

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**.



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

2,000 USD

annual maintenance cost for 0.5 ha

50-100 USD

one square meter of hydroponic plastic beds

2,466 USD

average net income per acre

250,000 USD

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.

WorldFish
Bernadette Fregene

Technology from

ProPAS

Commodities

Vegetable crop, Fish

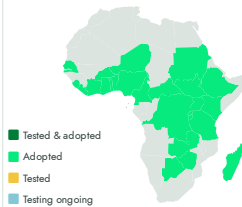
Sustainable Development Goals



Categories

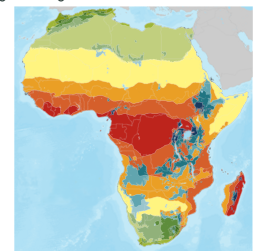
Production, Practices, Yield improvement

Tested/adopted in



Where it can be used

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



Target groups

Farmers

Gender assessment



Climate impact



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<https://e-catalogs.taatafrica.org/com/technologies/aquaculture-and-vegetables-integration-system-integrated-aquaculture-and-agriculture-systems>

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