



# AQUA HARVEST BUSINESS PLAN

## ABSTRACT

*Based on two firm 10-year Offtake Contracts, this plan intends to establish an Oreochromis Mossambicus Tilapia Fish Farm in the Eastern Cape, South Africa.*

## DEVELOPED BY

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**THANDALIDA AFRICA AGRICULTURAL VENTURES**

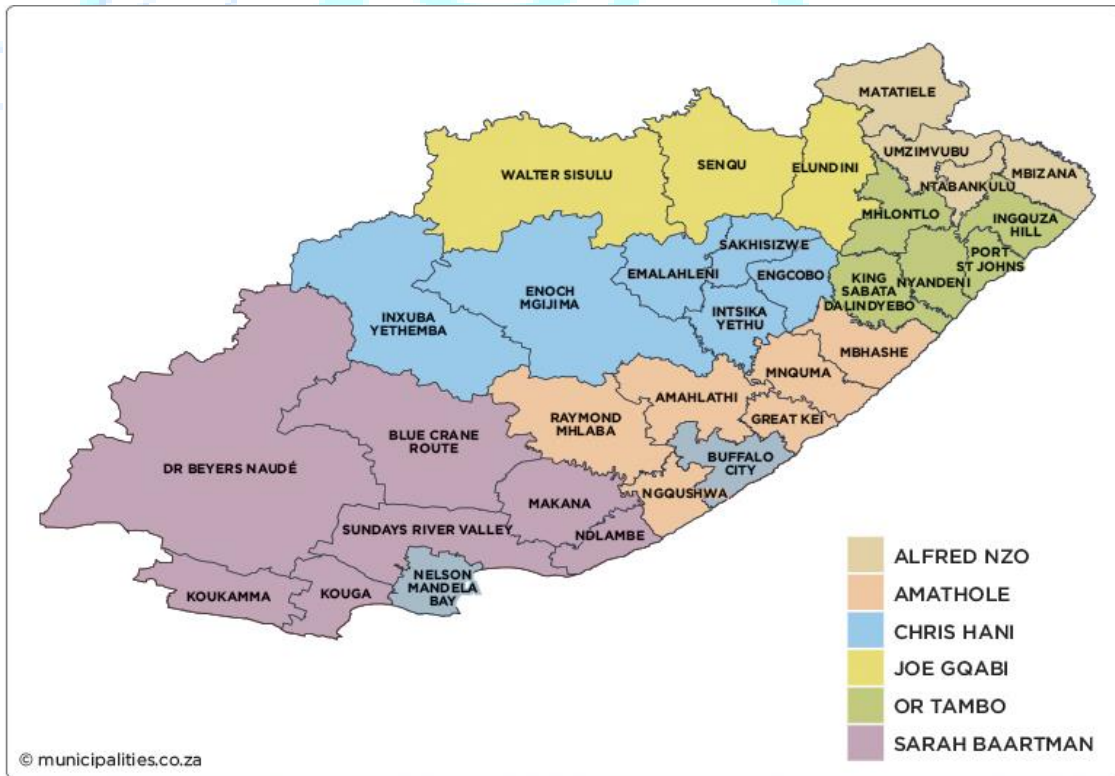




**MAP OF SOUTH AFRICA**



**MAP OF EASTERN CAPE**



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## **EXECUTIVE SUMMARY**

<b>THANDALIDA AFRICA (PTY) LTD</b>	
<b>Reg. Number: 2013/194302/07</b>	
<b>Contacts</b>	<input type="checkbox"/> Ms. Cwati Elizabeth Tandi (Director): +27737224276 <input type="checkbox"/> Mr. Kabanda Douglas (General Manager): +256772470773
<b>Project Name</b>	Aqua Harvest (aka. Aqua Fisheries)
<b>Nature of Business</b>	<input type="checkbox"/> Rearing Tilapia Fish mainly for Export <input type="checkbox"/> Training/ Skilling individuals in Aqua Farming
<b>Location</b>	Eastern Cape
<b>Vision</b>	Establish a vibrant fish farm with a supply capacity to reckon with on the African Continent.
<b>Mission</b>	We shall achieve this vision through a Well-planned Fishery Business Model that is based on empirical studies and research.
<b>Goal</b>	<input type="checkbox"/> Establish a profitable fish farm. <input type="checkbox"/> Generate good dividends for our shareholders. <input type="checkbox"/> Add value to the supply of protein globally but especially in Africa. <input type="checkbox"/> Become a partner to the South African government in eliminating women and youth unemployment.



# INTRODUCTION



1. EXECUTIVE SUMMARY
2. INTRODUCTION: AQUA HARVEST
3. COMMERCIAL VIABILITY OF TILAPIA FARMING
4. PROJECT RATIONALE
5. SWOTS
6. CAPITAL REQUIREMENT
7. BUDGET
8. OPERATIONAL TIME-SCALES
9. PRODUCTS & SERVICES



## **BACKGROUND**

Food security is increasingly a much-debated subject all over the world. The world is looking at innovations that will make this mammoth task achievable. While we acknowledge inequalities that exist in the entire globe, we should also acknowledge that food costs are reaching rocket heights. These trends leave underdeveloped and developing nations with little options regarding food security.

South Africa's is no different from the world phenomenon. Elements such as global warming, poverty, unemployment and sky rocketing inflation are contributory factors to the problem. We have noted in recent years that government is launching strategies for rural development. The country is edging the business sector to participate in the job creation drive. It is of course a well-known fact that agriculture is the cornerstone of our economy.

Freshwater aquaculture has grown steadily over the years. Asia is at the center of this boom the most important species groups being carp, tilapia, Catfish, while they may be fed small amounts to speed growth. Its relatively cheap and easy to grow freshwater fish in ponds We see freshwater fish farm as a better way to help fight hunger and bolster food security

Global Tilapia production grew by 3.3 percent in 2020 to top 7million tons despite the impact of Covid-19. Africa s population is projected to increase from approximately 2 billion to 3 billion by 2050, the demand for fish is set to surpass current levels. South Africa has fewer than 100 Tilapia farms producing between 300mt and 600mt according to the 2021 report

## **PROJECT RATIONALE**

The Fishery is very viable economically as it is based on empirical studies on its potential, conducive market conditions, a rich technical expertise and a guaranteed market for its products.

### **1. WELL-FOUNDED RESEARCH**

In January 2015, The IDC released a Report on: “Research into the Potential for the Production, Processing and Export of Tilapia for the Southern African Market”.

Ref: <https://www.idc.co.za/wp-content/uploads/2018/11/Tilapia-Research-Report-2015.pdf>

The report raised findings that shed light on how tilapia Fish can be produced commercially in South Africa. Two key recommendations that were raised in the report have informed the development of this project, namely: -

- A. In the area of Research/ Demonstration, the research recommended the establishment of a commercial-scale demonstration project. Such a project would provide vital information on best practices in the



farming of tilapia in the country. It is the goal of this project to provide that demonstration farm that can and will be used for research into further development of tilapia rearing in South Africa.

- B. Secondly, in the area of Feed Production, the research recommended an investment in tilapia and other fish feed production and research for local and export markets. The second phase of this project intends to establish a feed production factory. The factory would supply directly to the fishery and the excess sold to the open market.

The Report highlights that there is a big potential for commercial tilapia rearing, given the fact that tilapia has not been well developed as a substitute for hake and trout; an extensive demand on the continent for tilapia; and the strategic position that South Africa occupies if it embarked on commercial farming of tilapia given its well-developed infrastructure.

## **2. LONG TERM OFFTAKE CONTRACTS**

The project has been premised on a firm foundation of two Offtake Contracts sourced from the United Arab Emirate of Dubai and the Democratic Republic of Congo (DRC). Not only will the two contracts ensure the success of the project, but provide a guarantee on the venture's ability to repay any loan extended to it. The contract will be a vital stepping stone for us to explore other markets both locally and in the wider export expanse.

## **3. TECHNICAL EXPERTISE & EXPERIENCE**

It borrows heavily from the expertise and experience of an existing small-scale fishery based in Lyttleton, Centurion. Its proprietor, Mr. Moolman has been recruited into Aqua fisheries as a technical Director. He brings over 14 years of experience in fish farming; experience that the project will so much need especially in its infancy.

## **4. ENTREPRENEURIAL DEVELOPMENT**

The project through its training and mentorship Programme will establish a generation of entrepreneurs in the fields of Aqua-culture, Manufacturing and Farming.



## **COMMERCIAL VIABILITY OF TILAPIA**

**Excerpt:** (pgs. 106-107: “Research into The Potential for The Production, Processing and Export of Tilapia for The Southern African Market” Urban-Econ Development Economists-IDC, 2015)

### **“13.1. South African Tilapia Viability**

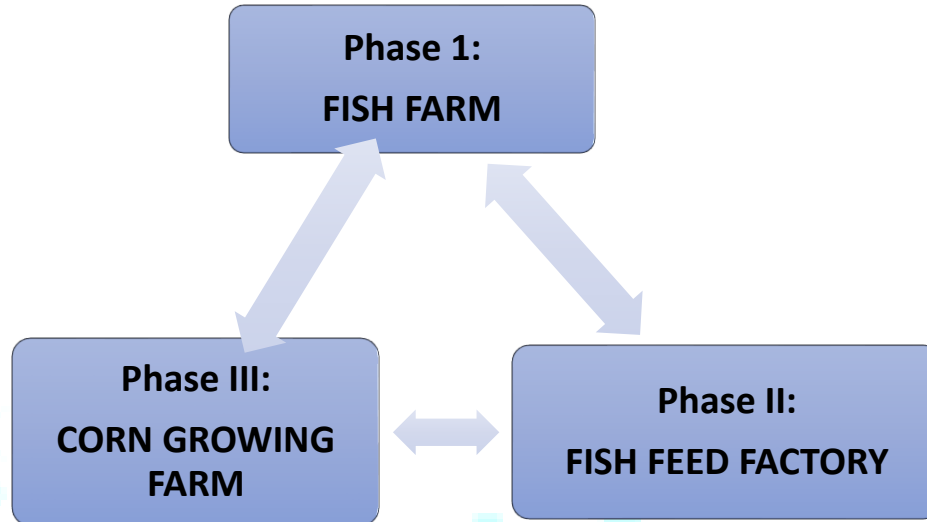
The ultimate question that must be answered is ‘Can Tilapia farming be viable in South Africa?’ From the preceding research it is concluded that Tilapia farming is not viable in South Africa at this stage due to current conditions. However, should feed prices fall and the evident rise in price of substitute products such as Hake continue, Tilapia aquaculture will be a viable commercial concern given the presence of the following characteristics and inputs in sufficient quantity, compared to the benchmarks developed:

- The legislative environment is improving, albeit slowly, but it is generally agreed that it is moving in the correct direction to become a supportive element for the industry as opposed to hampering its development.
- South Africa possesses the technological expertise to maintain and advance production technologies and advances in feed technology are ongoing. Research into the Potential for the Production, Processing and Export of Tilapia for the Southern African Market
- Skills development is present and ongoing and a number of individuals have the ability to design and build the necessary production facilities.
- Climatic conditions are not ideal over most of the country but these can be overcome using RAS technology while some areas of the country do have suitable climatic conditions.
- The most efficient cultivar, Nile Tilapia, is now free to be used in RAS production in South Africa.
- Demand for Tilapia continues to grow and substitutability with Hake presents further market opportunities, especially with the increasing price of Hake and the falling supplies. However, awareness could facilitate further growth in demand, provided production and processing can rise to meet the increased demand.”





## **AQUA HARVEST Project Overview**



### **PROJECT OVERVIEW**

The project is broadly divided into three phases that would be implemented over a period of ten years. Each phase comprises a different nature of economic activity but the three hold both backward and forward linkages, thus: -

#### **Phase I: Aqua Harvest**

This first phase of the project will establish a Fish farm to rear Tilapia for the local and international market.

#### **Phase II: Aqua Fish Feed Factory**

This second phase of the project intends to establish a fish feed factory to supply cheap feed stocks to the fishery, and the wider market on the continent.

#### **Phase III: Aqua Corn Growers**

This third phase of the project intends to empower beneficiaries into the agriculture sector, by growing maize (corn). This is the main raw material in the production of fish feed. So, it will be supplied to the factory, and the general wider market.



## SWOTS ANALYSIS

### Strengths

- ✦ Experience of over 10 years in the fish farming industry,
- ✦ Strong management team, expertise in Finance, business, marketing
- ✦ Use of tunnels creates a good climate to raise the fish.
- ✦ Water is recycled resulting in reduced usage of water.
- ✦ Experience in aquaponics

### Weaknesses

- ✦ Capital intensive
- ✦ Scale currently too small
- ✦ Off take agreements require higher production volumes

### Opportunities

- ✦ Although competitors do exist, the international tilapia market is growing at a rate which exceeds supply and new entrants are not required to compete for market share or price. Despite suitable natural conditions, aquaculture provides only 2 percent of the regions supply and only a minor contribution to economic growth, employment and foreign exchange.
- ✦ Current competitors produce too small a volume of tilapia to supply major food chains, Prison services, and mining industry. Insufficient volumes have also resulted in export figures of home-produced product amounting to almost zero.
- ✦ Empower rural communities

### Threats

- ✦ Tilapia is currently imported from China and the redistributed to Africa. Recent market activity has indicated that imported supply from China is of inferior quality. Which provides for a huge opportunity for the company to capitalize on this.
- ✦ High Feed Prices sharply cut down margins in the industry. This is why the second phase of this project proposes an establishment of a Fish Feed factory.

### Solutions

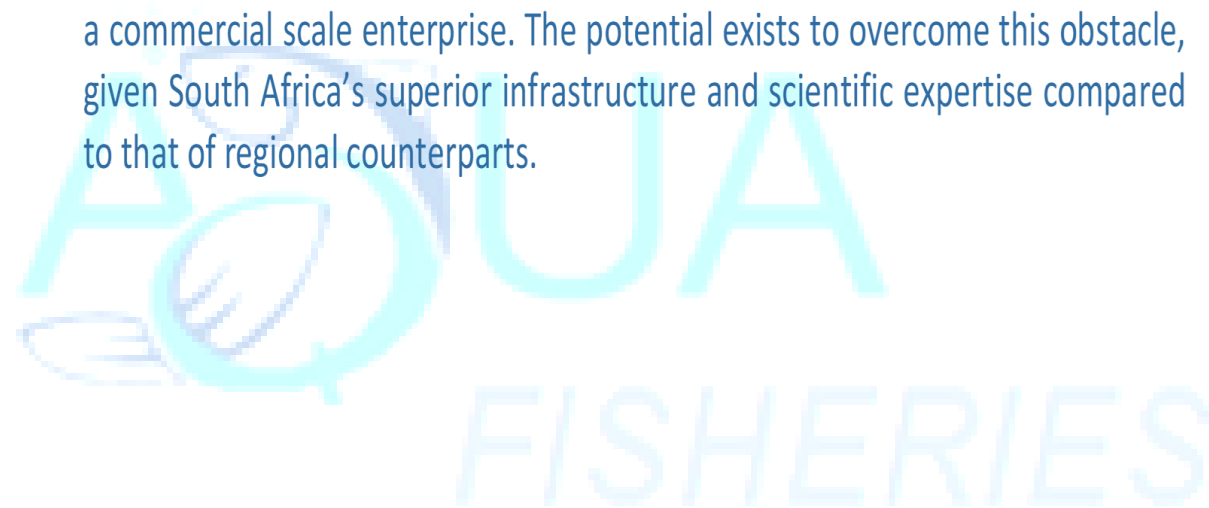
- ✦ Expand existing operation to commercial size.
- ✦ Adding grow out tunnels
- ✦ Construction a big hatchery
- ✦ Processing cooler room.



**What experts say about the High Prices for Fish Feed:**

*Excerpt: (pg. 107: "Research into The Potential for The Production, Processing and Export of Tilapia for The Southern African Market" Urban-Econ Development Economists- IDC, 2015)*

However, a major stumbling block remains in the feed sector. The current feed supply is of very poor quality and is highly priced. Similar problems have been experienced not just among the small South African producers, but it has been indicated that producers such as Lake Harvest in Zimbabwe and Ugandan producers experience similar problems with sourcing good quality, well priced feed. This stumbling block will need to be overcome if the sector is to grow to a commercial scale enterprise. The potential exists to overcome this obstacle, given South Africa's superior infrastructure and scientific expertise compared to that of regional counterparts.





## **CAPITAL REQUIREMENT**

### **IMPORTANCE OF CAPITAL REQUIRED**

(Except from a Farmer's Weekly Article dated 18 March 2013)

*“Interest in tilapia farming is growing, but few entrepreneurs are getting off the ground. David Fincham, from Dicla Eco Tilapia projects, says that although the company gets thousands of enquiries about tilapia farming, callers are quickly put off by the high capital costs involved in setting up a well-designed system. “Tilapia farming is capital intensive. There is no cheap way to do it. It’s not a case of simply digging a hole, filling it with fish, feeding them chicken manure and harvesting kilograms of fish.”*

*“The tilapia industry is still in its infancy in South Africa, but is a lucrative investment with potential as a quality source of protein. Until markets are properly developed, the industry remains stagnant, but markets will not grow if supply is not assured.’ Lindi van Rooyen reports.*

In order to implement this business plan, Aqua Fisheries requires capital of R23,197,800. Funding required can be justified as follows: -

- It is essential for Tilapia to be reared in special acclimatized hot house fish tanks. This is to ensure that a proper temperature environment is maintained for the breeding and rearing of Tilapia.
- Solar panels are required to maintain water temperature so that the fish production is maintained throughout the year especially during the winter months.
- Industrial Generator is a necessity for power backup supply during a period of power outages or load shedding.
- Hatchery is required for production of fry to supply grow out fish tunnels.
- Quarantine fish tunnel is required to isolate any fish that is of ill health or disease. Also used for the introduction of new fish.
- Selected breed stock is to initiate fry. Fry raised to fingerling size. Fingerlings is to stock out grow out fish ponds.



## BUDGET

Category	Specific items	Qty	Unit price	Total price
<b>PREMISES</b> Construction & Equipment	Land purchase	2hrs	4.5m	4500000
	Tunnels	30	100000	3000000
	Nets, Plumbing & Fitting	x	x	200000
	Green house/ Solar system	x	x	1000000
	Admin & Stores	x	x	1000000
	Staff Housing Block	x	x	2000000
	Work house	x	x	1000000
<b>Premises sub total</b>				<b>12,700,000</b>
<b>GROWING</b> Fingerling stocks, Feeding & Medication	Fingerlings stocks	70,000	10	700000
	Tilapia Grower 3Mm Pel, 25Kg	5000	800	4000000
	Tilapia Finisher 5Mm Pel, 25Kg.	7200	750	5400000
	Medication	7000	80	560000
<b>Growing sub total</b>				<b>10,660,000</b>
<b>PROCESSING</b> Harvesting, Frozen and Dry Processing, Storage and Packaging	Freezer	2	350000	700000
	Dryer	2	250000	500000
	Tools & Equipment	x	x	105000
	Card box material/ Labelling	x	x	250000
	Packaging sundries	x	x	150,000
<b>Processing sub total</b>				<b>1,705,000</b>
<b>SALES &amp; MARKETING</b> Transport Logistics, Insurance & Freight	Transportation to DRC	120000	3 p/kg	360000
	Freight to UAE	120000	5 p/kg	900000
	Local Transportation	120000	2 p/kg	240000
	Insurance & etc.	x	x	24000
<b>Sales &amp; Marketing sub total</b>				<b>1,524,000</b>
<b>ADMINISTRATION</b> Administration & Management	Directors	2 x 12m=24	35000	840000
	Admin Staff	10x12m=120	10000	1200000
	Office supplies/ Furnishing	x	x	400000
	Utilities, Comm, & other OP costs	x	x	1200000
	Miscellaneous	x	x	240000
<b>Administration sub total</b>				<b>3,880,000</b>
<b>GRAND TOTAL</b>			<b>ZAR 30,469,000</b>	
				<b>USD 1,523,450</b>



## Time Scale

Period	Activity
Month 1- 5	<b>CONSTRUCTION &amp; ESTABLISHMENT</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Purchase and construct 22 grow out closed recirculating fish tanks</li><li><input type="checkbox"/> Purchase and construct hatchery fish tunnel.</li><li><input type="checkbox"/> Purchase and install industrial generator.</li><li><input type="checkbox"/> Purchase and construct quarantine fish tunnel.</li><li><input type="checkbox"/> Purchase and install industrial fridge and freezer.</li><li><input type="checkbox"/> Purchase Vehicles and Cooler room.</li><li><input type="checkbox"/> Improvements on security</li><li><input type="checkbox"/> Purchase and install solar panels</li></ul>
Month 6- 8:	<b>FARMING STARTS</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Purchase and introduce breed stock to hatchery.</li><li><input type="checkbox"/> First fry produced from incubation in hatchery.</li><li><input type="checkbox"/> Fry introduced into grow out tanks</li></ul>
Month 14:	<b>HARVEST STARTS</b> <ul style="list-style-type: none"><li><input type="checkbox"/> First harvesting of the marketing size fish and first income received. Harvesting is done every month hereafter.</li></ul>
Month 14-24	<b>SALES START</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Packaging and filleting of the fish</li><li><input type="checkbox"/> Purchase and install canning equipment.</li><li><input type="checkbox"/> Purchase and install drying racks</li></ul>