

Pond Liners to Save Water and Ease Maintenance

Preserving Water, Pond Liners for Sustainable Fish Farming.

Pond liners, made of materials like PVC or polyethylene, act as synthetic geomembranes, preserving water, enhancing biosecurity, and simplifying pond maintenance. They are adaptable to various pond sizes and shapes, with plastic liners being robust but slightly harder to install in smaller ponds.



Excavated pond with liner



This technology is **TAAT1 validated**.

8-9 Scaling readiness: idea maturity 8/9; level of use 9/9

Gender assessment **3**

Climate impact **7**

Problem

- Water seepage on porous soils like sands and silts causes significant water loss in ponds.
- Evaporation, especially in hot climates, further reduces water availability for fish farming.
- Algal blooms due to excessive nutrient levels can degrade water quality, affecting fish health and productivity.
- Inefficient nutrient cycling between water and sediment occurs without pond liners, necessitating intensive maintenance.
- Sandy soils and regions with limited access to freshwater are particularly vulnerable to water loss, worsening water scarcity for fish farmers.

Solution

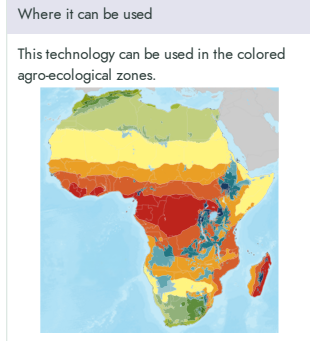
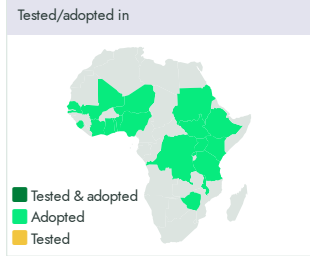
- Prevents water loss and reduces evaporation by creating impermeable barriers.
- Enhances water quality by preventing algal blooms and promoting nutrient cycling.
- Facilitates pond construction in areas with porous soils or limited freshwater access.
- Offers flexibility in pond size and shape, accommodating different landscapes.
- Provides options for different liner materials, thicknesses, and installation techniques to suit diverse needs.

Technology originally documented by
ProPAS

Commodities
Fish

Sustainable Development Goals

Categories
Production, Equipment, Water management



Target groups
Fish Farmers

Key points to design your project

The pond liners technology conserves water resources, reduces evaporation, and promotes responsible water management in aquaculture, benefiting biodiversity and sustainable fisheries. To integrate this technology into a project:

1. Assess project requirements.
2. Select suitable liner material.
3. Obtain necessary equipment.
4. Provide comprehensive staff training.
5. Implement installation according to guidelines.
6. Ensure ongoing training and support.
7. Develop communication materials.
8. Collaborate with relevant stakeholders for effective implementation.

Cost: **500 USD**

a 15m x 10m x 1m pond.

ROI: **50 %**

reduction in water-related costs

2 - 3.5 USD/square meter

Sheet plastic



Open source / open access



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<https://e-catalogs.taatafrica.org/gov/technologies/pond-liners-to-save-water-and-ease-maintenance>

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