## Remote Aqua Services



Integration in achieving fully sustainable agriculture

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## Sustainable Farming Model

A Conceptual Idea for Arid, Deserts, and Marginal areas



Uses all water resources in a sustainable and efficient way by combining elements



Increases farm productivity per yield Provides flexibility: Multiple crops farming options along with the production of multiple species of fish



Eliminates water losses by using them for other farm activities Reduces water needs Increases production capacity

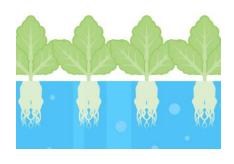


# Integrated Agriculture

**UNIT 1**Freshwater Aquaponics

**UNIT 2**Brackish water Aquaponics

**UNIT 3**Seawater Aquaculture





Soilless Aquaponics
Municipality water
Salinity 0%-4%

Soilless And open field Aquaponics Ground water Salinity 5-10‰

Salt water Aquaculture or Aquaponics
Seawater
Salinity 20-40%

## Fresh Water Aquaponics

#### Aquaponics based on RAS for Tilapia fish and Vegetables



Proposed Fresh water Fish species

Tilapia Catfish



Proposed Fresh water Vegetables

Lettuce Kale Cucumber Herbs



Soilless Aqua ponics Main Aspects The system will operate with municipality water The new water added will be just to meet the needs of the plants and the evaporation Alternatively more water can be used to mix with units 2 and 3 to achieve the desired result

## Brackish water Aquaponics

#### **Aquaponics Using the Underground Water for Tilapia fish and Halophytes**



Proposed Fish species

Tilapia Catfish



Proposed Halophytic Vegetables

Quinoa Salicornia Others



**Main Aspects** 

The system can operate with groundwater
Open field and Soilless Aquaponics can be
created
Excess water will be used to irrigate palm trees by
mixing with units 1 and 3

### Aquaculture or Aquaponics



#### Salt water Aquaculture Using water from the sea and the underground source



Proposed System

Recirculating Aquaculture system (RAS)
Aquaculture & Aquaponics options



Proposed Fish Species

Seabream Hammour Safi Others



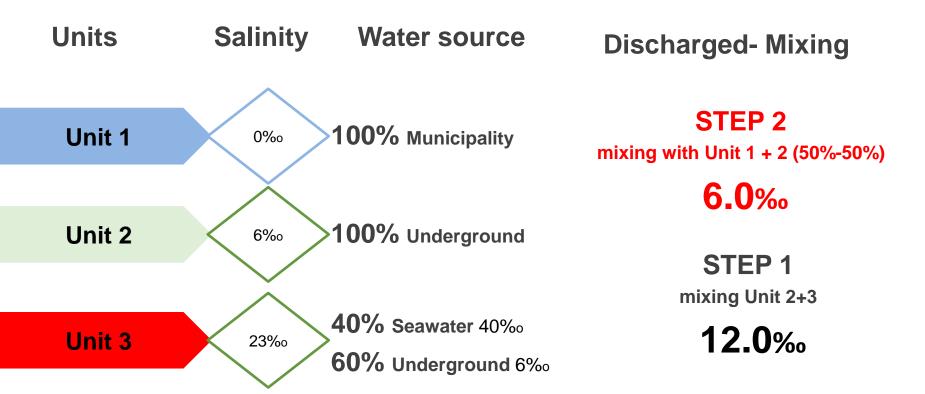
**Main Aspects** 

The system will run on Salty water
To maintain the salinity at desired levels will be mixed with groundwater
Excess water will be used to irrigate palm trees by mixing with units 1 and 2

### Water Flow Diagram

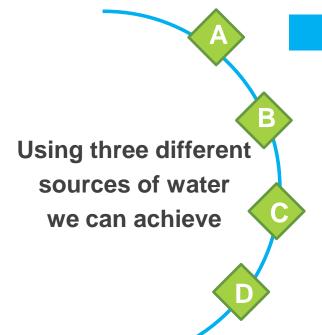


The water in all units will be used on a sustainable way in order to be environmental friendly



### **Final Goals**





**Culture of both Freshwater and salt water Vegetables** 

Culture of both Freshwater and salt water Fish

**Environmental friendly Agro-Aqua-culture** 

Sustainable water Use

# Integration prospects



All units will be designed according to the needs and taking into account the final salinity of the discharged water so that it is similar to the salinity of groundwater.

Soilless and open field agricultural activities will be carried out in such a way that all excess water is collected and reused sustainable

03

04

All fish waste and its by-products will be used as fertilizers for open field crops

All waste and by-products from agricultural activities will be used as animal feed or as compost fertilizers

### For Consideration



Regardless of whether the three units will have similarities on the design, different studies and equipment should be considered depending on the salinity and the species to be grown.

02

03

04

Investment cost and operational expenses in any kind of saltwater farming activities are much higher compared to freshwater farming

To operate similar to the proposed "Integrated farming system" expertise with different skills will needed.

Due to the fact that juvenile fish are not available in the UAE market, especially for saltwater fish species, it is necessary to consider which species other than tilapia and sea bream will be cultivated.

# Thank you



With a promise to fulfill your needs



## Remote Aqua Services









**Dubai UAE**