

HUAYA AQUACULTURE COMPANY LIMITED



**A proposed business plan on cage fish farming in Misungwi,
Mwanza**

March , 2026

1. CHAPTER ONE

1.1 Introduction

Tanzania is blessed with fisheries resources from marine, freshwater, riverine and wetland species, according to a Study Report “*The Tanzania Fisheries Sector: Challenges and Opportunities*” by the Ministry of Agriculture, Livestock and Fisheries (2016). By making use of these resources, the sector provides direct employment of about 183,800 fishers. More than 4,000,000 people such as boat builders, fish processors, net and engine repairers are indirectly employed. It provides income for local people from foreign earnings, food for coastal and up-country communities and also contributes to GDP (2.4% in 2015). This makes the country one of the greatest fisheries nations in Africa, ranking in the top 10 in terms of total capture and fisheries production. The fisheries resources in Tanzania are currently exploited using the open access principle, through a licensing system and community participation in fisheries management.

1.2 The Fishery Sector

Tanzania is endowed with rich marine and inland waters that yield a wide range of living aquatic resources, providing livelihoods, food security, export revenues, and potential further economic development. The fisheries can be divided into the following subsectors: marine and inland capture fisheries, aquaculture, and fish processing. The scale of operations ranges from small-scale subsistence fishing to industrial fish processing. There is a vibrant export market, exploited by small-scale fish processors and traders serving the regional market, and by large fish processors selling into international markets.

Over the last decade, Tanzania fisheries production has been in the range of 325,000 to 380,000 tons per annum. About 85% is from inland fisheries, 14% from marine fisheries and just 1% from aquaculture. In 2014, there were some 183,800 people engaged in fishing, accounting for about 0.7% of the work force, with a large, but unknown number, also engaged in fish trading and processing.

FISH PRODUCTION IN TANZANIA 2024

SOURCE	METRIC TONNES	AS A % OF TOTAL
Traditional Fishing methods	429,168	91%
Aquaculture	43,411	9%
TOTAL CATCH	472,579	100%

Source: FAO Statistics 2024

1.2.1: Fisheries Sectors Institutions

The Ministry of Livestock and Fisheries is responsible for the preparation, implementation, monitoring, and reviewing of national fisheries policies and regulatory frameworks in Tanzania. The Department of Fisheries Development within the MLF is responsible for the management of inland fisheries, and for marine fisheries with in the territorial waters of the mainland.

In addition, several institutions work in the fisheries sector in research, training and development roles. The Tanzania Fisheries Research Institute (TAFIRI) carries out research in Fisheries and has its headquarters in Dar es Salaam and offices in Mwanza, Kigoma and Kyela. The institute undertakes research in freshwater and marine capture fisheries, aquaculture and Mariculture, fish processing and quality as well as socio-economic studies.

The Mbegani Fisheries Development Centre and Nyegezi Fisheries Institute (Mwanza) operate under Fisheries Education Training Agency (FETA). They offer technical training courses in fishing technology, aquaculture, fish processing and quality control, coastal resources management, and other subjects relevant to the development needs of the fishery sector.

1.2.1 Traditional Fisheries Methods

Traditional fisheries methods accounted for about 91% of the national fish production in 2014. Lake Victoria and Lake Tanganyika are the most important lakes from a fishery point of view, accounting for about 94% of the total inland fish production. Lake Victoria, according to the Lake Victoria Fisheries Organization, is the most productive freshwater fishery in Africa.

The inland fisheries are currently exploited by an estimated 132,982 fishers, operating 42,288

(mostly very small) vessels, and over the last 15 years have produced an average overall catch of 296,370 tons. Of the three lakes, Lake Victoria accounted for about 63% of all fish production from fresh water capture fisheries during 2013, Lake Tanganyika contributed about 18% and Lake Nyasa about 3%. The main freshwater species of commercial interest are the Nile Perch (*Lates niloticus*), Nile Tilapia (*Oreochromis niloticus*), and fresh water sardine or Dagaa (*Rastrineobolaargentea*).

1.3 Aquaculture in Tanzania

Aquaculture, in Tanzania started in the early 1950s with experiments with tilapia in pond culture. These days the sector includes tilapia, trout, and cat fish (in fresh water), and a small marine aquaculture (mariculture) sector producing milk fish and prawns. Tanzania has considerable potential for increasing the contribution of aquaculture, given the extensive lake and other water resources, ideal temperatures and availability of raw materials for feed.

1.3.1 Production

Aquaculture production is static at about 4,000 tons per year, three quarters of which is tilapia. The sector generates considerable employment, with estimated 14,100 engaged in fresh water fish farming and 3,000 in the marine sector. Apart from a few notable examples, aquaculture in Tanzania is primarily a small-scale activity, with small ponds, little formal management and low productivity, reflecting its largely subsistence nature.

However, there are some larger vertically integrated production units with cage farming in Lake Victoria, and some larger ponds for shrimp production in coastal areas. Production of Tilapia in cages has been introduced in Bunda district and some parts of the lake in Mwanza and Bukoba. There is one major joint venture between Danish and a Tanzanian company, and several training institutions, such as FETA, also operate farms. These producers have developed their own feed supply and hatchery facilities.

1.3.1.1 Constraints

✓ Lack of Good Quality Supply of Finger lings

There are nine hatcheries for tilapia in operation (three of them being government owned and operated) with production reaching slightly over 5,000,000 fingerlings, against a demand estimated by the Department of Fisheries Development to be over 30,000,000 fingerlings country wide. There is an apparent lack of good quality fry and the excess demand over supply results in lower quality and higher levels of mortality, under mining productivity.

✓ Lack of Good Quality Supply of Feeds

Feed supply is another constraint. There is one main fish feed producer and supplier based in Dar es Salaam. Government supports the distribution of affordable fish feed by subsidizing 85% of the commercial selling price to fish farmers. The company also supplies juvenile tilapia for grow-out. There are a few commercial operators with vertically integrated facilities, which include small-scale fish feed mills, using locally available raw materials such as fish meal (from dagaa), soya beans, sun flower oil, cassava flour, wheat and maize bran. Some feeds are also imported directly by larger producers, to ensure better quality and productivity. Government has strongly supported investment in aquaculture training, with degree programs at Sokoine University of Agriculture and the University of Dar es Salaam, and skills training at Mbegani Fisheries Development Centre and FETA.

✓ **Complexity of Multiple Licensing Requirements in Cage Culture**

Unlike Uganda and Kenya, cage culture in Lake Victoria has not taken off at commercial levels, due to the reported complexity of multiple licensing requirements with several agencies, namely the National Environment Management Council, Ministry of Environment and the Ministry of Agriculture, Livestock and Fisheries. Tanzania's aquaculture production equates to about 0.2% of fish supplies for human consumption in the country. In Kenya aquaculture contributes 1.4% and in Uganda it contributes 6.5%. Egypt, with considerably poorer production conditions than any of these countries, generates 80% of its fish supplies from aquaculture.

1.4 About Tilapia in Tanzania

Whilst Nile perch and dagaa dominate the inland fisheries, tilapia also makes an important contribution and it accounts for 11% of the Lake Victoria catch. Fresh tilapia is the preferred and most widely consumed fresh fish product in Tanzania, and the government has banned the exports of tilapia from the capture fishery as a food security measure. Tilapia is mainly consumed in a fresh form, but smoking and salting is widely practiced, especially by island communities that lack quick means of transport to the main land markets. Due to its high popularity locally and regionally, the lakeside price of Tilapia per kg is higher than that of Nile perch. The high prices have started to bring in imports of tilapia fillets, with increasing quantities of tilapia entering Tanzania from China.

1.5 Fisheries and Aquaculture Policy and Implementation

The Government has prioritized development of the agricultural and fisheries sectors, and in October 2015 the MALF published the National Fisheries Policy 2015, which sets out the vision of: “By 2025 to have a progressive fisheries sector contributing significantly to socio-economic development through sustainable utilization of fisheries resources while conserving the environment.” The overall objective of the National Fisheries Policy is to develop a robust, competitive and efficient fisheries sector that contributes to food security and nutrition, growth of the national economy, and improvement of the wellbeing of fisheries stakeholders while conserving the environment. Key documents, which guide the implementation of policy, are the Fisheries Sector Development Program, the National Aquaculture Development Strategy and Fisheries Management Plans for the prawn, octopus, tuna and small-scale artisanal pelagic fisheries. The existing legal and regulatory framework applicable to the fisheries sector is expressed in several legal measures enacted in the Fisheries Act CAP279 of 2003, the Marine Parks and Reserves Act CAP146, the Deep-Sea Fishing Authority Act CAP388; and the Tanzania Fisheries Research Institute (TAFIRI) Act CAP 280, and other related laws and regulations. The Fisheries Act is presently under revision, to better reflect international best practices in fisheries governance and management. The Fisheries Regulations 2009 set out the detailed technical provisions applicable to the sector.

CHAPTER TWO: PROJECT OVERVIEW

2.1 The Project Concept

The project entails establishing modern fully tilapia cage fish farm in Lake Victoria waters in Ilemela District. The cage fish farm will comprise of three (3) major components:

- ✓ Development of breeding ponds for the production of the highest quality sex- controlled (all males) 1.0-gram fingerlings for own requirements and sell the excess production;
- ✓ Import and install 100 fish farm cages in Lake Victoria to produce portion size (400-500grams at an average grow out period of 4 -5 months , conduct processing and packaging the fish so produced for sale in the local market, surrounding E.AC community member states and beyond;
- ✓ Establish a fish feed mill for production of fish meal(including floating pellets)

2.1.1 Location and Infrastructure

The proposed project will be located in Plot No 117 - 118 Block No.16AB Isamilo, Misungwi District. The project has acquired land in Isamilo area planned for establishment of the factory, storage, offices, fish breeding ponds and hatcheries and residential for key staff. The site is accessible by Tamack road from Mwanza town to Misungwi and 2 km of rough road to the site. It is connected to the national grid electricity. Water will be drawn from the lake.

2.1.2 Ownership

The project is promoted by **M/S Huaya Aquaculture Company Limited**, a locally registered company under Companies Act, 2002 with Certificate of Incorporation No: 191573137 dated 05th day of December, 2025 formed with the main objective of undertaking fish farming activities in Tanzania. The Company is registered with authorized share capital of Tshs 500,000,000/= divided into 5,000 ordinary shares of Tshs 100,000/=each. The shareholders are three (3) Chinese nationals with respective shareholding as shown below:

COMPANY SHAREHOLDERS AND SHAREHOLDING STRUCTURE

	NAME AND ADDRESS OF SHAREHOLDER	NUMBER OF SHARES TAKEN BY EACH	NATIONALITY
1	LIN Xing 77 Zixia Village, Suping Area, Pingtan Country Fujian Province, China.	4250 ~ (85%)	Chinese
2	Xue Liqiang 260 Baisheng Village, Suping Area, Pingtan Country Fujian Province, China.	500 ~ (10%)	Chinese
3	Lin Longbin Room Number 202 Building No 4, Fukui garden, Tancheng Town, Pingtan Country Fujian Province, China.	250 ~ (5%)	Chinese
	TOTAL	100	

2.1.3 Planned Activities

As mentioned elsewhere, the project has three principal activities: breeding tilapia fish to produce 1.0-gram sex-controlled fingerlings; grow up all-male fingerlings in cages to portion size fish (400to500grams), fish processing and packaging for both domestic and local market.to the market. Specifically, the company plans to do the following in the next 4years:

- i. Complete land acquisition and registration processes;
- ii. Develop a cage fish farm with a maximum of 100 cages to produce all-male sex- controlled tilapia
- iii. Construct project buildings, storage facilities and related civil works;
- iv. Procure and install new ultra-modern plant machineries and equipment for fish processing and production of own top quality fish feeds;
- v. Procure new specialized fish transportation and raw materials trucks and administration vehicles.

2.1.4 Strategies to be employed

In order to realize the planned activities, the company will use the following strategies:

- i. Complete land acquisition negotiations as well as obtaining licenses, permits and approvals from relevant authorities;
- ii. Develop fifteen (10) Tilapia Fish Breeding Ponds to produce top quality fingerlings at the ratio of one (1) male to three (3) females. Total females in one pond are estimated at 600. The breeding stock will be obtained from Lake Victoria.
- iii. Develop fish feed mill to produce top quality feed mill to satisfy the demand.

- iv. Construct at the project site processing and storage buildings feed mill factory building and develop necessary civil works structures to accommodate all the proposed project facilities.
- v. Procure facilities necessary for production and distribution activities. This will include the following:
 - vi. Procurement and installation of refrigeration equipment/system and compressors, cold rooms, IQF (Individually Quick Freezing) Plants; Processing Line Equipment (Blast and Flake Ice Plants);
 - vii. Development of water treatment plant/effluent water plants,
 - viii. Development of laboratory for quality analysis;
 - ix. Establish a workshop for service and maintenance of plant equipment and transportation facilities and procurement of engineering equipment;
 - x. Procurement of processing equipment;
 - xi. Procurement and installation of a new heavy duty Standby Electric Power Generator.
 - xii. Identify and establish fish distribution points and external markets;

2.2 Utilities and Other supporting Facilities

The realization of the project development requires successful completion of a number of necessary activities and facilities to enable a successful development of the project. Strategic and situational analysis of project, the project needs reliable supplies of energy, water, transportation, telecommunications services, waste disposal and other services. The regional government under Mwanza Urban Water Supply Authority” and TANESCO has distributed power and water to ensure water network reaches peri urban areas especially where the project will be located. The following are reliable utilities found at the site;

A. Electricity and water supply

The proposed site will be supplied with industrial production 2-phase standard power supply from Tanzania Electric Supply Company (TANESCO), the electricity is available through the National Grid Line. As part of project budget, the factory will be installed with a stand by generator with a capacity of 50KVA that will be installed for power supply. Solar energy will be alternative source for administration and other miscellaneous activities and not processing activities.

B. Transportation network and communication system

The proposed project is located in Plot No 10 Block G Igoma which is connected to the nearby District by good road passable throughout the year the project is accessible in all mean of ground transport, such as heavy vehicles, Light Vehicle and public transports. The mobile tower operators and service providers available to the project area are such as Vodacom, Tigo, Airtel and Halotel The particular business communication system with external world/entities is expected to improve once the company becomes operational. The National Fibre Optical line transmission is closer the

project area, actually just close to project area.

2.3 The Project Cost and Financing Pattern

The proposed project is estimated to cost a total of USD 500,000 which includes 35.6% (178,000USD) owner's equity and long-term loan of 64.4% (322,000USD) as proceeds from capital contribution of the project, anticipated current assets of 203,212USD, liquidity of 351,724USD, total assets 875,936USD after incorporate project income and operational cost.

EQUITY + LOAN		USD
1	EQUITY (35.6%)	178,000.00
2	LOAN (64.4%)	322,000.00
TOTAL FINANCING		500,000.00

2.4 Business Plan Objectives

The objectives of this study are three-fold. First is to determine the viability of the proposed integrated project and serve as a business plan for the company's development program. Secondly, it is meant to facilitate initial Joint-venture process to local and Chinese investors.

Thirdly, the business plan will act as a supporting document in the company's application for Tanzania Investment Centre (TIC) Certificate of Incentives so as to access exemptions on duties, VAT deferrals and other benefits and protections as statutorily provided for under Tanzania Investment Act (1997).

2.5 Technical aspect and related cost

2.5.1. Land acquisition and Buildings

The project is located in Isamilo - Misungwi, Mwanza. Based on physical inspection of the proposed site, the availability of basic and essential project Establishment development is in place. The shareholder will build some of the administration building and water treatment plant 12,800USD.

Office buildings and other related structures will be renovated by provision of loan-able facilities, the proposed structure is designed to meet highly security this will total to 60000 USD.

2.5.2. Machinery and Equipment.

Proper machinery and equipment selection is one of the key problems in the production of high-quality products in Tanzania. To increase effectiveness and production efficiency one needs to have a modern technology machinery. In view of the foregoing, an effort has been made to choose from modern technological alternatives, a level that strikes a balance between fixed costs based on depreciation and variable costs based essentially on wages.

While working out details of equipment required, it has been assumed that the factory will work 300 days in a year. The projects machinery and equipment will be sourced from China and local market in Tanzania Estimated total cost is 200,000USD. Calculated depreciation of buildings, machines and other working facilities is estimated to cost USD 24,621 please see Appendices I on income statement.

2.5.3. Motor Vehicles

The project anticipated to purchase motor vehicles costing to 42,000USD, these includes trucks costing to 36,000USD and two light vehicles costing to 6,000USD. All these vehicles will facilitate plant operations and management of the project. Hence increases plant performance and administrative work.

2.5.4. Furniture & Fittings and office equipment's

The project building and structures are not enough to run smoothly project implementations; promoters during assessment keep asides a total budget of 1,000USD. The cost of furniture and fittings. Apart from furniture and office equipment, the project will allocate 19,000USD for unforeseen other office facilities in case the budget goes above limit.

2.5.5. Pre-Operational Expenses and initial working capital

Under pre-operational expenses are considered costs like company formation, preliminary project studies, business plan preparation costs, licenses, permits and authorization, including processing of Incentives, legal fees, etc set aside of 8,000USD. While 170,000USD for Initial working capital of the project which includes initial imports of consumable goods and material estimated to last for the 1st three months of operations. Otherwise, raw materials will generally be maintained at one month's stock and debtors at one month's sales volume total 178,000USD set aside.

2.5.6. Project Financing

The project costs, including fixed costs (machinery, equipment, building renovations, motor vehicles, office furniture and equipment and pre-operation expenses will be financed by a combination of bank term loan and shareholders own resources. Working capital requirements will be financed by short term bank financing in form of overdraft facility:

2.5.7. Operating and Administrative Costs

The major operating costs are salaries, wages and allowances; and food and beverages for hostel students. Consumable goods and material like chemicals, administrative expenses, fuel and lubricants, general cleanliness and security, uniforms and other related goods, insurance, licensing, tax, utilities have been stipulated to this report (see income statement Annex I) total operational and administrative cost **1,148,276 USD**

2.5.8. Auxiliary Materials/ services

Falling under this category of factory, utilities and service facilities must be considered. Utilities and service facilities that will need to be provided in this plant are as follows:

- (i) Workshop
- (ii) Electric power
- (iii) Water supply
- (iv) Miscellaneous facilities {Canteen; First Aid Kit, Storage and transport and Office Facilities}

(i) Workshop

It is necessary to make provision for a small workshop in the factory premises so that certain maintenance operations could be carried out following sudden breakdowns and major routine matters. The facility will comprise of necessary machines like small centre lathe, drilling machine, welding set, soldering and gas-cutting equipment including complete electrical kit to take care of necessary electrical maintenance as well as to replace worn-out parts and periodic oil and greases needs for the factory. Equipment provision has been restricted to the minimum.

(ii) Electric Power and Generator

The proposed site will be supplied with industrial production 3-phase standard power supply from Tanzania Electric Supply Company (TANESCO), the electricity is available through the National Grid Line from Mwanza Region. As part of an alternative power supply, the factory will heavy duty 50KVA power generator automated generator that will be connected to the all-necessary factory compound for standby power supply. The factory will install an online UPS system that secures clean and uninterrupted power free of surges, brownouts, fluctuations and other power problems.

(iii) Water Supply

Apart from the needs of electric power, water is also required for the actual process and other social needs. The proposed site has close to water network, the agency is major supplier of water to urban and peri urban area in the city.

(iv) Miscellaneous Facilities e.g. First Aid Kit, Storage and Transport, Office Facilities etc

- Provision has been made in the project costs for necessary facilities for external telephones and fire alarm system;
- Sickness and ill-health are recognized to be among the cause of absenteeism and low morale leading to decreased provision of factory, increased waste and bad employee-management relations. Therefore, necessary provision has been made for the canteen and first aid facilities in case of accidents, sudden sickness etc.
- Storage and transport needs of the factory have been duly recognized and been attempted mostly manual. Regarding transport, 3 light vehicles will be purchased and some will be hired during the start of project
- Necessary provision for furniture and office equipment has been made in the Capital Cost estimates.

2.5.9. Waste management for the project

In order to create a sustainable society, it is necessary to develop effective utilization of all sorts of wastes. One of the major wastes from our project site is chemicals used in the manufacturing of soap and detergents. The mix of chemical and water waste will be treated before disposing to avoid effects to the living organisms. In modern times, environmental protection is being implemented not because it is enforced law, but as an administrative philosophy.

Project investment summary.

INVESTMENT SUMMARY - MWANZA JINYANG CHEMICALS CO LIMITED				
S/NO.	CAPITAL ITEM	No. OF UNITS	UNIT OF MEASURE	ESTIMATED COST (USD)
NB	ALL FIGURES IN "USD"			
	A. LAND AND BUILDINGS			
1	Land Acquisition	4000+	M ²	12,800
2	Building	100	M ²	47,200
	SUB TOTAL			60,000
	B. MACHINERY EQUIPMENT	No. OF UNITS	UNIT OF MEASURE	ESTIMATED COST USD
11	Plant and Machineries	1	set	170,000
12	Other equipments	5	unit	30,000
	SUB TOTAL			200,000
	C. MOTOR VEHICLES	No. OF UNITS	UNIT OF MEASURE	ESTIMATED COST USD
28	Trucks	2	Unit	36,000
29	Light Vehicles	2	unit	6,000
	SUB TOTAL	4		42,000
	D. FURNITURE	No. OF UNITS	UNIT OF MEASURE	ESTIMATED COST USD
30	Tables	20	unit	400
31	Office Furniture	set in lump sum		600
	SUB TOTAL			1,000
	E. OTHER COST/CHARGES	No. OF UNITS	UNIT OF MEASURE	ESTIMATED COST USD
32	Contiguous			19,000
	SUB TOTAL			19,000
	TOTAL FIXED ASSET			321,000
	F. CURRENT ASSETS	No. OF UNITS	UNIT OF MEASURE	ESTIMATED COST USD
33	Pre operational expenses			8,000
34	Initial working capital			170,000
	SUB TOTAL			178,000
	TOTAL INVESTMENT			500,000

2.6 Production Process

Fish fingerlings are produced in breeding ponds where the parent stock will be obtained from Lake Victoria. The fingerlings are treated with hormones through feeds to ensure only males are produced. Fingerlings are transferred to the cages at the age of 26 days when they are 1.0 grams on average. The fingerlings are fed with top quality fish meal for four months when they will have grown to between 400 to 500 grams which is the standard market size. Thereafter, tilapia

fish will be harvested and taken to the processing building. Here they will be cleaned, ready for packaging. Processing capacity is estimated at 40 tons per day.

2.7 Packaging and Storage

Whole fish will be packaged in Styrofoam cartons, each carton 10kgs. One refrigerated container will thus carry 2,500 cartons. The products will then be chilled at minus 30 degrees centigrade before being transferred and stored in cold room below minus 18 degree centigrade.

2.8 Production Capacity

Initially, the project will procure and install 100 square cages measuring 4m width, 4m height with 4m length, total 640 cube meters. Each cage will have capacity to accommodate between 8,000 sex-controlled fish fingerlings which will grow there into portion size fish (400to500grams) each. Mortality rate is estimated to be less than 20% given the fresh waters of Lake Victoria which has very little pollution compared to other similar water bodies. The director's estimates that each cage will produce 3.2 tons within every 4 to 5 months, thus producing twice during a year and hence 640 tons per annum. This translates to total production of 6400 metric tons per annum at full project implementation.

2.9 Revenue Estimates

The price of fish portion size (400 to 500 grams) is estimated at TShs 4,500/=per kilo. Under the production assumptions, therefore the project is projected to generate revenue of TShs 6,451,200,000/=equivalent to US\$2,745,192-per annum from fish sales only.

The price of fish fingerlings is conservatively projected at only TShs 80/= (US\$0.04) per piece and the price of fish meal for sale is estimated at TShs 2,500/=(US\$1.07) per kilo. Given the installed capacity of food processing mill and ponds for fingerlings being small. The products will mostly be for internal use and only the small amount will remain for sell to cover up small operational cost.

2.10 Production Costs

It requires 1.3kgs of feeds to produce1.0 kgs of fish. Production cost is estimated at TShs 2,000/= (US\$ 0.86) per kilo – in-house price assigned the fish production part of the project. At full project production therefore, it will cost TShs3,088,589/= (US\$ 1,314293) to feed the entire population per annum.

2.11 Employment

The project envisages employing estimated number of 100 people among whom 6 will be foreign expatriate staff. Of the remaining 94 local employees, 44 will be skilled while 50 will be casual /unskilled workers.

2.12 Project Organization, Management and Labor Requirement

The project will be managed through the Board of Directors consisting of 4 members. The Board will formulate policy and offer strategic business guidance to management and regularly monitor and evaluate performance of the company.

The day to day management of the project will be vested in the Management Team. The Management Team will comprise of the General Manager who will be the overall in-charge of the project. The General Manager will be assisted by Deputy General Manager. The General Manager and his deputy will be assisted by three (3) Heads of Department: Production Manager, Marketing Manager and Finance & Administration Manager. These will in turn be supported by qualified personnel in their areas of specializations.

CHAPTER THREE

3.1 Market Evaluation

3.1.1 Market and Marketing Aspects

The project targets both the local market and the E.A Community member states and beyond. The export market is not considered for the time being.

3.1.2 Competition

Cage fish farming has officially been allowed by the government in recent years. So far, there are only a few large commercial tilapia fish farming projects in

The country. The most notable project is Ruvu Fish Farm located in Bagamoyo, Coast region which is a joint venture between a Tanzanian and a Danish partner with support from DANIDA.

The project is expected to produce 450 tons of quality tilapia fish per year. However, this project uses ponds. Cage fish farming is rapidly expanding in Lake Victoria waters. The biggest cage fish farm with in Tanzania borders is located at Bulamba Area, Bunda District under the ownership of JKT 822KJ- Bulamba Detach. The Bulamba JKT has to-date developed more than 50 cages A few more cage farms have started appearing in Ilemela District.

It is therefore evident that there is no serious competition in cage fish farming, considering the fact that tilapia fish demand in the country is very high compared to available supply.

3.2 Financial Analysis

3.2.1 Financial Assumptions

The estimated capital cost and basic operating assumptions are summarized in the financial projections as shown in Annexure I to XI. In the financial analysis the following major assumptions have been taken into considerations:

- ✓ The financial projections are for 5 years.
- ✓ All financial figures have been quoted in United States Dollar at US\$1=2,500/=TShs.
- ✓ Total capital investment cost is estimated at US\$500,000 excluding working capital requirements.
- ✓ It is proposed to finance the total fixed Investment costs of this project through foreign equity contributions (35.6%), and local bank term loan (64.4%).
- ✓ The Initial Working Capital Requirements estimated at US\$ 170,000) will be financed through bank
- ✓ Short-term loan in form of overdraft facility to be charged interest at the prevailing rate of 8%.

- ✓ Implementation period of seven (7) months has been taken into consideration to allow for development of the site infrastructure and other civil works structures etc); procurement of fish cages and development of rearing and breeding pond/tanks, recruitment and training of technical staff; procurement and installation plant machinery equipment and necessary tools, and motor vehicles; and securing local and export markets.
- ✓ Discounting rate has been assumed to be 8%.
- ✓ Depreciation of fixed assets and amortization of the pre-operational expenses/contingencies rates used are as shown in Appendix 3(Annual Depreciation and Amortization of Assets) and Annex I (Investment, Replacement and Depreciation Schedules).
- ✓ Project capacity utilization is estimated at 60% in the first year, rising to 65% in second year, reaching 70% in year three,75% in year four before stabilizing at 80% from year five onwards.
- ✓ Investment Costs are shown in Annex I (Investment, Replacement and Depreciation/ Amortization Schedules).
- ✓ Direct production costs shown in Appendix 2 (Operational Costs) and Annex 1V (Trading Account) are based on current rates.
- ✓ Salaries, Wages and Allowances have been based on the prevailing scales in the aquaculture industry in Tanzania. There is provision of 20% to cover company contribution to Social Security Fund (10%) and other Social Welfare Benefits (10%).
- ✓ Administrative/Overheads and farm/factory Overhead costs are based on the prevailing rates in the market and needs of the proposed project.

3.3 Major Operating Costs

Major production cost items are indicated in Appendix 2 (Operational Costs). Corporate Tax is fixed at 30% of taxable profits.

The project will be granted a Tanzania Investment Centre (TIC) Certificate of Incentives and therefore enjoy tax relief on both capital and deemed capital goods.

3.3.1 Analysis of Financial Results

- The projected **annual revenue from the aquaculture fish farming operation is estimated at USD 2,745,195** during the first year of operation, excluding Value Added Tax (VAT). Revenue is expected to increase progressively over the project life as production stabilizes and market

penetration improves.

- The project is expected to generate a **net profit before tax of USD 556,902 in the first year of operation**, with profitability increasing steadily from the second year to the fifth year of the project's economic life as operational efficiencies improve.
- The **gross contribution margin in the first year is estimated at approximately 20%**, and this margin is expected to improve in subsequent years as the production system becomes more efficient and economies of scale are realized.
- The **net profit after tax and depreciation in the first year of operation is projected at approximately USD 242,831**, and this value increases gradually over time. In addition, the project will contribute to government revenue through **corporate tax payments estimated at approximately USD 104,071 in the first year**, thereby contributing positively to national GDP.
- Project sales are expected to **increase annually by approximately 5%**, while operating expenses are projected to grow at an average rate of **3% per year**, reflecting anticipated inflation and operational cost adjustments.
- The **total estimated investment cost for the project is USD 2.5 million**, financed through a combination of equity and debt. **Approximately 40% of the investment will be financed through equity**, while the remaining **60% will be sourced through commercial bank financing**.
- The project demonstrates **strong liquidity**, with current assets increasing consistently throughout the operational period. This indicates a stable financial position and the ability to meet short-term obligations.
- The **cash flow statement indicates a positive and steadily increasing cash balance throughout the project period**, reflecting strong operational performance. Cash generated from operations and net operating cash flows increase progressively, demonstrating the project's ability to sustain operations and service its financial obligations.
- The **Discounted Cash Flow (DCF) analysis yields an Internal Rate of Return (IRR) of approximately 18–22%**, which is significantly higher than the prevailing commercial bank lending rate. The **payback period of the project is estimated at approximately 3–4 years**, confirming the financial attractiveness and viability of the investment.
- The **Return on Investment (ROI) is projected at approximately 24% in the first year**, increasing to over **30% by the fifth year of the project's economic life**, reflecting the growing profitability and efficiency of the aquaculture operation.
- Depreciation of fixed assets and amortization of pre-operational expenses have been calculated

using the following rates:

- Land: **5%**
- Civil works, structures and buildings: **5% (straight-line method)**
- Plant, machinery and technical equipment: **12.5% (straight-line method)**
- Motor vehicles: **20% (straight-line method)**

For financial modeling purposes, an average **depreciation rate of 12.5%** has been applied to the **main production equipment**. The first-year depreciation value is estimated at **USD 120,000**, reflecting the gradual wear and tear of fixed assets over time.

- **Salaries and wages** have been estimated based on prevailing labor market rates within the aquaculture sector. An additional **20% provision has been included to cover statutory contributions**, including **NSSF contributions (10%) and other social welfare obligations (10%)**, which are incorporated in the total personnel cost as reflected in the income statement.

CHAPTER FOUR: ENVIRONMENTAL ASPECTS

4.1 Introduction

The project activities involve installation of fish cages with in lake waters, production of fish meal, cleaning and packaging of whole fish before packaging and chilling /freezing the products ready for transportation in refrigerated trucks to both local and export points (airport/sea port). In the process, the company cooperates with various regulatory authorities, including Tanzania Fisheries Department, OSHA, MMC, TRA, CGL and NEMC. **Huaya Aquaculture Company Limited** will adhere to all regulations as appearing in The Fisheries Act (2003) and Fisheries Regulations (2003) which guides fish processors on the necessary the processors have to observe regarding environmental aspects before the processors can be granted fish processing and export license.

Generally, Tanzania has environmental regulations governing the industrial operations/ manufacturing activities etc. Never the less, each operator takes basic precautions to ensure that during operations, damage to environment is limited to the minimum possible level.

Huaya Aquaculture Company Limited will seek to obtain European Union Certification for the proposed processing plant before starting operations, and this will ensure a working quality control system in place. The HACCP System (Hazard Analysis & Critical Control Points) of quality control will give this factory a global competence. A working laboratory, an efficient training programme, good team work and support from the government authorities will help this industry to grow day-by-day. The company will implement all directives from the EU and therefore grant approval for export to all the EU countries and the global market in general including the Middle East and to the other member states of East Africa.

4.2 Project Activities

The Project Activities: involve collection, cleaning and packaging and chilling/freezing the products ready for transportation in refrigerated trucks to the local and export points (airport/ seaport). Processing begins with fish receiving and selection of ideal fish for processing. The only chemical applied during the processing is Chlorine used for cleansing purposes.

Mode of Liquid Waste Disposal: Recycled and treated waste water and the affluent disposed in underground tanks.

4.3 Work Health and Safety Policy

To ensure environmental aspects are fully accommodated in the planned project activities, the Company will establish its Environmental Management Plan which shows commitment of Management and Workers to health and safety, with aim store move or reduce risks to health, safety and welfare of all workers, contractors and visitors, and everyone else who maybe affected by the Company's business operations

4.4 Environmental Impact Screening

The nature of the project indicates that there are no major negative environmental effects of public concerns, except two minor ones:

4.4.1 Air Pollution (Odour/Offensive Smell)

It has been noted that during processing fish, the processing maybe associated with release of offensive smell, and as a result, may disturb the surrounding community. However, the fish processing operations for **M/S Huaya Aquaculture Company Limited** will be conducted in an ultra-modern factory that will meet all the Fisheries Act (2009) and Fisheries Regulations (2009), and therefore processing will be carried out under very clean environment. This impact is therefore considered negative, cumulative, shorter man do flow significance.

4.4.2 Land Contamination from Chemicals/Effluent

It is urged that improper management of effluent and other cleansing chemicals like chlorine spills may occur prom processing. This is also considered of low significance as all effluent water will be channeled to water treatment plant. Mitigation measures should be in place and other necessary precaution should be taken in order to avoid land pollution.

4.5 Risk Analysis

The major risk factor considered under this project is the possible breakdown of fish diseases. However, this is highly unlikely as Lake Victoria waters are very clean, almost pollution-free compared to similar water bodies. These can be major risk if there is the possibility of the increase of number of cage fish farmers around Misungwi district who may compete for lake space. However, this is also un likely to happen in a predictable future as commercial cage fish farming is relatively a young industry in the country.

4.6 Social, Economic and Developmental Benefits

The commercial cage fish farming activities generates a lot of developmental benefits, including but not limited to the following:

Establishing the proposed fish meal production facilities in Misungwi and production of 10,812 metric tons for sale will help ease the fish feed supply constraint which is hindering the growth of fish farming industry.

Supply of 10.88million good quality tilapia fish fingerlings will reduce the huge deficit currently experienced which stands at over 30 million compared to the available supply of 5 million fingerlings countrywide.

The good quality fingerlings sold to other farmers will further influence reduced mortality and improved productivity.

The project envisages employing estimated number of 100people.

Fish production is geared towards both local consumption and export to the neighboring countries and beyond. Therefore, the increased supply of tilapia fish per year will not only influence to regulate fish price but also, with the project fish price being half of the current market price means more local people will have access to nutrients available in tilapia fish.

Misungwi District Council will collect substantial revenue (levies/taxes) from fish farming and processing activities;

Revenue to the government Treasury and other organs in the form of taxes, fees and levies;

The project personnel will benefit from training on fish farming and processing skills.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATION.

5.1 Conclusion.

Financial and economic analyses above reveal the following:

The project is financially viable, economically feasible and environmentally friendly as indicated by the projects' cost of production and profitability tables, cashflows and balance sheet.

The project envisages expansion of Tanzania's market share in the fish export industry and thus maximizing government revenue in form of various taxes; The project has a very short payback period of 1.30 years relative to its fixed capital investment of US\$ 741,474.

The project will create employment opportunities, transfer of technology. It is geared to employ about 94 local employees, a significant number of which will be men.

The project will generate a considerable amount of foreign exchange through the sale of tilapia fish.

The project will have a huge impact in the economy of Mwanza region considering the amount of money that will be paid to workers per annum in form of salaries and wages

5.2 Recommendations.

In view of the above it is strongly recommended that the project be approved by Tanzania Investment Centre and be granted the TIC Certificate of Incentives with its associated privileges and benefits as provided for under Tanzania Investment Act, 1997 to facilitate smooth implementation.

It is further recommended that TIC assist the investors to obtain a Letter of No Objection from the Ministry of Livestock and Fisheries and subsequent grant of Fish Processing and Export License as provided for under Section 6(d) of Tanzania Investment Act ,1997 which reads“ *assist all investors....to obtain all necessary permits, licenses, approvals ,consents, authorizations ,registrations and other matters required by law for a person to setup and operate an investment, and to enable certificates issued by the Centre to have full effect”*.

Financial Analysis And Projections

ANNEX I – INCOME STATEMENT

Revenue

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Gross revenue from fish sales	-	2,745,195	2,882,455	3,026,578	3,177,907	3,336,802
Total Operating Revenue	-	2,745,195	2,882,455	3,026,578	3,177,907	3,336,802

Expected Expenses

Expense Item	Year 1	Year 2	Year 3	Year 4	Year 5
Salaries	320,000	329,600	339,488	349,673	360,163
Social Charges & Pension	64,000	65,920	67,898	69,935	72,033
Fish Feed	1,314,293	1,353,722	1,394,334	1,436,164	1,479,249
Fingerlings	160,000	164,800	169,744	174,836	180,081
Administration	45,000	46,350	47,741	49,173	50,648
Fuel & Machinery	65,000	66,950	68,959	71,028	73,159
Security & Maintenance	18,000	18,540	19,096	19,669	20,259
Transportation	80,000	82,400	84,872	87,418	90,041
Sales & Marketing	35,000	36,050	37,132	38,246	39,394
Insurance / Licensing	12,000	12,360	12,731	13,113	13,506
Utilities	55,000	56,650	58,350	60,101	61,904
Other Costs	20,000	20,600	21,218	21,855	22,511
Total Operating Costs	2,188,293	2,253,942	2,321,563	2,391,211	2,462,948

Profitability

	Year 1	Year 2	Year 3	Year 4	Year 5
EBITDA	556,902	628,513	705,015	786,696	873,854
Depreciation	120,000	120,000	120,000	120,000	120,000
Net Earnings before Interest & Tax	436,902	508,513	585,015	666,696	753,854
Interest Paid	90,000	72,000	54,000	36,000	18,000
Tax (30%)	104,071	130,954	159,305	189,209	220,756
Net Earnings	242,831	305,559	371,710	441,487	515,098

ANNEX II – CASH FLOW STATEMENT

Cash Flow from Operating Activities

	Year 1	Year 2	Year 3	Year 4	Year 5
Cash receipts from fish sales	2,745,195	2,882,455	3,026,578	3,177,907	3,336,802
Cash paid to suppliers and employees	(2,188,293)	(2,253,942)	(2,321,563)	(2,391,211)	(2,462,948)
Cash generated from operations	556,902	628,513	705,015	786,696	873,854
Interest paid	(90,000)	(72,000)	(54,000)	(36,000)	(18,000)
Tax paid (30%)	(104,071)	(130,954)	(159,305)	(189,209)	(220,756)
Net cash flow from operating activities	362,831	425,559	491,710	561,487	635,098

Cash Flow from Investing Activities

	Year 1	Year 2	Year 3	Year 4	Year 5
Replacement of equipment	0	0	0	0	0
Net cash flow from investing activities	0	0	0	0	0

Cash Flow from Financing Activities

	Year 1	Year 2	Year 3	Year 4	Year 5
Capital contributed	1,000,000	0	0	0	0
Loan proceeds	1,500,000	0	0	0	0
Loan repayment	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)
Net cash flow from financing activities	2,300,000	(200,000)	(200,000)	(200,000)	(200,000)

Net Cash Position

	Year 1	Year 2	Year 3	Year 4	Year 5
Net Increase in Cash	2,662,831	225,559	291,710	361,487	435,098
Cash at beginning of period	0	2,662,831	2,888,390	3,180,100	3,541,587
Cash at end of period	2,662,831	2,888,390	3,180,100	3,541,587	3,976,685

ANNEX III – PRO FORMA BALANCE SHEET

ASSETS

	Year 1	Year 2	Year 3	Year 4	Year 5
Current Assets (Cash)	2662831	2888390	3180100	3541587	3976685
Fixed Assets	3000000	2880000	2760000	2640000	2520000
Liquidity / Working Capital	556902	628513	705015	786696	873854
TOTAL ASSETS	6219733	6396903	6645115	6968283	7370539
Net Assets after Depreciation	6099733	6276903	6525115	6848283	7250539

EQUITY AND LIABILITIES

	Year 1	Year 2	Year 3	Year 4	Year 5
Equity	2000000	2305559	2677269	3118756	3633854
Reserves	0	0	0	0	0
Total Own Equity	2000000	2305559	2677269	3118756	3633854
Long Term Loan	1500000	1300000	1100000	900000	700000
Total Equity & Liabilities	6099733	6276903	6525115	6848283	7250539

Key Financial Indicators

	Year 1	Year 2	Year 3	Year 4	Year 5
Debt/Capital Ratio	0.43	0.36	0.29	0.22	0.16
Return on Investment (%)	24	26	28	30	32
Break Even Point	0.85	0.72	0.63	0.54	0.46
Equity/Total Liabilities (%)	57	64	71	78	84
Current Ratio	2.1	2.3	2.5	2.8	3.0

ANNEX IV – LOAN PAYMENT SCHEDULES

Loan Information and Payment Schedule					
Loan Data	All number in USD		Loan Summary		
Original Principal	322,000.00		Scheduled Payments		80,646.98
Loan Term (Years)	5.00		Scheduled number of payment		5.00
Annual Interest Rate	8%		Actual number of payment		5.00
Payments per Year	1.00		Total Early Payment		
Payment	80,646.98		Total Interest		81,234.89
Year	Payment	Interest	Cumulative Interest	Principal	Balance
-					322,000.00
1.00	\$80,646.98	25,760.00	25,760.00	54,886.98	267,113.02
2.00	80,646.98	21,369.04	47,129.04	59,277.94	207,835.08
3.00	80,646.98	16,626.81	63,755.85	64,020.17	143,814.91
4.00	80,646.98	11,505.19	75,261.04	69,141.79	74,673.13
5.00	80,646.98	5,973.85	81,234.89	74,673.13	0.00
		81,234.89			

ANNEX V- INTERNAL RATE OF RETURN

IRR for the Project

(all numbers in USD)

	Initial Investment	-500,000
Year 1	Additional Annual Net Profit	203,212
Year 2	Additional Annual Net Profit	234,002
Year 3	Additional Annual Net Profit	266,269
Year 4	Additional Annual Net Profit	300,733
Year 5	Additional Annual Net Profit	362,785
	IRR (in 5 years)	13.59%

The IRR above indicates that the expected return on the 500,000USD initial investment after 5 years is 13.5962%.

ANNEX VI - PAYBACK PERIOD

Payback Period Analysis				
	Year	Beginning Balance	Net Cash Flows	Ending Balance
Cost of investment	0.00	500,000.00	0.00	500,000.00
	1.00	500,000.00	203,212.32	296,787.68
	2.00	296,787.68	234,002.45	62,785.22
	3.00	62,785.22	266,268.62	203,483.40
	4.00	203,483.40	300,733.10	504,216.49
	5.00	504,216.49	362,785.43	867,001.92
Payback Period =		3.00	Years	