

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

Gender assessment



Climate impact



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.
- 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.
- Feed Savings: Crop leftovers become fish food, lowering costs.

Key points to design your project

Integrated Aquaculture and Agriculture Systems provide more income for farmers (women too, with fair access), cleaner water from less fertilizer. It supports UN goals on equality, sustainability, hunger.

To integrate in the project, consider:

1. Work with local farmers, fishers, and experts.
2. Pick a good spot with water and markets nearby.
3. Start small, choose fish & crops that work together.
4. Train farmers on fish & crops, system care.
5. Spread the word: flyers, radio, demos.

Costs can vary depending on project scale.

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



WorldFish

Bernadette Fregene

Technology from

[ProPAS](#)

Commodities

Vegetable crop, Fish

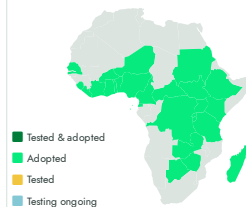
Sustainable Development Goals



Categories

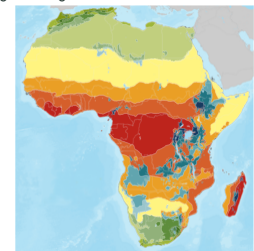
Production, Practices, Yield improvement

Tested/adopted in



Where it can be used

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



Target groups

Farmers



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<https://taat.africa/zci>

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