

ESTABLISHMENT OF A TILAPIA FARM PROJECT IN GHANA

BY
CONTINENTAL FISH GROUP

This project is the outcome of a group efforts to whom credit and technical responsibility goes. The development of the project is based on an assignment which was given to course participants and supervised by Dr. Abdel Rahman El Gamal as a part of “Warm Water Fish Production” training course. This annual course is organized by the Egyptian International Centre for Agriculture - (EICA). Names of the team members & countries are shown in the following slide, while their group picture is shown in the very last slide

2011



MEMBERS OF CONTINENTAL FISH GROUP

DAVID FRIMPONG	Ghana
ANYANGWA THEOPHILE	Cameroon
ALLAN KATOLA	Malawi
AMAL MOGGA SEBIT	Southern Sudan
ROSE NULAKWAGO	Uganda



Location and Company Details

- Continental Fish Farm is a limited partnership company established by five African nationals
- It is located at Dawenya, in the Greater Accra, Region of Ghana.
- Total area covered by the farm is 6.5ha
- Number of ponds include six big ponds of 5000sq.m each and 12 smaller ponds of 2500sq. m each.
- Species of fish to be cultured is *Oreochromis niloticus*
- Setting up of this company will be made possible by shareholders equity and a loan from our bankers



Why The Choice Of Ghana For Our Company?

- Ghana is one of the few countries in the world who has high per capita consumption of fish which is estimated to be 25kg
- Currently, the country's annual fish production is in deficit of about 350,000mt
- There is high preference for tilapia by local restaurants, food vendors, hotels, etc to serve their customers



Mission Statement

- To supply quality fresh fish at affordable prices to meet the needs of Ghanaians



Objectives Of The Company

- Enhance the standard of living of Ghanaians by meeting by meeting their nutritional requirements
- Provide a sustainable source of income for fish mongers through regular supply of fish
- Boost the foreign earnings of the country through export



Project Outline

- Source of water for the company will be obtained from the Dawenya Irrigation Reservoir
- Filling of the pond will be by gravity and draining by the partial use of a 8-hp pump
- Mono sex *Oreochromis niloticus* fingerlings of 0.5-g size will be purchased from an outside hatchery
- Each production cycle will be made up of 5 months to produce fattened fish of 300g mean weight
- Management system to be adapted by the farm will be semi-intensive system
- Comprehensive analysis of the water coming from the reservoir and in the ponds will be carried out and also 10% of the water will be renewed everyday



Operations

- Commencement of production will be in March
- Production target for the year 63 tonnes
- Stocking of ponds
 - i. Four smaller ponds of 2500sq.m each will be stocked each month for the first 3 months
 - ii. Three bigger ponds of 5000sq.m each will be stocked in June and another 3 in July
 - iii. Stocking rate for the farm will be 3 fingerlings/sq.m
 - iv. Length of each production cycle 5 months



Operations cont.

- Harvesting of the fish will begin from end of July
 - i. Nine tonnes of fish will be harvested each month starting from July through to September
 - ii. However, thirteen and half shall be harvested each in October and November
 - iii. Liming and restocking of the first four smaller ponds harvested in July, in August to ensure nine tonnes availability in December



Feeding

- **Provision of high nutritious feed**

- a. 40% CP – 3 tonnes
- b. 35% CP - 7.65 tonnes
- c. 32% CP - 14.30 tonnes
- d. 30% CP – 55 tonnes

- **Feeding rate of the fish**

- i. Fingerlings – 5 times a day @ 10% bodyweight
- ii. Growing fish – 3 times a day but quantity adjusted as the fish grows

Inputs/Materials

Input/ Material	Quantity
Land	6.5 ha
Water pump	1
Water quality kits	1
Pick up van	1
Wheel barrows	2
Matchets	10
Weighing scale	2
Plastic crates	8
Plastic buckets	4
Spade	2
Harvesting net	1
Lime	
Wellington boots	4 pairs

Inputs/Materials cont.

Inputs	Quantity
Office furniture and equipments	
Overalls	3
Stationery	
Fuel(vehicle and pump)	691
Lubricants(vehicle and pump)	27 litres
Fingerlings (0.5 g)	210,000
Urea fertiliser	196 kg
Superphosphate	49 kg
40% CP (powdered)	3 tonnes
35% CP (floating pellet)	7.65 tonnes
32% CP (floating pellet)	14.30 tonnes
30% CP (floating pellet)	55 tonnes

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Activities

- Acquisition of land
- Construction of works (administration block, store sorting area and ponds)
- Recruitment of technical and support staff
- Procurement of equipment and materials
- Preparation of ponds (fertilisation and liming)
- Stocking
- Feeding of fish
- Water quality checking
- Record keeping
- Procurement of feed
- Harvesting and grading
- Selling of fish
- Fish Sampling
- Shareholders and management meetings

Final Output/Yield

- By the end of the year Continental Fish Group would have supplied a total of 63 tonnes of fish on the market
- Based on the prevailing market price and making room for fluctuations in the price, we expect to sell our fish at \$3 per kilogram
- Total income can be calculated as:
 - Total income = Total Product x Price per kg
 - Total income = 63,000 x \$3
 - Total income = \$189,000

ECONOMICS

VARIABLE COSTS	UNIT COSTS (\$)	QUANTITY	TOTAL COSTS (\$)
Fertilisers			
Urea		196 kg	135
Super phosphate		49	34
Feed			
40% CP		3 tons	2,000
35% CP		7.65 tons	4,841
32% CP		14.30 tons	8,576
30% CP		55 tons	33,000
Cost of fingerlings	5 fingerlings@ \$ 1	210,000	42,000

ECONOMICS CONT'

VARIABLE COSTS	UNIT COST	QUANTITY	TOTAL COSTS (\$)
Cost of fuel (pump and vehicle Water)	\$ 1.0347/litre	691 litres	715
Cost of electricity	7	10	70
Publicity			200
Cost of oil (car & water pump)	\$1/litre	17	17
Lime		300kg	60
Miscellaneous expenses			1,000
Total Variable Costs			92,648

FIXED COSTS

ITEM	ECONOMIC LIFE (years)	QUANTITY	TOTAL COST(\$)	DEPRECIATION (\$)
Harvesting net	10	1	333	33
Water pump	10	1	2,500	250
Plastic crates	5	8	24	4.8
Plastic buckets	2	4	8	4
Weighing scales	10	2	120	12
Matchets	2	10	30	15
Water Quality kits	10	1	1,000	100
Wheelbarrow	5	2	60	12
Spade	2	2	8	4
Pick up vehicle	10	1	11,000	1,000
Land leased	20	6.5 ha	20,000	1,000
Cost of construction of building			16,000	800
Costs of construction of canals & ponds			9,621	481

FIXED COSTS CONT'

ITEM	ECONOMIC LIFE (years)	QUANTITY /Number	TOTAL COST (\$)	DEPRECIATION (\$)
Wellington boots	2	4 pairs	20	10
Overall working gear	2	3	18	9
Office furniture + Refrigerator + Computer	5		600	120
Cost of casual labour in harvesting & weeding			344	344
Stationery			50	50
Salary for farm manager		\$ 200/month	2,400	2,400
Salary of labourers		\$100/month (2)	2,400	2,400
Salary of security guard		\$70/month (1)	840	840
Interest on loan @ 20% + part loan repayment	5		50,000	10,000
Opportunity cost of shareholders equity @ 10%				16,217.32
Insurance			150	150
Total Fixed Costs				34,256.12



Amount capital needed to start the farm project = Shareholders equity + Loan from the bank.

$$=\$162,173.2 + \$50,000$$

$$=\$212,173.2$$

Total Expenditure for the Year = Total Variable Costs + Total Fixed Costs

$$\text{T.E.} = \$92,648 + \$34,256.12$$

$$= \$126,904.12$$

Profit= Total Income – Total Expenditure

$$\text{Profit} = \$189,000 - \$126,904.12$$

$$\text{Profit} = \underline{\underline{\$62,095.88}}$$

THE END

THANKS
VERY MUCH
FOR YOUR
ATTENTION

