Aquaculture and vegetables Integration System: Integrated Aquaculture and Agriculture Systems

A floating aquaponic system

Aquaculture and Crops system for better yield

"Integrated Aquaculture and Agriculture Systems" is a method where fish and plants are co-cultivated. Fish waste serves as plant fertilizer, while plants purify the water for fish. This system optimizes resource use and enhances productivity in both aquaculture and agriculture.

This technology is TAAT1 validated.

9·9 Scaling readiness: idea maturity: 9/9; level of use: 9/9

2,000 USD
annual maintenance cost for 0.5 ha

50-100 USD	2,466 USD	250,000 USD	IP
one square metter of hydroponic plastic beds	average net income per acre	for 0.5 ha of fully equipped aquaponic system	Open source / open access

Problem

- Depleted soil: Reduced crop yields due to nutrient loss.
- Limited land: Difficulty expanding agriculture due to scarce arable land.
- Water competition: Farmers and fishers compete for water resources.
- Food insecurity: Difficulty accessing affordable protein.
- High feed costs: Traditional fish farming methods are expensive.

Solution

- Waste to Wealth: Fish waste nourishes crops, reducing fertilizer costs.
- Double Duty: Fish and crops share land, maximizing output.
- Water Sharing: Same water sustains both fish and crops.
- Protein on the Plate: Fish farming provides affordable protein.
- Feed Savings: Crop leftovers become fish food, lowering costs.

Key points to design your business plan

To integrate Aquaponics in Farm:

- Master aquaponics, research fish & plants for your region.
- Choose a sunny location with water access, design your system.
- Get essential components, source fish & seeds.
- Monitor water quality, manage nutrients, feed fish strategically.
- Research local preferences, identify buyers, plan transport & storage.
- Comply with any permits for aquaponics in your area.

Gender assessment 4

Climate impact 6

WorldFish
Bernadette Fregene

Technology from

ProPAS

Commodities

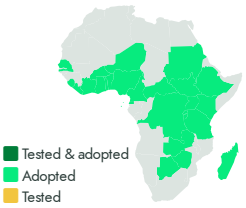
Vegetable crop, Fish

Sustainable Development Goals

Categories

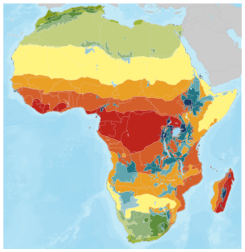
Production, Practices, Yield improvement

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Farmers