



Flooded rice fields at the Fish in the Fields research site

For centuries, farmers grew rice and fish together in flooded fields. The advent of industrial farming in recent decades has taken a toll on land, water and wildlife, while overfishing has devastated ocean ecosystems.

Fish in the Fields, a project of the Resource Renewal Institute, addresses the environmental impacts of both industrial rice farming and commercial fishing, while

providing a sustainable source of food for the world's growing population.

We are working with scientists, farmers, universities, and conservation organizations to adapt traditional rice and fish co-cultivation to industrial rice farms. In California, where our research is currently focused, fields are flooded during the winter months after the rice is harvested. The rotting rice stubble nourishes plankton that naturally occur in the water. Plankton are a food source for small fish, which grow quickly without requiring any additional food or water.

A portion of our research program budget comes from the sale of the fish we produce and sell. Our partners contribute expertise, resources, and fieldwork, which magnify the effectiveness of our work. With additional financial support, Fish in the Fields is poised to provide a model for global food security and environmental sustainability.



Small fish thrive in flooded rice fields

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The Benefits of “Fish in the Fields”

Improve Global Nutrition

The global demand for animal protein is expected to nearly double by 2050. If adopted worldwide, Fish in the Field systems could supply nearly half of that demand without requiring any more land or water than is currently in use for rice farming. A Fish in the Fields system can provide subsistence farmers both income and highly nutritious food, reducing rural poverty and malnutrition.

Protect Oceans

Small fish produced in fallow rice fields could replace at least 80 percent of the 30 million tons of small fish taken annually from the oceans. With the pressure on ocean stocks reduced, greater ocean protections would be more feasible.

Reduce Climate Impacts

Methane produced by rice farms is responsible for up to 10 percent of global warming. Co-cultivating fish and rice, combined with other innovative rice farming practices, can reduce greenhouse gas emissions from rice farms by up to 90 percent.

Improve Water Quality

Adding fish to the fields reduces the need for chemicals routinely used in industrial rice farming. Growing fish along with rice makes it profitable for farmers to switch to more organic methods.

Provide Jobs and Profits

Industrial rice farm owners can greatly increase their profits by growing and selling fish. This system also provides employment for farm workers during the off-season.



An aerial view of a Fish in the Fields research site, where the Resource Renewal Institute is developing innovative solutions to global environmental issues.