal products in the market, constituting more than 60% of meat products in the Nigerian market.

2. Fish is Source of Protein

Fish provides one of the highest sources of protein. It is a low-fat high-quality protein that is filled with omega-3 fatty acids and vitamins such as D and B2 (riboflavin). Fish is also very rich in calcium and phosphorus and is equally a great source of minerals, such as iron, zinc, iodine, magnesium, and potassium for the body.

3. Fish Sells Quick

Fish is a hot commodity in the market. Fish sells faster than any other animal products

in the market and is relatively cheaper than meats, making it the number one choice when it comes to affordability.

4. Fish Matures Quickly

If proper steps and processes are taken fish grows rapidly. Fish grows very fast as practices in fish farming make it possible for farmers to increase the fastness of their fish growth by giving them certain feeds, ensuring that you harvest and sell within the short period of time.

5. Fish Contains Omega-3

The best provider of Omega-3 acid is the proper consumption of fish. Fish is the biggest source of Omega-3 fatty acids which is extremely beneficial to a human heart; Omega-3 helps to keep our heart and brain very healthy. Since the human body doesn't produce Omega-3 fatty acids, the only source through which we can get it is by what we eat, that is where fish comes to the rescue.

6. Fish Farming is Profitable

Fish farming is very profitable. With proper planning and good management, N3 million investment in fish farming could easily result in N4 million of pure profit within six months.

7. No Environmental Hazard

Fish farm does not cause any environmental hazard. Unlike poultry farming, you can set

up the fish farm anywhere, including residential areas. If you have a spacious compound, you can easily set up a small fish farm within your backyard without any regulatory precaution.

PREPARATION : FEASIBILITY REPORT

A feasibility report on the development of a Fishery Farm at Umuaka imo state Nigeria.

The fish farm proposed is expected to supply fish to Umuaka and its neighboring communities at affordable prices. The town is close to two of the largest cities in the state, Owerri and Orlu. The demand for fish in both towns is huge and some of the fish from the farms can be transported to these places for sale to increase the market for the product.

1. Technical feasibility : The project would be in two separate compartments: Fish production unit and a hatching unit. The fish production section would be concerned with the production of table size fish for consumption. The layout of production would start with 2 production ponds measuring 25m^2 each. In the 1st year of operation, the ponds would be constructed and stocked. The two ponds would have a stocking density of 6,000 catfish fingerlings each, per culture period. The 2 initial production ponds would therefore have total fish density of 12,000 catfish fingerlings when fully stocked. It is expected that total yield would be increased per unit of production. In the second year, 2 additional production ponds measuring 25m^2 each would be constructed.

The bio-technical feasibility of the selected species is given as follows:

The catfish belongs to the family Clarinda. This family is divided into two genera: Claries

and Heterobranchus. Claries have 8 major species while the latter has 3 species in the southern zone of Nigeria. The former has a single rayed dorsal fin extending almost to the tail; the latter has a rayed dorsal and adipose fin. The Claries family would be used for the project because they feed on wide variety of food ranging from weeds and planktons to insect larvae, snails

crustaceans, worms and shellfish. The Claries species can accept a wide variety of agricultural by-products, brewery and flourmill wastes which are available locally. When catfish are stocked at the stocking rates described; with proper feeding, they can grow to an average of 1000 g in a year.

The hatchery section starts in the second year of production. At this time, all the fingerlings required for the production ponds would be supplied from the hatchery. In the hatchery, catfish would be artificially induced to spawn by hormonal treatment using pituitary hormone within the hatching units. Catfish matures after 7-10 months at a weight of 200- 500 g. However, spawning would not take place since the final stimulation associated with the rise in water levels and the inundation of marginal areas would not occur. In the hatchery, four female brood fish each weighing 500 g can produce 10% body weight of eggs. The rate of hatchability is estimated at 50% and the survival rate of fry to fingerling at 30%. This means that the hatchery can produce 20,000 fingerlings from the 4 brood fishes, sufficient to meet the fingerling requirements of the production ponds after the initial cropping.

When the project is fully implemented, a total of 1 brooder pond and 2 nursery transition ponds would be constructed. The brooder ponds measure 4×4 m (16 m²) and the nursery/transition ponds measure 3×4 m (12m²). 4 production ponds would also be

constructed and stocked for the production ponds, measure 5×5 m (25 m²)

2. Economic feasibility : The construction would be undertaken manually, because, it would be more expensive to transport earth moving equipment from the state capital to site. The method of construction would also provide opportunity for greater participation by the unskilled unemployed labor force in the project area. With close supervision of the construction work, it is expected that the time schedule for the implementation of the project would be easily met. A farmhouse would be required in the site to secure the project. It would provide areas where farm equipment would be assembled and maintained. A small office and a store would be constructed as part of the building to enable adequate control of the staff activities on the project site. In view of the high cost of building materials and transportation of such materials to site, it is estimated that it would cost =N= 2,000,000. All other equipment such as generator, tanks and other equipment would be procured from established companies. The total cost of all infrastructure for fish farm, would cost =N=5,660,000.

3. Commercial feasibility : The scarcity has also made fish very expensive and unaffordable to majority of the population in the area. This has resulted in serious deficiency in the intake of protein by the people in the area. The prices of fish produced in the farm would be cheap relative to the present supply. This can aid the increased intake of protein by majority of the people as it would be affordable and accessible. The project would provide direct employment for people for this operation.

4. Financial feasibility :

Activity	Amount (=N=)
A. Cost of land and land development	
Land acquisition	2,000,000
Survey of land	100,000
Pond construction	1,000,000
Total	3,100,000
B. Fish farm infrastructure development	
Cost of farm house / office	2,000,000
Fencing of the farm	1,500,000
Fish shade building	500,000
Generation of power (5 KVA)	100,000
Water pump	60,000
Bore hole	1,000,000
2 800Litre tanks	500,000
Total	5,660,000
C. Fish production and hatchery materials	
Equipment (Nets, water analysis kit etc)	1,000,000
Total	1,000,000
D. Salaries and wages of staff	
Project /farm supervisor	600,000
2 Farm assistants	480,000
Security	240,000
Total	1,320,000

E. Variable inputs	
12,000 Fingerlings	360,000
Feed	400,000
Organic fertilizer	20,000
Other chemicals	20,000
Transportation	500,000
Total	1,300,000
F. Other operational costs	
Fuel	
Maintenance on pond	100,000
Maintenance on equipment	200,000
Stationery	50,000
Total	350,000
Grand total	12,730,000

The operational costs for the fish farm include the cost of the day-to-day management of the hatching, the wages and salaries of staff and procurement of other operational inputs. The purchases for all the materials making up the hatchery equipment will be made from Owerri and transported to the project site.

Salaries and wages

The estimated total annual expenditure on wages and salaries is estimates at =N=1,320,000.e

Variable costs

The total variable costs of the project amount to =N=1,300,000 for procurement of fish fingerlings, feed ingredients, inorganic fertilizer, inorganic fertilizer and other chemicals. All of the capital expenditure would be made in the 1st year of implementation of the project. Already, land acquisition, land surveying and fish designing have been completed. It shows that the 1st year of the project, a total expenditure of (=N=12,730,000) would be made to take care of the operating costs of the project. A total of =N=2,970,000 would be needed for the operational expenditure of the project. After that, the project would be capable of generating sufficient funds to take care of all the operational expenditures.

Appraisal

I Sunday Chiamak, having gone through the feasibility report of this business plan. Which comprises of the Technical, I economic, commercial and financial analysis I hereby state that there are no flaws and I give my go ahead

Signature :

A handwritten signature in black ink, appearing to read "Sunday Chiamak". The signature is written in a cursive, flowing style.

Implementation or monitoring : I Akujobi Anselina promise to consistently look into the budget to avoid unforeseen circumstances and loss in any way. I also promise to monitor the implementation of the reduction in price as stated in the commercial feasibility. The Farm /project supervisor would be trained in fisheries and have acquired skills to provide technical and specialized leadership needed for the management of the fishponds. He would be personally responsible for the day to day running of the fish farm. The positions of the farm assistants would be occupied by men/women who have acquired some form of formal or informal experience in fish farm management. It is also expected that they would be trained practically on the job.

Evaluation : The fish farm, when in full operation would have tremendous economic and socio economic well-being of the people in Njaba local government area and the entire Orlu zone. The fish farm would be a highly profitable project which would generate sufficient cash to sustain production from the second year.