



# Tecno Acuícola S.A.S.

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## AQUAPONICS PROJECT

# 1 Environmental Problem



## 1. Water usage

- Up to 40% of the world's population will be living in seriously water-stressed areas by 2035. (UNU 2017)
- Effective management will mean tackling neglected issues such as water wastage in current systems, which has been estimated to be up to 30% (UNU 2017)

## 2. Energy usage

- Energy- Water nexus in Colombia - Extremely weather risks (World Energy Council)
- Need to rise of decarbonisation, digitalisation, and decentralization (World Energy Council)

## 3. Food security

- Fish is essential for food security. World consumption has duplicated in the last decade.  $\pm 10$  Kg to  $>20$  Kg per capita /year (FAO)
- Risk of fish world war (FWW) in upcoming decades. (Wilson Center). Urge to avoid it

## 4. Transgenic Food

- We do not need GMOs to resolve the current world hunger problem (FAO).
- We should use the biotechnology to preserve biodiversity (FAO)

# 2 The Solution (AQUAPONICS)

## 1. Organic Fish

- 100% land based aquaponic farm to produce fish: Meeting the following criteria's: No pesticides, No chemicals, No hormones. With natural balanced fish feeding. The projects must promote biodiversity, NO risk for wild species- No farming of migratory fish- Zero fish farms discharge pollutants.

## 2. Auto sustainable food

- Rethink Agriculture by the use of integrated multitrophic Acuaculture to guarantee sustainable organic food.
- To farm of animal and algae's could provide hi quality food while reducing CO2 Contamination reducing risk of global warming.

## 3. Water

- Reduce water compsumption by 90% or more by recirculating system.
- Protect micro watersheds by reforesting uphill lands with native forests

## 4. Energy

- Dismiss energy compsumption by innovation of the water recirculation process
- Use of renewable clean energy sources as Solar, Eolic and Hydraulic.

# 3 The Project

## 1. Colombia

- Increasing demand for fish food over 10% /year / Sales guarantee with agreement of production purchase
- Need to contribute with social peace / Collaboration of local authorities and communities

## 2. TECNOACUICOLA and Community

- Strong relationship with communities in particular with the Antioquia and Afro Descendants Choco communities where there is a need to include population in productive projects.

## 3. 20 ton /month RAS Fin Fish Closed System

- Fresh water consumption of less than 1.0 liters/ seg for trout culture
- Foot print less than one Ha for fish farm and less than 1,75 ha for hydroponic farm

## 4. Time Line Of The Project

Time Line Of The Project	Years	1	5	10	20
Density of fish	Kg/m3	40	45	50	60
Total Fin Fish Production	Ton	240	1350	3000	7200

# 4 Required Capital Investment

## 1. Money type and Amount of Capital

- USD \$ \$1.496.533,00

## 2. Capital expenditure

- Land expenditure \$80,000
- Plant and Equipment \$862,203
- Work capital \$224,000
- Overhead, Unforeseen and others \$329,931

## 3. Payment Schedule

- Grace Period 2 Years
- Interest payment (Three-Monthly)
- Capital payment (Six -Monthly)

# 4 Guarantee

## 1. Property, Plant and Equipment

- \$ 942,603.00

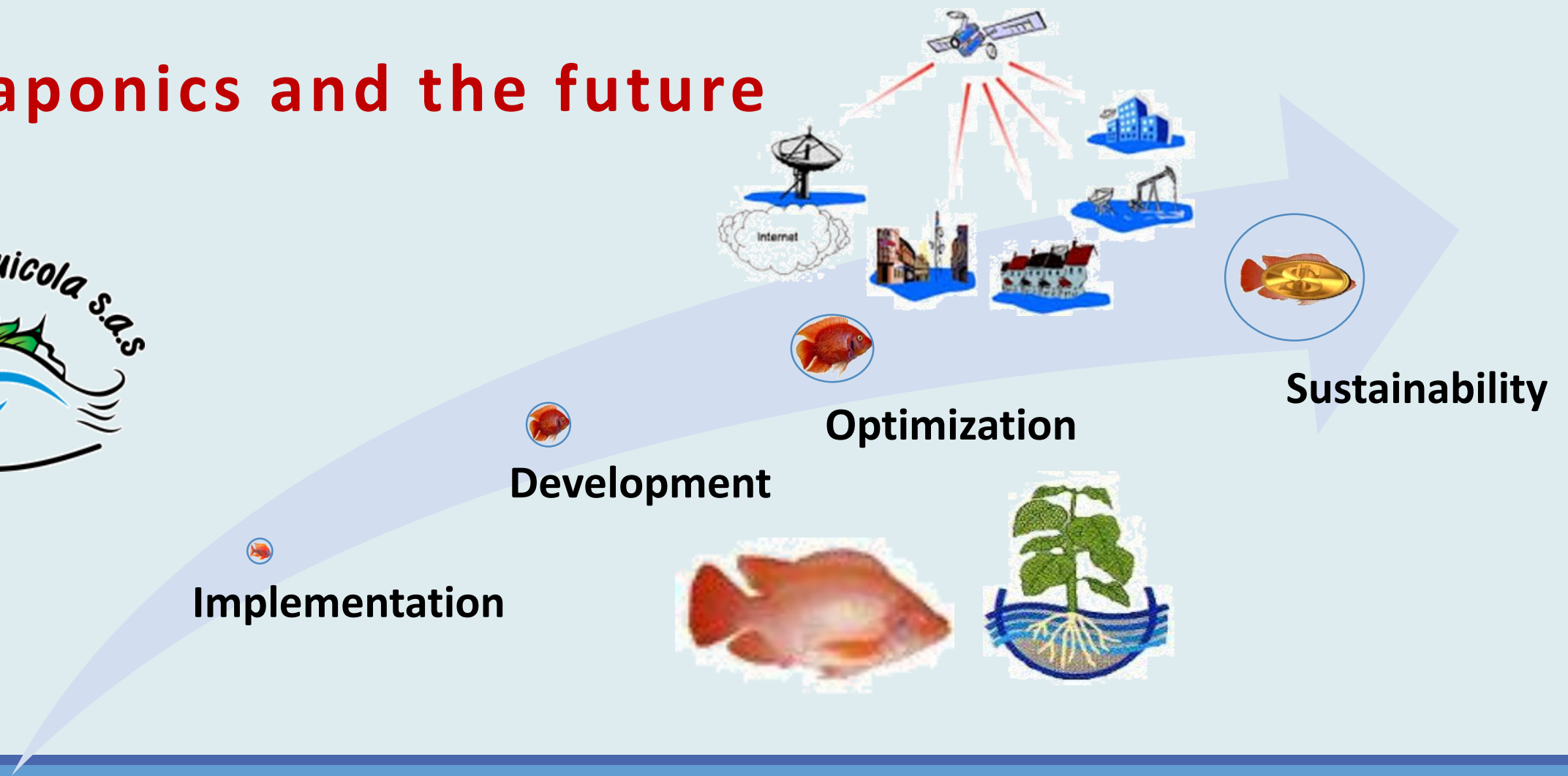
## 2. Local Trust

- Bancolombia's Trust

## 3. IOU

- Acknowledges a Debt Owed Issued to the Investors

# Aquaponics and the future



TECNO ACUÍCOLA S.A.S

Offers a sustainable and viable future.