Rice-fish culture: Integrating rice and fish farming systems

Rice-Fish System Boosts Profits, Enhances Lowland Land Use for Food Security and Prosperity

Rice-fish co-culture integrates rice and fish farming, boosting food security and farmers' income while ensuring environmental safety by eliminating agrochemicals. It's an innovative approach for food security, economic stability, and environmental sustainability.

AfricaRice

Africa Rice Center
Ephraim Sekyi-Annan

This technology is pre-validated.

9·7 Scaling readiness: idea maturity 9/9; level of use7/9

Project adoption 1

Technology integrated in the ERAVCDP project, in Angola.

Inclusion assessment 4

Climate impact 6 1

Problem

- **Food insecurity:** Limited access to nutritious food, resulting in nutritional deficiencies.
- **Market vulnerability:** Dependence on rice exposes farmers to market fluctuations, contributing to economic instability.
- **Environmental pollution:** Overuse of agrochemicals leads to soil and water pollution, harming biodiversity and ecosystem health.

Solution

- **Enhanced profitability:** Rice-fish co-culture improves economic viability with a higher benefit-to-cost ratio (2.2), addressing food insecurity.
- **Market resilience:** Rice-fish farmers demonstrate greater resilience to market shocks due to diversified income sources, ensuring economic stability.
- **Nutrition security:** Fish consumption directly tackles nutritional deficiencies, enhancing food security with a diverse and nutritious diet.

Key points to design your program

Rice-Fish Farming Systems can be integrated into food security, climate resilience, nutrition, and sustainable agriculture programs to increase farm productivity, diversify household incomes, and improve nutrition. Its adoption contributes to **SDGs 1, 2, 3, 8, and 13.** To integrate this technology into your project, plan and budget for the following activities and prerequisites:

- **Facilitate access** to quality rice seed, fish fingerlings, water management infrastructure, and fish protection materials.
- **Establish partnerships** with **AfricaRice**, research institutes, aquaculture services, irrigation agencies, and farmer cooperatives.
- **Conduct** demonstrations and training on integrated rice-fish production and water management, and **monitor** technology adoption, rice and fish productivity, and household income.

3,016 USD	18,188 USD/ha	IP
Operating Cost	Benefit	Open source / open access

Commodities

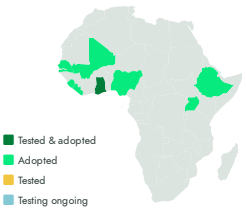
Rice, Fish

Sustainable Development Goals

Categories

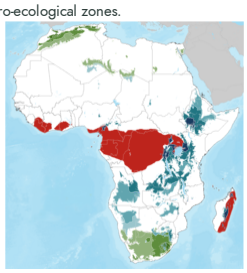
Production, Practices, Water management, Production system

Tested/adopted in



Where it can be used

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



Target groups

Farmers, Fish Farmers