

Aquaculture and vegetables Integration System Integrated Aquaculture and Agriculture Systems



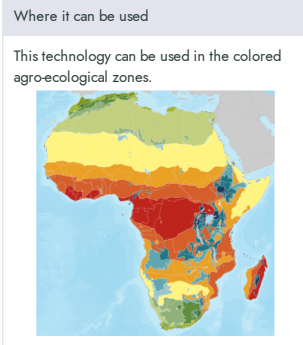
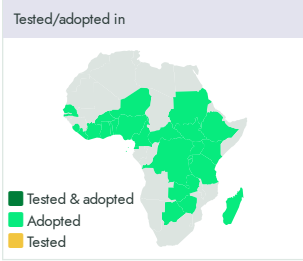
WorldFish
Bernadette Fregene

Technology originally documented by
ProPAS

Commodities
Vegetable crop, Fish

Sustainable Development Goals

Categories
Production, Practices, Yield improvement



Target groups
Farmers

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

Gender assessment 👍 4

Climate impact 👍 6

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.

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



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

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